BOARD MEETING DATE: April 2, 2021 AGENDA NO. 26

PROPOSAL: Determine That Proposed Amendments to Rule 1426 – Emissions from Metal Finishing Operations, and Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations, Are Exempt from CEQA, and Amend Rule 1426 and Rule 1469

SYNOPSIS: Proposed Amended Rule 1426 will reduce fugitive emissions of hexavalent chromium, nickel, cadmium and lead from metal finishing facilities by establishing requirements for housekeeping, building enclosures and best management practices. Proposed Amended Rule 1469 will incorporate provisions under Proposed Amended Rule 1426 that affect Rule 1469 facilities to streamline implementation for these facilities. Additional amendments to Rule 1469 are proposed to remove a reference to a chemical that is no longer used for testing HEPA filters and to update an incorrect table reference.

COMMITTEE: Stationary Source Committee, February 19, 2021, Reviewed

RECOMMENDED ACTIONS:
Adopt the attached Resolution:

1. Determining that Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations, and Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations, are exempt from the requirements of the California Environmental Quality Act;
2. Amending Rule 1426 – Emissions from Metal Finishing Operations; and
3. Amending Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating from Chromium Electroplating and Chromic Acid Anodizing Operations.

Wayne Nastri
Executive Officer

SR:SN:JW:NF:MS

Background

Rule 1426 – Emissions from Metal Finishing Operations and Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Operations, regulate plating and anodizing metal finishing operations. These processes are used to prepare or treat the surface of parts by submerging them into tanks to provide specific surface characteristics. Tank solutions often contain metals that are toxic air contaminants. Rule 1426 was adopted in 2003 and applies to facilities that perform chromium, nickel, cadmium, lead or copper electroplating, or chromic acid anodizing. Rule 1426 is primarily a data gathering rule with basic housekeeping measures. Data collected under Rule 1426 was intended to be used to assess the need to amend Rule 1426 for additional emission controls.

Proposed Amended Rule 1426 (PAR 1426) is needed to establish requirements to minimize fugitive metal toxic air contaminant emissions from metal finishing tank solutions. Point source metal toxic air contaminant emissions will be addressed in future, separate rulemaking efforts. PAR 1426 has additional requirements for hexavalent chromium tanks at facilities subject to Rule 1469.

Public Process

Development of PAR 1426 and PAR 1469 has been conducted through a public process. A working group was formed to provide the public and stakeholders an opportunity to discuss the proposed rule and provide staff with input during the rule development process. The working group is comprised of representatives from businesses, environmental groups, public agencies, and consultants. Staff held six virtual working group meetings on June 24, 2020, August 19, 2020, September 23, 2021, November 4, 2020, December 2, 2020 and February 3, 2021. In addition, a Public Workshop was held on January 21, 2021 to present the proposed amended rule and receive public comment.

Proposal

PAR 1426 applies to tanks that contain solutions with hexavalent chromium, nickel, cadmium or lead from metal finishing facilities. Based on comments from stakeholders, staff is recommending to remove copper metal finishing tanks due to the mild health effects of copper. PAR 1426 includes requirements for housekeeping, building enclosures and best management practices that are largely based on requirements under Rule 1469. Housekeeping requirements include storing materials that may contain a metal toxic air contaminant in a closed container and weekly cleaning of areas to prevent the accumulation of metal toxic air contaminants that can become fugitive emissions. Building enclosure requirements prevent the fugitive emissions escaping a facility due to cross drafts by requiring openings be closed or modified. Best management practices include requirements to minimize dragout, minimize overspray from spray rinsing, and prohibit air sparging when metal finishing is not occurring, which prevent tank solutions from leaving the tank.

Staff is proposing to incorporate the PAR 1426 requirements for specific hexavalent chromium tanks located at Rule 1469 facilities into PAR 1469 to streamline implementation for regulated facilities. Additionally, PAR 1469 would revise the definition of High Efficiency Particulate Arrestors (HEPA) to remove a reference to a chemical which is no longer used and to correct a table reference in the recordkeeping requirements. Implementation dates under PAR 1426 and PAR 1469 are January 1, 2023 to recognize impacts that these businesses have experienced due to COVID-19.

Key Issues
Throughout the rulemaking process, staff has worked with stakeholders to address comments and issues. Staff is not aware of any remaining issues.

California Environmental Quality Act
Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062 and is included as Attachment H to this Board Letter. If the proposed project is approved, the Notice of Exemption will be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research to be posted on their CEQAnet Web Portal, which may be accessed via the following weblink: https://ceqanet.opr.ca.gov/search/recent. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2021. The electronic filing and posting of the Notice of Exemption is being implemented in accordance with Governor Newsom's Executive Orders N-54-20 and N-80-20 issued on April 22, 2020 and September 23, 2020, respectively, for the State of Emergency in California as a result of the threat of COVID-19.

Socioeconomic Assessment
PAR 1426 would affect 339 facilities, with 232 facilities only subject to PAR 1426 and the remaining 107 are facilities subject to both PAR 1426 and PAR 1469. The proposed amendments establish housekeeping and best management practices, some of which are already in practice at facilities regulated by Rule 1469.

The total annual compliance cost of the proposed amendments is expected to be approximately $738,500 across all the affected facilities. The majority of the compliance cost (88 percent) affects the manufacturing industry. A typical facility subject to both PAR 1426 and PAR 1469 is expected to incur an average annual cost under $1,000, while a typical facility only subject to PAR 1426 is expected to incur an average annual cost of $2,750. The regional economic impacts of PAR 1426 are expected to be minimal.

AQMP and Legal Mandates
Pursuant to Health & Safety Code Section 40460 (a), South Coast AQMD is required to adopt an AQMP demonstrating compliance with all federal regulations and standards. South Coast AQMD is required to adopt rules and regulations that carry out the objectives of the AQMP. PAR 1426 and PAR 1469 will partially implement control measure TXM-02 – Control of Toxic Metal Particulate Emissions from Plating and Anodizing Operations in the 2016 AQMP that controls fugitive emissions of hexavalent chromium, nickel, cadmium, and lead from tanks that are not chromium electroplating or chromic acid anodizing tanks from metal finishing facilities.

Implementation and Resource Impact
Existing staff resources will be used to implement PAR 1426 and PAR 1469.

Attachments
A. Summary of Proposal
B. Key Issues and Responses
C. Rule Development Process
D. Key Contacts List
E. Resolution
F-1. Proposed Amended Rule 1426
F-2. Proposed Amended Rule 1469
G. Final Staff Report
H. Notice of Exemption
I. Board Meeting Presentation

ATTACHMENT A

SUMMARY OF PROPOSAL

Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations
Applicability ▪ Expanded to include any Metal Finishing facility with a Metal Finishing tank that contains hexavalent chromium, nickel, cadmium, or lead Housekeeping Requirements ▪ Conduct weekly cleaning using approved cleaning methods ▪ Storage of chemicals and waste in closed containers ▪ Store reusable equipment and supplies in a closed container or in enclosed storage areas ▪ Transport chemicals in a closed container between storage and tank process area ▪ Remove fabric or fibrous flooring material that cannot be cleaned Building Enclosure Requirements ▪ Require Process Tanks and Rinse Tanks to operate within a building enclosure that minimizes cross drafts and openings near sensitive receptors and schools ▪ Operate buffing, grinding, or polishing operations within a building enclosure Best Management Practices ▪ Prevent dragout from parts and equipment after being in a Process Tank or Rinse Tank ▪ Restrictions on spray rinsing of parts and equipment after being in a Process Tank or Rinse Tank ▪ Require labeling of tanks in tank process area ▪ Require barrier between buffing, grinding, or polishing area from tank area, if in same building Recordkeeping ▪ Document ampere-hour meter replacements on process tanks Reporting ▪ Submit a one-time tank inventory report ▪ Maintain the tank inventory report onsite and update upon request Exemptions ▪ Process Tanks and Rinse Tanks with concentrations < 1,000 ppm ▪ Buildings subject to Rule 1469 requirements are exempt from PAR 1426 building enclosure requirements ▪ Areas, materials, or equipment subject to Rule 1469 are exempt from PAR 1426 housekeeping requirements ▪ Tier I, II, or III Hexavalent Chromium Tanks subject to Rule 1469 requirements are exempt from PAR 1426 requirements for best management practices ▪ Total enclosures subject to Rule 1420 – Emissions Standard for Lead are exempt from PAR 1426 ▪ Buffing, grinding, or polishing operations conducted using metal removal fluid are exempt from PAR 1426

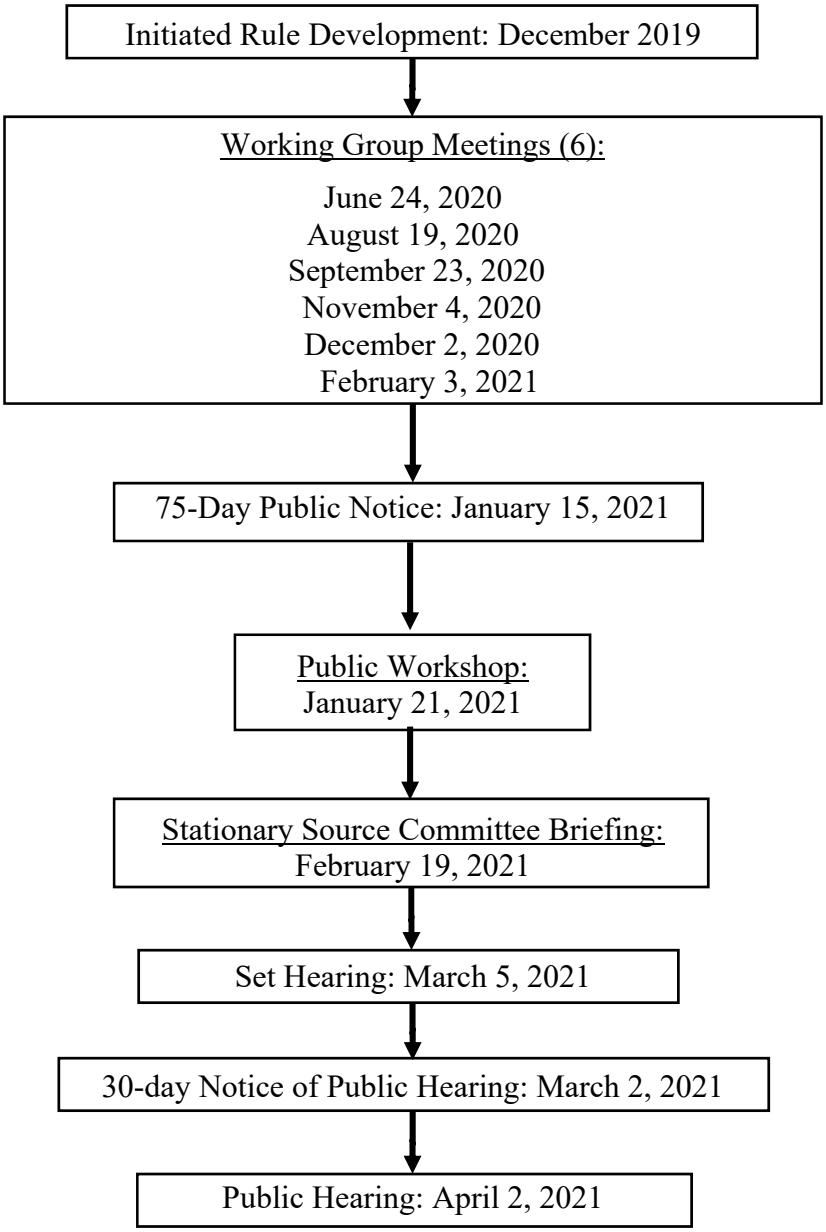
Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations
Definitions ▪ Modified Dragout definition to include liquid from a Tier I, II, or III Hexavalent Chromium Tank ▪ Modified High Efficiency Particulate Arrestors (HEPA) definition by removing dioctyl phthalate reference Building Enclosure Requirements ▪ Require Tier I Hexavalent Chromium Tanks to operate within a building enclosure that minimizes cross drafts and openings near sensitive receptors and schools Housekeeping Requirements ▪ Store reusable equipment and supplies in a closed container or in enclosed storage areas Best Management Practices ▪ Prevent dragout from parts and equipment after being in a Tier I, II, or III Hexavalent Chromium Tank that is not a Chromium Electroplating or Chromic Acid Anodizing Tank ▪ Restrict spray rinsing of parts and equipment after being in a Tier I Hexavalent Chromium Tank ▪ Require barrier between buffing, grinding, or polishing area from a Tier I, II, or III Hexavalent Chromium Tank that is not a Chromium Electroplating or Chromic Acid Anodizing Tank, if in same building Appendices ▪ Appendix 11 added to specify implementation dates for new requirements in PAR 1469, identical to those in PAR 1426

ATTACHMENT B
KEY ISSUES AND RESPONSES

Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations
Through the rulemaking process staff has worked with stakeholders to address a variety of issues. Staff is not aware of any remaining key issues.

ATTACHMENT C
RULE DEVELOPMENT PROCESS

Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations
Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations



Sixteen (16) months spent in rule development.
One (1) Public Workshop.
Six (6) Working Group Meetings.

ATTACHMENT D

KEY CONTACTS LIST

- AAA Plating & Inspection
- Aircraft X-Ray Laboratories
- Alcoa
- AirKinetics
- Boeing Company
- California Communities Against Toxics
- California Safe Schools
- City of Los Angeles – LA Sanitation
- Del Amo Action Committee
- Desmond & Desmond LLC
- E.M.E.
- K&L Anodizing
- Metal Finishing Association of Southern California
- Metal Surfaces Inc.
- National Association of Surface Finishing
- Ramboll Environment and Health
- Trilogy Regulatory Services

ATTACHMENT E

RESOLUTION NO. 21-____

A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) determining that Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations and Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations are exempt from the requirements of the California Environmental Quality Act (CEQA).

A Resolution of the South Coast AQMD Governing Board amending Rule 1426 – Emissions from Metal Finishing Operations and Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations.

WHEREAS, the South Coast AQMD Governing Board finds and determines that Proposed Amended Rule 1426 and Proposed Amended Rule 1469 are considered a "project" as defined by CEQA; and

WHEREAS, the South Coast AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l) and has conducted a CEQA review and analysis of the proposed project pursuant to such program (South Coast AQMD Rule 110); and

WHEREAS, the South Coast AQMD Governing Board finds and determines after conducting a review of the proposed project in accordance with CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA, and CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA, that the proposed project is exempt from CEQA; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that since the only physical modifications that may occur as a result of the proposed project are associated with implementing the building enclosure requirements, which may be achieved without involving construction or via minimal construction activities, depending on the affected facility, it can be seen with certainty that there is no possibility that proposed project may have any significant adverse effects on the environment, and is therefore, exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption; and

WHEREAS, the South Coast AQMD staff has prepared a Notice of Exemption for the proposed project that is completed in compliance with CEQA Guidelines Section 15062 – Notice of Exemption; and

WHEREAS, the South Coast AQMD staff conducted a public workshop meeting on January 21, 2021 regarding Proposed Amended Rule 1426; and

WHEREAS, Proposed Amended Rule 1426 and Proposed Amended Rule 1469 and supporting documentation, including but not limited to, the Notice of Exemption, Final Staff Report, and Socioeconomic Impact Assessment, were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, as well as has taken and considered staff testimony and public comment prior to approving the project; and

WHEREAS, the South Coast AQMD Governing Board finds that since the notice of public workshop was published, to avoid having duplicative requirements, amendments to Rule 1469 were proposed that would incorporate requirements originally incorporated into Proposed Amended Rule 1426 which are applicable to facilities with hexavalent chromium tanks that are also subject to Rule 1469; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (Section 30.5(4)(D)(i) of the Administrative Code), that no modifications have been made to the proposed project since notice of public hearing was published that are so substantial as to significantly affect the meaning of Proposed Amended Rule 1426 and Proposed Amended Rule 1469 within the meaning of Health and Safety Code Section 40726 because: (a) the changes do not impact emission reductions, (b) the changes do not affect the number or type of sources regulated by the rules, (c) the changes are consistent with the information contained in the notice of public hearing, and (d) the consideration of the range of CEQA alternatives is not applicable because the proposed project is exempt from CEQA; and

WHEREAS, Proposed Amended Rule 1426 and Proposed Amended Rule 1469 will be not be submitted for inclusion into the State Implementation Plan; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that a need exists to adopt Proposed Amended Rule 1426 and Proposed Amended Rule 1469 to reduce fugitive toxic air contaminant emissions from metal finishing operations, specifically hexavalent chromium, nickel, cadmium, and lead in order to further protect public health; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from Sections 39002, 39650 et. seq., 40000,

40440, 40441, 40702, 40725 through 40728, 41508, and 41700 of the Health and Safety Code; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1426 and Proposed Amended Rule 1469 are written and displayed so that their meaning can be easily understood by the persons directly affected by them; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1426 and Proposed Amended Rule 1469 are in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1426 and Proposed Amended Rule 1469 do not impose the same requirements as any existing state or federal regulations, and the proposed amended rules are necessary and proper to execute the powers and duties granted to, and imposed upon, South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board, in adopting Proposed Amended Rule 1426 and Proposed Amended Rule 1469, references the following statutes which the South Coast AQMD hereby implements, interprets, or makes specific: Health and Safety Code Sections 41700 and Federal Clean Air Act Sections 112 and 116; and

WHEREAS, Health and Safety Code Section 40727.2 requires the South Coast AQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and the South Coast AQMD's comparative analysis of Proposed Amended Rule 1426 and Proposed Amended Rule 1469 is included in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Socioeconomic Impact Assessment of Proposed Amended Rule 1426 and Proposed Amended Rule 1469 are consistent with the March 17, 1989 Governing Board Socioeconomic Resolution for rule adoption; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Socioeconomic Impact Assessment for Proposed Amended Rule 1426 and Proposed Amended Rule 1469 are consistent with the provisions of Health and Safety Code Sections 40440.8 and 40728.5, and that Health and Safety Code Section 40920.6 is not applicable to rules regulating toxic air contaminants; and

WHEREAS, the South Coast AQMD Governing Board has determined Proposed Amended Rule 1426 and Proposed Amended Rule 1469 will result in increased costs to the affected industries, yet are considered to be reasonable, with a total annualized cost as specified in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has actively considered the Socioeconomic Impact Assessment and has made a good faith effort to minimize such impacts; and

WHEREAS, the public hearing has been properly noticed in accordance with the provisions of Health and Safety Code Section 40725 and 40440.5; and

WHEREAS, the South Coast AQMD Governing Board has held a public hearing in accordance with all applicable provisions of law; and

WHEREAS, the South Coast AQMD specifies that the Planning and Rules Manager overseeing the rule development of Proposed Amended Rule 1426 and Proposed Amended Rule 1469 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of the amended rules are based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

NOW, THEREFORE BE IT RESOLVED, that the South Coast AQMD Governing Board does hereby determine, pursuant to the authority granted by law, that the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption. This information was presented to the South Coast AQMD Governing Board, whose members exercised their independent judgment and reviewed, considered, and approved the information therein prior to acting on the proposed project; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1426 and Proposed Amended Rule 1469, as set forth in the attached, and incorporated herein by reference.

DATE: _____ _____

CLERK OF THE BOARDS

ATTACHMENT F-1

(Adopted May 2, 2003) (PAR 1426 April 2021)

PROPOSED AMENDED RULE 1426 **EMISSIONS FROM METAL FINISHING OPERATIONS**

[Rule Index to be included after adoption]

(a) Purpose

The purpose of this rule is to reduce fugitive emissions of hexavalent chromium, nickel, cadmium, and lead at Metal Finishing facilities.

(~~a~~b) Applicability

This rule ~~shall~~ applies~~y~~ to an owner or operator of any Metal Finishing facility. ~~any facility performing chromium, nickel, cadmium, lead or copper electroplating operations, or chromic acid anodizing. This rule shall also apply to the owner or operator of any facility with process tanks containing sulfuric acid, nitric acid, hydrochloric acid, chromic acid (excluding chromic acid used in electroplating and anodizing tanks), and sodium hydroxide used in spraying operations, associated with any of the above electroplating or anodizing operations.~~

(~~b~~c) Definitions

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

(1) ADD-ON AIR POLLUTION CONTROL EQUIPMENT means equipment installed for the purpose of collecting and containing emissions from nickel, cadmium, or lead~~, or copper~~ electroplating tanks and associated ~~process~~ tanks.

(2) AMPERE-HOURS means the integral of electrical current applied to a plating tank (amperes) over a period of time (hours).

(3) ANODIZING means the electrolytic process by which an oxide layer is produced on the surface of a part.

(4) APPROVED CLEANING METHOD means cleaning using a wet mop, damp cloth, wet wash, low pressure spray nozzle, HEPA Vacuum, or other method as approved by the Executive Officer.

(5) BARRIER means a physical divider that can be fixed or portable such as a wall, welding screen, plastic strip curtains, etc.

(6) BUILDING ENCLOSURE means a permanent building or physical structure with a floor, walls, and a roof to prevent exposure to the elements,

(e.g. precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. A room within a Building Enclosure with a floor, walls, and a roof would also meet this definition.

(c) (7) CONVERSION COATING means the process of converting the surface of a part into a coating using a chemical or electro-chemical process.

(8) DRAGOUT means fluid containing hexavalent chromium, nickel, cadmium, or lead that drips from parts or equipment used to remove those parts from a Process Tank or Rinse Tank.

(9) ELECTROFORMING means the process of Electroplating onto a mandrel or template that is subsequently separated from the electrodeposit formed part.

(10) ELECTROLESS PLATING means the process of autocatalytic or chemical reduction of aqueous Metal ions plated onto a part.

(11) ELECTROPLATING means a process by which a layer of Metal is electrodeposited onto a part.

~~(3) ELECTROPLATING BATH means the electrolytic solution used as the conducting medium in which the flow of current is accompanied by movement of metal ions for the purpose of electroplating metal out of the solution onto a workpiece or for oxidizing the base material.~~

(12) ELECTROPOLISHING means the process to smooth, polish, deburr, or clean a part using an electrolytic bath solution.

(~~4~~13) ENCLOSED STORAGE AREA ~~is~~ means any space or structure used to contain material that prevents its contents from being emitted into the atmosphere.

(14) ETCH means the process to remove material from the surface of a part.

(~~5~~15) FUGITIVE DUST means hexavalent chromium, nickel, cadmium, or lead ~~any solid~~ particulate matter that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack. ~~Fugitive dust includes material containing hexavalent chromium, nickel, cadmium, lead, and copper.~~

(16) HEPA VACUUM means a vacuum that is both designed to be fitted and used with a filter that is individually tested and certified by the manufacturer to have a control efficiency of not less than 99.97 percent on 0.3 micron particles.

(17) METAL means hexavalent chromium, nickel, cadmium, or lead.

(c) (18) METAL FINISHING means Anodizing, Conversion Coating, Electroforming, Electroless Plating, Electroplating, Electropolishing, Etch, Passivation, Pre-Dip, Sealing, or Stripping by submerging the part into a tank or series of tanks with solution that contains a Metal.

~~(6) METAL PLATING FACILITY means, for the purpose of this rule, a facility which performs electroplating of chromium, nickel, cadmium, lead or copper, or chromic acid anodizing.~~

(19) METAL REMOVAL FLUID means a fluid used at the tool and workpiece interface to facilitate the removal of metal from the part, cool the part and tool, extend the life of the tool, and to flush away metal chips and debris, but does not include minimum quantity lubrication fluids used to coat the tool work piece interface with a thin film of lubricant and minimize heat buildup through friction reduction. Minimum quantity lubrication fluids are applied by pre-coating the tool in the lubricant, or by direct application at the tool work piece interface with a fine mist.

(20) PASSIVATION means the process of forming an oxide layer onto a part.

(21) PRE-DIP means the process to prepare or activate a part's surface immediately prior to introduction into another Metal Finishing tank.

(~~7~~22) PROCESS TANK means any tank used for Metal Finishing with a tank solution that contains a Metal.~~associated with a chromium, nickel, cadmium, lead or copper electroplating operation, or a chromic acid anodizing operation, excluding rinse and dragout tanks.~~

(23) RINSE TANK means any tank where a part is partially or fully submerged into a liquid to remove any residual solution from a Process Tank.

(24) SCHOOL means any public or private school, including juvenile detention facilities with classrooms, used for the education of more than 12 children at the school in kindergarten through grade 12. A School also includes an Early Learning and Developmental Program by the U.S. Department of Education or any state or local early learning and development programs such as preschools, Early Head Start, Head Start, First Five, and Child Development Centers. A School does not include any private school in which education is primarily conducted in private homes. The term School includes any building or structure, playground, athletic field, or other area of School property.

(25) SEALING means the process of hydrating to fill or plug the pores of a coating by immersing an anodized part in a tank solution.

(c) (~~8~~26) SENSITIVE RECEPTOR ~~LOCATIONS include schools (kindergarten through grade 12), licensed daycare centers, hospitals and convalescent homes.~~means any residence including private homes, condominiums, apartments, and living quarters. A Sensitive Receptor also includes Schools, daycare centers, health care facilities such as hospitals or retirement and nursing homes, long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

~~(9)~~ ~~STALAGMOMETER means a device used to measure the surface tension of a solution by determining the number of drops, or the weight of each drop, in a given volume of liquid.~~

(27) STRIPPING means the process of removing an existing Metal layer from a part.

~~(10)~~ ~~SURFACE TENSION means the property, due to molecular forces, that exists in the surface film of all liquids and tends to prevent liquid from spreading.~~

(28) TANK PROCESS AREA means an area surrounding a Process Tank or Rinse Tank that is up to 15 feet or to a wall.

~~(11)~~ ~~TENSIOMETER means a device used to measure the surface tension of a solution by measuring the force necessary to pull a filament or ring from the surface of a liquid.~~

(29) TIER I HEXAVALENT CHROMIUM TANK is a tank subject to and defined in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations.

(30) TIER II HEXAVALENT CHROMIUM TANK is a tank subject to and defined in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations.

(31) TIER III HEXAVALENT CHROMIUM TANK is a tank subject to and defined in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations.

(32) WEEKLY means at least once every seven calendar days.

~~(c)~~ ~~Requirements~~

~~(1)~~ ~~Initial Compliance Report~~

~~The owner or operator of a metal plating facility subject to this rule shall submit an initial compliance report to the Executive Officer by February~~

~~1, 2004 to report process and receptor information. The report shall contain the information identified in Appendix 1.~~

~~(2)~~ ~~Compliance Report~~

~~The owner or operator of a metal plating facility subject to this rule shall submit a report to the Executive Officer by February 1, 2005 to report information on process activity and significant changes since the initial report was filed. The report shall contain the information identified in Appendix 2.~~

~~(3)~~ ~~Data Collection~~

~~The owner or operator of a metal plating facility subject to this rule shall begin collecting data required under subparagraphs (c)(1) and (c)(2) within 60 days after May 2, 2003.~~

~~(4)~~ ~~Air Sparging of Tanks Containing Chromic Acid~~

~~Tanks containing chromic acid shall not be air sparged when the tank is not in use, and shall only be air sparged up to one hour prior to parts being placed in the tank, and one hour after parts are removed from the tank.~~

~~(5)~~ ~~Housekeeping Practices for Nickel, Cadmium, Lead and Copper~~

~~On and after July 1, 2003 housekeeping practices shall be implemented at a facility to reduce fugitive emissions caused by the storage, handling and transport of nickel, cadmium, lead or copper in powder or metal salt form. These practices shall include:~~

~~(A)~~ ~~Nickel, cadmium, lead and copper in powder or metal salt form shall be stored in a closed container in an enclosed storage area;~~

~~(B)~~ ~~Nickel, cadmium, lead and copper in powder or metal salt form shall be transported from an enclosed storage area to electroplating tanks in a closed container;~~

~~(C)~~ ~~Surfaces within the enclosed storage area that accumulate dust shall be washed down, vacuumed, or wet mopped, or shall be maintained with the use of non-toxic chemical dust suppressants; and~~

~~(D)~~ ~~Wastes which contain nickel, cadmium, lead or copper generated from housekeeping activities shall be stored, disposed of, recovered, or recycled using practices that do not lead to fugitive dust.~~

~~(d)~~ ~~Inspection and Maintenance Requirements~~

~~(1) The owner or operator of a nickel, cadmium, lead, or copper electroplating operation using add-on air pollution control equipment shall comply with the manufacturers recommended schedule for inspecting and maintaining control equipment. If the inspection frequency is not specified by the manufacturer, recommended inspection and maintenance activities shall be conducted at least once per quarter.~~

(d) Building Enclosure Requirements

(1) Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall operate all Process Tank(s) and Rinse Tank(s) within a Building Enclosure such that the following are met:

(A) The Building Enclosure openings that are open to the exterior and on opposite ends of the Building Enclosure shall not be simultaneously open except during the passage of vehicles, equipment, or people by using one or more of the following at one of the openings to prevent the passage of air:

(i) A door that automatically closes;

(ii) Overlapping plastic strip curtain;

(iii) A vestibule;

(iv) An airlock system;

(v) A Barrier or obstruction, such as a large piece of equipment that prevents air from passing through any space where Metal Finishing is conducted; or

(vi) An alternative method to minimize the release of Fugitive Dust from the Building Enclosure that is approved by the Executive Officer.

(B) Except during the movement of vehicles, equipment, or people, close any Building Enclosure opening by using one or more of the methods listed in clauses (d)(1)(A)(i) through (d)(1)(A)(iv) and (d)(1)(A)(vi) that directly faces and opens towards the nearest:

(i) Sensitive Receptor, with the exception of a School, that is located within 1,000 feet, as measured from the property line of the Sensitive Receptor to the Building Enclosure opening; and

(d) (1) (B) (ii) School that is located within 1,000 feet, as measured from the property line of the School to the Building Enclosure opening.

(2) Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall conduct all buffing, grinding, and polishing operations within a Building Enclosure.

(e) Housekeeping Requirements

Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall:

(1) Store chemicals that may contain a Metal in a closed container in an Enclosed Storage Area when not in use.

(2) Use a closed container when transporting chemicals pursuant to paragraph (e)(1) between an Enclosed Storage Area and Tank Process Area.

(3) Clean using an Approved Cleaning Method:

(A) Any liquid or solid material that may contain a Metal that is spilled no later than one hour after being spilled onto a solid surface, except if spilled in a drip tray or containment device;

(B) Surfaces within the Enclosed Storage Area, open floor area, walkways around the Process Tank(s), walkways around the Rinse Tank(s), and any dust-accumulating surface potentially contaminated with Metal on a Weekly basis;

(C) Splashguards, drip trays, collection devices, or containment devices on a Weekly basis; and

(D) Floors within 20 feet of a buffing, grinding, or polishing workstation at least once a day on days when buffing, grinding, or polishing are conducted.

(4) Store waste materials that may contain a Metal in a container that is kept closed at all times except during filling or emptying.

(5) Eliminate all flooring in the Tank Process Area that is made of a fabric material, such as carpets or rugs.

(6) Store the following in a closed container or in an Enclosed Storage Area:

(A) Cleaning equipment and supplies used for housekeeping pursuant to paragraph (e)(3) when not in use;

(B) Reusable tank covers used with a Process Tank when not on the tank;

(e) (6) (C) Reusable hangers used with a Process Tank when not holding a part; and

(D) Anodes and cathodes used with a Process Tank when not in the tank.

(7) Ensure that the HEPA filter of a HEPA Vacuum is free of tears, fractures, holes or other types of damage, and securely latched and properly situated in the vacuum to prevent air leakage from the filtration system.

(f) Best Management Practices

Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall:

(1) Minimize Dragout from a Process Tank or Rinse Tank in an automated line by installing a drip tray or other collection or containment device between a Process Tank or Rinse Tank such that liquid is collected and does not fall through the space between tanks.

(2) Minimize Dragout from a Process Tank or Rinse Tank in a non-automated line by handling each part or equipment used to handle these parts, so that liquid is not dripped outside a Process Tank or Rinse Tank unless the liquid is collected by a drip tray or other collection or containment device.

(3) If not treated as waste, return all liquid collected pursuant to paragraphs (f)(1) and (f)(2) back to the tank.

(4) Not conduct spray rinsing of parts or equipment that were previously in a Process Tank or Rinse Tank, unless the parts or equipment are:

(A) Fully lowered inside a tank where the liquid is captured inside the tank;

(B) Above a tank with a splash guard(s) that are free of holes, tears, or openings where all liquid is returned to the tank; or

(C) Above a tank where all liquid is returned to the tank and a low pressure spray nozzle is used, and the tanks are located within a process line utilizing an overhead crane system.

(5) Maintain clear labeling for each tank within the Tank Process Area that specifies the tank name or other identifier, South Coast AQMD permit number and tank number, bath contents, maximum concentration (in ppm) of all Metals, rectification, operating temperature range, and any agitation methods used, if applicable.

(f) (6) Install a Barrier to prevent the migration of dust from buffing, grinding, or polishing areas to a Process Tank or Rinse Tank that is located in the same Building Enclosure.

(7) Comply with the manufacturers' recommended schedule for inspecting and maintaining Add-on Air Pollution Control Equipment that controls nickel, cadmium, or lead electroplating operation(s). If the inspection frequency is not specified by the manufacturer, inspection and maintenance activities shall be conducted at least once per calendar quarter.

(8) Not air sparge a Process Tank when Metal Finishing is not occurring or while a dry chemical containing a Metal is being added.

(~~e~~g) Recordkeeping

(1) ~~Monitoring Data Records~~

~~The owner or operator shall maintain records of all required monitoring data including the date the data are collected.~~

An owner or operator of a Metal Finishing facility with an Ampere-hour meter equipped at a Process Tank shall record the actual cumulative rectifier usage for each calendar month and the total for each calendar year.

~~(A)~~ ~~Cumulative Rectifier Usage Records~~

~~The owner or operator of electroplating operations with dedicated ampere*hour meters shall record the actual cumulative rectifier usage for each calendar month, and the total for each calendar year.~~

(2) Prior to replacement of a continuous recording non-resettable Ampere-hour meter equipped at a Process Tank, an owner or operator of a Metal Finishing facility shall photograph the actual Ampere-hour reading of the Ampere-hour meter being replaced.

(3) Immediately following the installation of a new Ampere-hour meter, an owner or operator of a Metal Finishing facility shall photograph the actual Ampere-hour reading of the new Ampere-hour meter.

~~(2)~~ ~~Housekeeping Measures~~

~~The owner or operator shall maintain records demonstrating compliance with housekeeping practices, as required by paragraph (c)(5), including the name of the person performing specified activities, the dates on which specific activities were completed, and records showing that wastes~~

~~containing chromium, nickel, cadmium, lead or copper have been stored, disposed of, recovered, or recycled.~~

(g) (4) An owner or operator of a Metal Finishing facility shall maintain records demonstrating compliance with the requirements of subdivisions (e) and (f)- and paragraphs (g)(1) and (g)(2).

(5) ~~Records Retention~~

All records shall be maintained for at least five years; at least the two most current years shall be kept on site.

~~(f) Rule 1402 Inventory Requirements~~

~~The owner or operator of a facility that is in compliance with this rule will not be required to submit an emission inventory to the Executive Officer for emissions of toxic compounds subject to this rule, pursuant to subparagraph (n)(1)(B) of Rule 1402 - Control of Toxic Air Contaminants from Existing Sources.~~

(h) Reporting

(1) Beginning January 1, 2022, an owner or operator of a Metal Finishing facility shall keep onsite and make available to the Executive Officer, upon request, a Tank Inventory Report for all Process Tanks and Rinse Tanks that includes the following information:

(A) Facility name;

(B) South Coast AQMD facility identification number;

(C) Equipment address;

(D) Business hours;

(E) Facility contact information with name, title, and phone number; and

(F) Process Tank and Rinse Tank information including:

(i) Tank name or other identifier;

(ii) South Coast AQMD permit number and tank number;

(iii) Bath contents;

(iv) Maximum concentration (in ppm) of all Metals;

(v) Applicable Rule 1426 Exemption;

(vi) Rectification, if applicable;

(vii) Operating temperature range, if applicable; and

(viii) Agitation method used, if applicable.

(h) (2) No later than February 1, 2022, an owner or operator of a Metal Finishing facility operating on or before January 1, 2022 shall submit a Tank Inventory Report to the Executive Officer.

(3) Within 14 days of receiving a written request from the Executive Officer, an owner or operator of a Metal Finishing facility shall provide an updated Tank Inventory Report.

(i) Interim Requirements for Facilities

The following requirements shall be in effect until the requirements of subdivisions (e) and (f) become effective on January 1, 2023.

(1) An owner or operator of a facility conducting chromium, nickel, cadmium, or lead Electroplating operations, or chromic acid Anodizing shall not air sparge tanks containing chromic acid when the tank is not in use, and may air sparge the tank up to one hour prior to parts being placed in the tank, and one hour after parts are removed from the tank.

(2) An owner or operator of a facility conducting chromium, nickel, cadmium, or lead Electroplating operations, or chromic acid Anodizing shall:

(A) Store nickel, cadmium, and lead in powder or Metal salt form in a closed container in an Enclosed Storage Area;

(B) Use a closed container when transporting nickel, cadmium, or lead in powder or Metal salt from an Enclosed Storage Area to Electroplating tanks;

(C) Wash down, vacuum, or wet mop, or maintain with the use of non-toxic chemical dust suppressants surfaces within the Enclosed Storage Area that accumulate dust; and

(D) Store, dispose of, recover, or recycle wastes which contain nickel, cadmium, or lead generated from housekeeping activities by using practices that do not lead to Fugitive Dust.

(E) Comply with the manufacturers recommended schedule for inspecting and maintaining Add-on Air Pollution Control Equipment that controls nickel, cadmium, or lead Electroplating operation(s). If the inspection frequency is not specified by the manufacturer, recommended inspection and maintenance activities shall be conducted at least once per calendar quarter.

(3) The owner or operator of a facility conducting chromium, nickel, cadmium, or lead Electroplating operations, or chromic acid Anodizing

shall maintain records demonstrating compliance with housekeeping practices, as required by subparagraphs (i)(2)(A) through (i)(2)(D) including the name of the person performing specified activities, the dates on which specific activities were completed, and records showing that wastes containing chromium, nickel, cadmium, or lead have been stored, disposed of, recovered, or recycled.

(~~j~~g) Exemptions

~~The owner or operator of a facility that has submitted an inventory prepared pursuant to Rule 1402 – Control of Toxic Air Contaminants from Existing Sources, subdivisions (n) [Emissions Inventory Requirements] that has been approved by the Executive Officer, and that contains process and tank information for all of the tanks subject to this rule is exempt from complying with the requirements of paragraphs (c)(1), (c)(2) and (c)(3).~~

(1) The requirements of this rule, except subdivision (h), do not apply to an Anodizing, Conversion Coating, Electroforming, Electroless Plating, Electroplating, Passivation, Pre-Dip, or Sealing tank provided either:

(A) A South Coast AQMD permit condition limits the tank solution concentration to less than 1,000 ppm for each individual Metal;

(B) Records for the tank solution are retained on-site and made available to the Executive Officer, upon request, that does not specify a concentration of 1,000 ppm or greater for any Metal; or

(C) A laboratory analysis demonstrating that the tank solution contains less than 1,000 ppm for each individual Metal is:

(i) Performed using an approved ASTM, CARB, or U.S. EPA test method, where total chromium may serve as a surrogate for hexavalent chromium;

(ii) Retained on-site; and

(iii) Made available to the Executive Officer, upon request.

(2) The requirements of this rule, except subdivision (h), do not apply to a Stripping, Etch, or Electropolishing tank provided either:

(A) A South Coast AQMD permit condition limits the tank solution concentration to less than 1,000 ppm for each individual Metal;

(B) The tank solution is replaced at least once every 6 calendar months with new tank solution that contains less than 1,000 ppm for each

individual Metal and the corresponding records are retained on-site; or

(j) (2) (C) A laboratory analysis demonstrating that the tank solution contains less than 1,000 ppm for each individual Metal is:

(i) Conducted every 6 calendar months;

(ii) Performed using an approved ASTM, CARB, or U.S. EPA test method, where total chromium may serve as a surrogate for hexavalent chromium;

(iii) Retained on-site; and

(iv) Made available to the Executive Officer, upon request.

(3) The requirements of this rule, except subdivision (h), do not apply to a Rinse Tank provided either:

(A) A South Coast AQMD permit condition limits the Rinse Tank solution concentration to less than 1,000 ppm for each individual Metal;

(B) The Rinse Tank is part of a rinsing operation that is designed to be continuously diluted with water;

(C) The Rinse Tank is permanently connected to a system to remove Metal;

(D) The tank solution is replaced at least once every 12 calendar months with water and the corresponding records are retained on-site; or

(E) A laboratory analysis demonstrating that the tank solution contains less than 1,000 ppm for each individual Metal is:

(i) Conducted every 12 calendar months;

(ii) Performed using an approved ASTM, CARB, or U.S. EPA test method, where total chromium may serve as a surrogate for hexavalent chromium;

(iii) Retained on-site; and

(iv) Made available to the Executive Officer, upon request.

(4) The requirements of subdivision (d) do not apply to Building Enclosures subject to the requirements of Rule 1469.

(5) The requirements of subdivision (e) do not apply to areas, materials, or equipment that are subject to the requirements of Rule 1469.

(6) The requirements of subdivision (f), except paragraph (f)(5), do not apply to Tier I, Tier II, or Tier III Hexavalent Chromium Tanks that are subject to the requirements of Rule 1469.

(j) (7) The requirements of subdivision (d) do not apply to total enclosures that are subject to the requirements of Rule 1420 – Emissions Standard for Lead.

(8) The requirements of paragraphs (d)(2) and (f)(6), and subparagraph (e)(3)(D) do not apply to buffing, grinding, or polishing operations conducted under a continuous flood of Metal Removal Fluid.

ATTACHMENT F-1

~~Appendix 1 - Content of Initial Compliance Report~~

~~Initial compliance reports shall contain the following information:~~

~~1. Facility name, SCAQMD ID number, facility address, owner or operator name, and contact telephone number;~~

~~2. A description of the process performed in each affected plating or process tank;~~

~~3. The purchase records for nickel used in nickel electroplating operations for the preceding 12 months. The information should include the total metallic nickel purchased (in lbs/yr), and the typical nickel content in purchased plating solutions used for nickel sulfate, nickel chloride, nickel sulfamate and other types of nickel plating operations. Indicate the nickel in inventory at the beginning of the reporting period and the nickel remaining in inventory at the end of the reporting period;~~

~~4. The purchase records for cadmium used in cadmium electroplating operations for the preceding 12 months. The information should include the total cadmium purchased (in lbs/yr), and the typical cadmium content in purchased plating solutions used for cadmium cyanide, cadmium sulfate, and other types of cadmium plating operations. Indicate the cadmium in inventory at the beginning of the reporting period and the cadmium remaining in inventory at the end of the reporting period;~~

~~5. The purchase records for lead used in lead electroplating operations for the preceding 12 months. The information should include the total lead purchased (in lbs/yr), and the typical lead content in purchased plating solutions used for lead sulfamate, lead acetate, and other types of lead plating operations. Indicate the lead in inventory at the beginning of the reporting period and the lead remaining in inventory at the end of the reporting period;~~

~~6. The purchase records for copper used in copper electroplating operations for the preceding 12 months. The information should include the total copper purchased (in lbs/yr), and the typical copper content in purchased plating solutions used for all cuprous and cupric plating operations. Indicate the copper in inventory at the beginning of the reporting period and the copper remaining in inventory at the end of the reporting period;~~

~~7. For each nickel, cadmium, lead, or copper electroplating tank, the surface area of the tank, (ft^2), volume of the tank (ft^3), and typical bath concentrations of nickel, cadmium, lead, or copper (wt.% or oz./gal, typical operating range acceptable);~~

~~8. For each nickel, cadmium, lead, or copper electroplating tank, the control equipment which serves it (permit number), and a copy of the most recent performance test conducted to demonstrate compliance with a permit condition or control equipment efficiency, if applicable;~~

~~9. For each rectifier with a dedicated ampere*hour meter used at a nickel, cadmium, lead or copper electroplating tank, at least the most recent four months of operating data (ampere*hours);~~

~~10. For each process tank (excluding rinse and dragout tanks) associated with an electroplating process that contains sulfuric acid, nitric acid, hydrochloric acid or chromic acid (excluding chromic acid in electroplating tanks), the tank designation, the surface area of the tank, (ft^2), volume of the tank (ft^3), concentration of sulfuric acid, nitric acid, hydrochloric acid or chromic acid (wt% or oz/gal, typical operating range acceptable), and identification of air pollution control equipment (permit number), if applicable;~~

~~11. For each process tank containing sodium hydroxide used in a spraying operation, the concentration of NaOH in the tank in percent by weight, the spray rate of the NaOH spray system in gallons per minute, and the hours of operation per month;~~

~~12. The distance to the nearest commercial/industrial building, measured as indicated in Table A-1;~~

~~13. The distance to the nearest residence, measured as indicated in Table A-1;~~

~~14. The distance(s) to all sensitive receptor locations within one-quarter of a mile from the facility, measured as indicated in Table A-1;~~

~~15. The name, title and signature of the responsible company official certifying the accuracy of the reported information; and,~~

~~16. Date of the report.~~

~~Table A-1~~
~~Measuring Receptor Distance~~

~~Source Type~~	~~Measure From:~~	~~Measure To:~~
~~Point Source, Single Stack~~	~~Stack~~	~~Property Line of Nearest Receptor~~
~~Point Source, Multiple Stacks~~	~~Centroid of Stacks~~	~~Property Line of Nearest Receptor~~
~~Volume Source No Stack~~	~~Center of Building~~	~~Property Line of Nearest Receptor~~

~~Appendix 2 - Content of Compliance Report~~

~~Compliance reports shall contain the following information:~~

~~1. Facility name, SCAQMD ID number, facility address, owner or operator name, and contact telephone number;~~

~~2. The beginning and ending dates of the reporting period;~~

~~3. The purchase records for nickel used in nickel electroplating operations for the preceding 12 months. The information should include the total metallic nickel purchased (in lbs/yr), and the nickel content in purchased plating solutions used for nickel sulfate, nickel chloride, nickel sulfamate and other types of nickel plating operations. Indicate the nickel in inventory at the beginning of the reporting period and the nickel remaining in inventory at the end of the reporting period;~~

~~4. The purchase records for cadmium used in cadmium electroplating operations for the preceding 12 months. The information should include the total cadmium purchased (in lbs/yr), and the cadmium content in purchased plating solutions used for cadmium cyanide, cadmium sulfate, and other types of cadmium plating operations. Indicate the cadmium in inventory at the beginning of the reporting period and the cadmium remaining in inventory at the end of the reporting period;~~

~~5. The purchase records for lead used in lead electroplating operations for the preceding 12 months. The information should include the total lead purchased (in lbs/yr), and the lead content in purchased plating solutions used for lead sulfamate, lead acetate, and other types of lead plating operations. Indicate the lead in inventory at the beginning of the reporting period and the lead remaining in inventory at the end of the reporting period;~~

~~6. The purchase records for copper used in copper electroplating operations for the preceding 12 months. The information should include the total copper purchased (in lbs/yr), and the copper content in purchased plating solutions used for all cuprous and cupric plating operations. Indicate the copper in inventory at the beginning of the reporting period and the copper remaining in inventory at the end of the reporting period;~~

~~7. For each rectifier with a dedicated ampere*hour meter used at a nickel, cadmium, lead or copper electroplating tank, the preceding twelve months of operating data (ampere*hours) in monthly and annual totals;~~

~~8. A description of all new permit applications filed for new electroplating or process tanks and for air pollution control equipment since the Initial Compliance Report was submitted;~~

~~9. The distance from the property line of the facility to residences and sensitive receptor locations within 25 meters from the facility, for any new residence or sensitive receptor since the Initial Compliance Report was submitted;~~

~~10. The name, title, and signature of the responsible official certifying the accuracy of the reported information; and,~~

~~11. The date of the report.~~

ATTACHMENT F-2

(Adopted October 9, 1998)(Amended May 2, 2003)
(Amended December 5, 2008)(Amended November 2, 2018)
(PAR 1469 April 2, 2021)

PROPOSED AMENDED RULE 1469. HEXAVALENT CHROMIUM EMISSIONS FROM CHROMIUM ELECTROPLATING AND CHROMIC ACID ANODIZING OPERATIONS

[Rule Index to be included after adoption]

(a) Purpose

The purpose of this rule is to reduce hexavalent chromium emissions from facilities that perform chromium electroplating or chromic acid anodizing operations and other activities that are generally associated with chromium electroplating and chromic acid anodizing operations.

(b) Applicability

This rule shall apply to the owner or operator of any facility performing chromium electroplating or chromic acid anodizing.

(c) Definitions

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

(1) ADD-ON AIR POLLUTION CONTROL DEVICE means equipment installed in the ventilation system of any Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) for the purposes of collecting and containing chromium emissions from the tank(s).

(2) ADD-ON NON-VENTILATED AIR POLLUTION CONTROL DEVICE means equipment installed on any Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) for the purposes of collecting, containing, or eliminating chromium emissions that is hermetically sealed and does not utilize a ventilation system.

(3) AIR POLLUTION CONTROL TECHNIQUE means any method, such as an add-on air pollution control device, add-on non-ventilated air pollution control device, mechanical fume suppressant or a chemical fume suppressant, that is used to reduce chromium emissions from one or more Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s).

(4) AMPERE-HOURS means the integral of electrical current applied to an electroplating tank (amperes) over a period of time (hours).

(5) ANNUAL PERMITTED AMPERE-HOURS means the maximum allowable chromium electroplating or anodizing rectifier production in ampere-hours, on an annual basis as specified in the SCAQMD Permit to Operate, or SCAQMD Permit to Construct.

(c) (6) APPROVED CLEANING METHOD means cleaning using a wet mop, damp cloth, wet wash, low pressure spray nozzle, HEPA vacuum, or other method as approved by the Executive Officer.

(7) ASSOCIATED PROCESS TANK means any tank in the process line of a Tier I, Tier II, or Tier III Hexavalent Chromium Tank.

(8) BASE MATERIAL means the metal, metal alloy, or plastic that comprises the workpiece.

(9) BARRIER means a physical divider that can be fixed or portable such as a wall, welding screen, plastic strip curtains, etc.

(10) BATH COMPONENT means the trade or brand name of each component in trivalent chromium electroplating baths, including the chemical name of the wetting agent contained in that component.

(11) BUILDING ENCLOSURE means a permanent building or physical structure, or portion of a building, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. A room within a building enclosure that is completely enclosed with a floor, walls, and a roof would also meet this definition.

(12) CHEMICAL FUME SUPPRESSANT means any chemical agent that reduces or suppresses fumes or mists at the surface of an electroplating or anodizing bath; another term for fume suppressant is mist suppressant.

(13) CHROMIC ACID means the common name for chromium anhydride (CrO_3).

(14) CHROMIC ACID ANODIZING means the electrolytic process by which an oxide layer is produced on the surface of a base material for functional purposes (e.g., corrosion resistance or electrical insulation) using a chromic acid solution. In chromic acid anodizing, the part to be anodized acts as the anode in the electrical circuit, and the chromic acid solution, with a concentration typically ranging from 50 to 100 grams per liter (g/L), serves as the electrolyte.

(15) CHROMIUM ELECTROPLATING OR CHROMIC ACID ANODIZING TANK means the receptacle or container in which hard or decorative chromium electroplating or chromic acid anodizing occurs.

(c) (16) COMPOSITE MESH-PAD SYSTEM (CMP) means an add-on air pollution control device typically consisting of several mesh-pad stages. The purpose of the first stage is to remove large particles. Smaller particles are removed in the second stage, which consists of the composite mesh pad. A final stage may remove any re-entrained particles not collected by the composite mesh pad.

(17) DECORATIVE CHROMIUM ELECTROPLATING means the process by which a thin layer of chromium (typically 0.003 to 2.5 microns) is electrodeposited on a base metal, plastic, or undercoating to provide a bright surface with wear and tarnish resistance. In this process, the part(s) serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Typical current density applied during this process ranges from 540 to 2,400 Amperes per square meter (A/m^2) for total electroplating times ranging between 0.5 to 5 minutes.

(18) DRAGOUT means fluid containing hexavalent chromium that drips from ~~electroplated or anodized~~ parts, or from equipment used to remove ~~electroplated or anodized~~ parts from a Tier I, Tier, II, or Tier III Hexavalent Chromium Tank~~tank~~.

(19) ELECTROPLATING OR ANODIZING BATH means the electrolytic solution used as the conducting medium in which the flow of current is accompanied by movement of metal ions for the purpose of electroplating metal out of the solution onto a workpiece or for oxidizing the base material.

(20) EMISSION LIMITATION means the concentration of total chromium allowed to be emitted expressed in milligrams per dry standard cubic meter (mg/dscm), or the allowable surface tension expressed in dynes per centimeter (dynes/cm) for decorative chromium electroplating and chromic acid anodizing tanks; and the milligrams of hexavalent chromium per ampere-hour (mg/amp-hr) of electrical current applied to the electroplating tank for hard or decorative chromium electroplating tanks or chromic acid anodizing tanks, or mass emission rate for a Tier II or Tier III hexavalent chromium tank.

(21) ENCLOSED STORAGE AREA is any space or structure used to contain material that prevents its contents from being emitted into the atmosphere.

(22) ENCLOSURE OPENING is any permanent opening that is designed to be part of a building enclosure or permanent total enclosure, such as passages, doorways, bay doors, vents, roof openings, and windows. The term excludes openings that are designed to accommodate and generally conform to a stack or duct for a building enclosure or permanent total enclosure.

(c) (23) EXISTING FACILITY means a facility that is in operation before October 24, 2007.

(24) FACILITY means a source located on one or more contiguous properties within the District, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility. Sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or OCS Waters shall be included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.

(25) FIBER-BED MIST ELIMINATOR means an add-on air pollution control device that removes contaminants from a gas stream through the mechanisms of inertial impaction and Brownian diffusion. This device consists of one or more fiber beds and is typically installed downstream of another control device, which serves to prevent plugging. Each bed consists of a hollow cylinder formed from two concentric screens; the fiber between the screens may be fabricated from glass, ceramic, plastic, or metal.

(26) FOAM BLANKET means the type of chemical fume suppressant that generates a layer of foam across the surface of a solution when current is applied to that solution.

(27) FRESH WATER means water, such as tap water, that has not been previously used in a process operation or, if the water has been recycled from a process operation, it has been treated and meets the effluent guidelines for chromium wastewater.

(28) FUGITIVE EMISSIONS means emissions generated from the operations at a facility, including solid particulate matter, gas, or mist, potentially

containing hexavalent chromium that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack.

(c) (29) HARD CHROMIUM ELECTROPLATING or INDUSTRIAL CHROMIUM ELECTROPLATING means a process by which a thick layer of chromium (typically greater than 1.0 microns) is electrodeposited on a base material to provide a surface with functional properties such as wear resistance, a low coefficient of friction, hardness, and corrosion resistance. In this process, the part serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Hard chromium electroplating process is performed at current densities typically ranging from 1,600 to 6,500 A/m^2 for total electroplating times ranging from 20 minutes to 36 hours depending upon the desired plate thickness.

(30) HEXAVALENT CHROMIUM means the form of chromium in a valence state of +6.

(31) HIGH EFFICIENCY PARTICULATE ARRESTORS (HEPA) means filter(s) that are individually ~~dioctyl phthalate~~ tested and certified by the manufacturer to have a control efficiency of not less than 99.97 percent on 0.3 micron particles.

(32) HEPA VACUUM means a vacuum that is both designed for the use of and fitted with a HEPA filter.

(33) LEAK means the release of chromium emissions from any opening in the emission collection system prior to exiting the emission control device.

(34) LOW PRESSURE SPRAY NOZZLE means a water spray nozzle capable of regulating water pressure to 35 pounds per square inch or less.

(35) MAJOR SOURCE means any stationary source or group of stationary sources located within a contiguous area and under common control that emits, or has the potential to emit, considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

(36) MAXIMUM CUMULATIVE POTENTIAL RECTIFIER CAPACITY means the summation of the total installed rectifier capacity associated with the hard chromium electroplating tanks at a facility, expressed in amperes, multiplied by the maximum potential operating schedule of 8,400 hours per year and 0.7, which assumes that electrodes are energized 70 percent of the total operating time. The maximum potential operating schedule is based on operating 24 hours per day, 7 days per week, 50 weeks per year.

(c) (37) MECHANICAL FUME SUPPRESSANT means any physical device, including but not limited to polyballs that reduces fumes or mist at the surfaces of an electroplating or anodizing bath by direct contact with the surface of the bath.

(38) METAL REMOVAL FLUID means a fluid used at the tool and workpiece interface to facilitate the removal of metal from the part, cool the part and tool, extend the life of the tool, and to flush away metal chips and debris, but does not include minimum quantity lubrication fluids used to coat the tool work piece interface with a thin film of lubricant and minimize heat buildup through friction reduction. Minimum quantity lubrication fluids are applied by pre-coating the tool in the lubricant, or by direct application at the tool work piece interface with a fine mist.

(39) MODIFICATION means either:

(A) Any physical change in, change in method of operation of, or addition to an existing permit unit subject to this rule that requires an application for a SCAQMD Permit to Construct and/or Operate and results in an increase in hexavalent chromium emissions. Routine maintenance and/or repair shall not be considered a physical change. A change in the method of operation of equipment, unless previously limited by an enforceable permit condition, shall not include:

(i) An increase in the production rate or annual ampere-hours, unless such increases will cause the maximum design capacity of the equipment to be exceeded, or will cause a facility to be subject to a different requirement in Table 1 – Hexavalent Chromium Emission Limits for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks; or

(ii) An increase in the hours of operation; or

(iii) A change in ownership of a source;

(B) The addition of any new chromium electroplating or anodizing tank at an existing facility which increases hexavalent chromium emissions; or

(C) The fixed capital cost of the replacement of components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source.

(c) (40) MODIFIED FACILITY means any existing facility which has undergone a modification on or after October 24, 2007.

(41) NEW FACILITY means any facility that begins initial operations on or after October 24, 2007. "New Facility" does not include the installation of a new chromium electroplating or chromic acid anodizing tank at an existing facility or the modification of an existing facility.

(42) OPERATING PARAMETER VALUE means a minimum or maximum value established to monitor the proper operation of an air pollution control technique.

(43) PACKED-BED SCRUBBER means an add-on air pollution control device consisting of a single or double packed-bed that contains packing media on which the chromic acid droplets impinge. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

(44) PERFLUOROOCTANE SULFONIC ACID (PFOS) BASED FUME SUPPRESSANT means a fume suppressant that contains 1 percent or greater PFOS (CAS No. 1763-23-1) by weight.

(45) PERMANENT TOTAL ENCLOSURE means a permanent building or containment structure, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off) that has limited openings to allow access for people and vehicles, that is free of breaks or deterioration that could cause or result in fugitive emissions, and has been evaluated to meet the design requirements set forth in U.S. EPA Method 204, or other design approved by the Executive Officer.

(46) RESPONSIBLE OFFICIAL means one of the following:

(A) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(c) (46) (A) (ii) The delegation of authority to such representative is approved in advance by the U.S. EPA Administrator.

(B) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(C) For a municipality, state, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the U.S. EPA).

(D) For sources (as defined in this rule) applying for or subject to a Title V permit: "responsible official" shall have the same meaning as defined in SCAQMD's Regulation XXX.

(47) SCHOOL means any public or private school, including juvenile detention facilities with classrooms, used for the education of more than 12 children at the school in kindergarten through grade 12. School also means an Early Learning and Developmental Program by the U.S. Department of Education or any state or local early learning and development programs such as pre-schools, Early Head Start, Head Start, First Five, and Child Development Centers. A school does not include any private school in which education is primarily conducted in private homes. The term includes any building or structure, playground, athletic field, or other area of school property.

(48) SCHOOL UNDER CONSTRUCTION means any property that meets any of the following conditions:

(A) Construction of a school has commenced; or

(B) A California Environmental Quality Act Notice for the construction of a school has been issued; or

(C) A school has been identified in an approved local government specific plan.

(49) SENSITIVE RECEPTOR means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

(c) (50) SOURCE means any chromium electroplating or chromic acid anodizing operation and any equipment or materials associated with the air pollution control technique.

(51) STALAGMOMETER means a device used to measure the surface tension of a solution by determining the mass of a drop of liquid by weighing a known number of drops, or by counting the number of drops obtained from a given volume of liquid.

(52) SUBSTANTIAL USE of a SCAQMD Permit to Construct means one or more of the following:

(A) The equipment that constitutes the source has been purchased or acquired;

(B) Construction activities, other than grading or installation of utilities or foundations, have begun and are continuing; or

(C) A contract to complete construction of the source within one year has been entered into.

(53) SURFACE TENSION means the property, due to molecular forces, that exists in the surface film of all liquids and tends to prevent liquid from spreading.

(54) TANK OPERATION means the time in which current and/or voltage is being applied to a chromium electroplating tank or a chromic acid anodizing tank.

(55) TANK PROCESS AREA means the area in the facility within 15 feet of any Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s), or to the nearest wall of a building enclosure or permanent total enclosure, whichever is closer.

(56) TENSIOMETER means a device used to measure the surface tension of a solution by measuring the force necessary to pull a filament, plate, ring, or other SCAQMD approved object from the surface of a liquid.

(57) TIER I HEXAVALENT CHROMIUM TANK means a tank permitted as containing a hexavalent chromium concentration of 1,000 parts per million (ppm) or greater and is not a Tier II or Tier III Hexavalent Chromium Tank.

(58) TIER II HEXAVALENT CHROMIUM TANK means a tank that is operated or permitted to operate by the SCAQMD within the range of temperatures and corresponding hexavalent chromium concentrations specified in Appendix 10 and is not a Tier III Hexavalent Chromium Tank.

(c) (59) TIER III HEXAVALENT CHROMIUM TANK means a tank that meets any of the following:

(A) Is operated or permitted to operate by SCAQMD -within the range of temperatures and corresponding hexavalent chromium concentrations specified in Appendix 10; or

(B) Contains a hexavalent chromium concentration greater than 1,000 ppm, and uses air sparging as an agitation method or is electrolytic; or

(C) Is a hexavalent chromium electroplating or chromic acid anodizing tank.

(60) TRIVALENT CHROMIUM means the form of chromium in a valence state of +3.

(61) TRIVALENT CHROMIUM PROCESS means the process used for electrodeposition of a thin layer of chromium onto a base material using a trivalent chromium solution instead of a chromic acid solution.

(62) WEEKLY means at least once every seven calendar days.

(63) WETTING AGENT means the type of chemical fume suppressant that reduces the surface tension of a liquid.

(d) Requirements

The owner or operator of a facility shall:

(1) Equip each rectified tank with a continuous recording, non-resettable, ampere-hour meter that operates on the electrical power lines connected to the tank or group of tanks. A separate meter shall be hard wired for each tank;

(2) Only use wetting agent chemical fume suppressants certified pursuant to subdivision (l) in hexavalent chromium electroplating or chromic acid anodizing tank(s);

(3) Not air sparge a hexavalent chromium electroplating or chromic acid anodizing tank when electroplating or anodizing is not occurring, or while chromic acid is being added;

(4) Operate any Tier I, Tier II, or Tier III Hexavalent Chromium Tank within a building enclosure beginning January 31, 2019; and

(5) Operate any Tier II or Tier III Hexavalent Chromium Tank within a building enclosure that meets the requirements of subdivision (e).

(d) (6) Operate any Tier I Hexavalent Chromium Tank within a building enclosure, according to the implementation schedule in Appendix 11 – Implementation Schedule, such that the following are met:

(A) The building enclosure openings that are open to the exterior and on opposite ends of the building enclosure shall not be simultaneously open except during the passage of vehicles, equipment, or people by using one or more of the following at one of the openings to prevent the passage of air:

(i) A door that automatically closes;

(ii) Overlapping plastic strip curtain;

(iii) A vestibule;

(iv) An airlock system;

(v) A barrier or obstruction, such as a large piece of equipment that prevents air from passing through any tank process area; or

(vi) An alternative method to minimize the release of fugitive emissions from the building enclosure that is approved by the Executive Officer.

(B) Except during the movement of vehicles, equipment, or people, close any building enclosure opening by using one or more of the methods listed in clauses (d)(6)(A)(i) through (d)(6)(A)(iv) and (d)(6)(A)(vi) that directly faces and opens towards the nearest:

(i) Sensitive receptor, with the exception of a school, that is located within 1,000 feet, as measured from the property line of the sensitive receptor to the building enclosure opening; and

(ii) School that is located within 1,000 feet, as measured from the property line of the school to the building enclosure opening.

(e) Requirements for Building Enclosures for Tier II and Tier III Hexavalent Chromium Tanks

Beginning May 1, 2019, the owner or operator of a facility shall operate Tier II or Tier III Hexavalent Chromium Tank(s) within a building enclosure that meets the following requirements:

(1) The combined area of all enclosure openings shall not exceed 3.5% of the building enclosure envelope, which is calculated as the total surface area of the building enclosure's exterior walls, floor, and horizontal projection of the roof on the ground. Information on calculations for the building enclosure

envelope, including locations and dimensions of openings that are counted towards the applicable building envelope allowance, shall be provided in the compliance status reports required in paragraphs (p)(2) and (p)(3). Openings that close or use one or more of the following methods for the enclosure opening shall not be counted toward the combined area of all enclosure openings:

(e) (1) (A) Door that automatically closes; or

(B) Overlapping plastic strip curtain; or

(C) Vestibule; or

(D) Airlock system; or

(E) Alternative method to minimize the release of fugitive emissions from the building enclosure that the owner or operator of a facility can demonstrate to the Executive Officer is an equivalent or more effective method(s) to minimize the movement of air within the building enclosure.

(2) Ensure that any building enclosure openings that open to the exterior and are on opposite ends of the building enclosure where air can pass through are not simultaneously open except during the passage of vehicles, equipment or people, not to exceed two hours per operating day, by using one or more of the following:

(A) A method specified in subparagraphs (e)(1)(A) through (e)(1)(E) for the enclosure opening(s) on one of the opposite ends of the building enclosure; or

(B) Utilize a barrier, such as large piece of equipment that restricts air from moving through the building enclosure.

(3) Except for the movement of vehicles, equipment or people, close any building enclosure opening or use any of the methods listed in subparagraphs (e)(1)(A) through (e)(1)(E), that directly faces and opens towards the nearest:

(A) Sensitive receptor, with the exception of a school, that is located within 1,000 feet, as measured from the property line of the sensitive receptor to the building enclosure opening; and

(B) School that is located within 1,000 feet, as measured from the property line of the school to the building enclosure opening.

(e) (4) Close all enclosure openings in the roof that are located within 15 feet from the edge of any Tier II or Tier III Hexavalent Chromium Tank except enclosure openings in the roof that:

(A) Allow access for equipment or parts; or

(B) Provide intake or circulation air for a building enclosure and does not create air velocities that impact the collection efficiency of a ventilation system for an add-on air pollution control device; or

(C) Are equipped with a HEPA filter or other air pollution control device.

(5) Repair any breach in a building enclosure located within 15 feet from the edge of any Tier II or Tier III Hexavalent Chromium Tank within 72 hours of discovery. The owner or operator of a facility may request an extension by calling 1-800-CUT-SMOG. The Executive Officer may approve a request for an extension beyond the 72-hour limit if the request is submitted before the 72-hour time limit has expired and the owner or operator of a facility provides information that substantiates:

(A) The repair will take longer than 72 hours, or the equipment, parts, or materials needed for the repair cannot be obtained within 72 hours; and

(B) Temporary measures are implemented that ensure no fugitive emissions result from a breach.

(6) The owner or operator of a facility shall notify the Executive Officer if any of the requirements specified in paragraphs (e)(1) through (e)(4) cannot be complied with due to conflicting requirements set forth by the federal Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (CAL-OSHA), or other municipal codes or agency requirements directly related to worker safety. A Building Enclosure Compliance Plan shall be submitted to the Executive Officer for review and approval no later than December 2, 2018 for facilities existing before November 2, 2018, and prior to initial start-up for all other facilities. The Building Enclosure Compliance Plan shall be subject to plan fees specified in Rule 306 and include:

(A) An explanation as to why the provision(s) specified in paragraphs (e)(1) through (e)(4) is in conflict with the requirements set forth by OSHA or CAL-OSHA, or other municipal codes or agency requirements directly related to worker safety; and

(e) (6) (B) Alternative compliance measure(s) that will be implemented to minimize the release of fugitive emissions to the outside of the building enclosure.

(7) The Executive Officer shall notify the owner or operator of a facility in writing whether the Building Enclosure Compliance Plan is approved or disapproved.

(A) If the Building Enclosure Compliance Plan is disapproved, the owner or operator of a facility shall submit a revised Building Enclosure Compliance Plan within 30 calendar days after notification of disapproval of the Building Enclosure Compliance Plan. The revised Building Enclosure Compliance Plan shall include any information to address deficiencies identified in the disapproval letter.

(B) The Executive Officer will either approve the revised Building Enclosure Compliance Plan or modify the Building Enclosure Compliance Plan and approve it as modified. The owner or operator may appeal the Building Enclosure Compliance Plan modified by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.

(8) The owner or operator of a facility shall implement the Building Enclosure Compliance Plan specified in paragraphs (e)(6) and (e)(7), as approved by the Executive Officer, no later than 90 days after receiving notification of approval for facilities existing before November 2, 2018, and prior to initial start-up for all other facilities. Compliance with the approved alternative compliance measures shall constitute compliance with the applicable provisions of paragraphs (e)(1) through (e)(4).

(9) The owner or operator of a facility that has applied for an SCAQMD permit to install or is required to install an add-on air pollution control device to control either a Tier II or Tier III Hexavalent Chromium Tank(s) shall be exempt from paragraphs (e)(1) and (e)(4) until the add-on air pollution control device has been installed and commenced normal operation.

(f) Housekeeping Requirements

An owner or operator of a chromium electroplating or chromic acid anodizing facility shall:

(f) (1) Store chromic acid powder or flakes, or other substances that may contain hexavalent chromium, in a closed container in an enclosed storage area when not in use;

(2) Use a closed container when transporting chromic acid powder or flakes, or other substances that may contain hexavalent chromium from an enclosed storage area to ~~chromium electroplating or chromic acid anodizing tanks~~a Tier I, Tier II, or Tier III Hexavalent Chromium Tank;

(3) Clean, using an approved cleaning method, or contain, using a drip tray or other containment device, any liquid or solid material that may contain hexavalent chromium that is spilled immediately and no later than one hour after being spilled;

(4) Clean, using an approved cleaning method, surfaces within the enclosed storage area, open floor area, walkways around ~~the chromium electroplating or chromic acid anodizing tank(s)~~a Tier I, Tier II, or Tier III Hexavalent Chromium Tank, or any surface potentially contaminated with hexavalent chromium or surfaces that potentially accumulate dust weekly;

(5) Store, dispose of, recover, or recycle chromium or chromium-containing wastes generated from housekeeping activities of this subdivision using practices that do not lead to fugitive emissions. Containers with chromium-containing waste material shall be kept closed at all times except when being filled or emptied;

(6) Beginning December 2, 2018, use an approved cleaning method to clean floors within 20 feet of a buffing, grinding, or polishing workstation on days when buffing, grinding, or polishing are conducted; and

(7) Beginning December 2, 2018, eliminate all flooring on walkways in the tank process areas that is made of fabric, such as carpets or rugs, where hexavalent chromium containing materials can become trapped.

(8) Abatement of Hexavalent Chromium Prior to Cutting of Roof Surfaces

The owner or operator a facility shall:

(A) Clean affected surface areas using a HEPA vacuum prior to cutting into a building enclosure roof;

(B) Minimize fugitive emissions during cutting activities using method(s) such as a temporary enclosure and/or HEPA vacuuming; and

(f) (8) (C) Notify the Executive Officer at least 48 hours prior to the commencement of any roof cutting activities into a building enclosure by calling 1-800-CUT-SMOG.

(9) Ensure that if a HEPA vacuum is used, that the HEPA filter is free of tears, fractures, holes or other types of damage, and securely latched and properly situated in the vacuum to prevent air leakage from the filtration system.

(10) According to the implementation schedule in Appendix 11 – Implementation Schedule, store in a closed container or in an enclosed storage area:

(A) Cleaning equipment and supplies used for housekeeping in subdivision (f) when not in use;

(B) Reusable tank covers used with a Tier I, Tier II, or Tier III Hexavalent Chromium Tank when not on the tank;

(C) Reusable hangers used with a Tier I, Tier II, or Tier III Hexavalent Chromium Tank when not being used to hold a part; and

(D) Anodes and cathodes used with a Tier I, Tier II, or Tier III Hexavalent Chromium Tank when not in the tank.

(g) Best Management Practices

(1) The owner or operator of a facility shall minimize dragout from a ~~chromium electroplating or chromic acid anodizing tank~~Tier I, Tier II, or Tier III Hexavalent Chromium Tank, according to the implementation schedule in Appendix 11 – Implementation Schedule, for:

(A) An automated line by installing a drip tray, or other containment device between ~~the chromium electroplating or chromic acid anodizing tank~~a Tier I, Tier II, or Tier III Hexavalent Chromium Tank such that liquid does not fall through the space between tanks. The trays shall capture and return the liquid to the tank(s), and be cleaned such that there is no accumulation of visible dust or residue on the drip tray or other containment device potentially contaminated with hexavalent chromium.

(B) A non-automated line by handling each ~~electroplated or anodized~~ part, or equipment used to handle these parts, so that liquid containing chromium or chromic acid is not dripped outside ~~the chromium electroplating, chromic acid anodizing tank~~a Tier I, Tier II, or Tier III Hexavalent Chromium Tank, or associated process tank, unless the liquid is captured by a drip tray or other containment device. Facilities spraying down parts over the chromium electroplating or chromic acid anodizing tank(s) to remove excess chromic acid shall have a splash guard installed at the tank to minimize overspray and to ensure that any hexavalent chromium laden liquid is captured and returned to the chromium electroplating or chromic acid anodizing tank. Splash guards shall be cleaned such that there is no accumulation of visible dust potentially contaminated with hexavalent chromium.

(g) (2) According to the implementation schedule in Appendix 11 – Implementation Schedule,~~Beginning January 31, 2019~~, the owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall

not spray rinse parts or equipment that were previously in a Tier I, Tier II, or Tier III Hexavalent Chromium Tank, unless the parts or equipment are fully lowered inside a tank where the liquid is captured inside the tank. The owner or operator of a facility may alternatively ensure that any liquid containing chromium is captured and returned to the tank by meeting the following conditions when rinsing above a tank:

(A) Installing a splash guard(s) at the tank that is free of holes, tears, or openings. Splash guards shall be cleaned weekly with water; or

(B) For tanks located within a process line utilizing an overhead crane system that would be restricted by the installation of splash guards specified in subparagraph (g)(2)(A), use a low pressure spray nozzle in a manner where water flows off of the part or equipment and into the tank.

(3) Beginning January 1, 2019, the owner or operator of a facility shall maintain clear labeling of each tank within the tank process area with a tank number or other identifier, SCAQMD permit number, bath contents, maximum concentration (ppm) of hexavalent chromium, operating temperature range, any agitation methods used, and designation of whether it is a Tier I, Tier II, or Tier III Hexavalent Chromium Tank, if applicable.

(4) Beginning January 31, 2019, the owner or operator of a facility shall conduct all buffing, grinding, and polishing operations within a building enclosure.

(5) According to the implementation schedule in Appendix 11 – Implementation Schedule~~Beginning January 31, 2019~~, the owner or operator of a facility shall install a barrier to prevent the migration of dust from buffing, grinding, or polishing areas to ~~the chromium electroplating or chromic acid anodizing operation~~a Tier I, Tier II, or Tier III Hexavalent Chromium Tank.

(g) (6) The owner or operator of a facility shall not conduct compressed air cleaning or drying operations within 15 feet of any Tier II or Tier III Hexavalent Chromium Tank(s) unless:

(A) A barrier separates the compressed air cleaning or drying operation from the Tier II or Tier III Hexavalent Chromium Tank(s). A tank wall may function as the barrier provided the parts being air cleaned or dried are below the lip of the tank; or

(B) Compressed air cleaning or drying operations are conducted in a permanent total enclosure.

(h) Air Pollution Control Technique Requirements

(1) The owner or operator of a facility shall not remove or render inoperable add-on air pollution control device(s) for hard or decorative chromium electroplating or chromic acid anodizing tanks unless it is replaced by air pollution control techniques meeting the requirements in Table 1 - Hexavalent Chromium Emission Limits for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks, or the facility is operating under an approved alternative compliance method pursuant to subdivision (i).

(2) Emission Standards for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Facilities

(A) The owner or operator of a facility shall control hexavalent chromium emissions discharged to the atmosphere by meeting the requirements identified below in Table 1 - Hexavalent Chromium Emission Limits for Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks. Alternatively, a facility can choose to comply by operating under an approved alternative compliance method pursuant to subdivision (i).

Table 1: Hexavalent Chromium Emission Limits for Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks

Facility Type	Distance to Sensitive Receptor (feet)	Annual Permitted Amp-Hrs	Hexavalent Chromium Emission Limit (mg/amp-hr)	Minimum Air Pollution Control Technique
Existing Facility	≤ 330[1]	≤ 20,000	0.01	Use of Certified Chemical Fume Suppressant at or below the certified surface tension.[3]
Existing Facility	≤ 330[1]	> 20,000	0.0015[2]	Add-on air pollution control device(s) or add-on non-ventilated air pollution control device(s).
Existing Facility	> 330[1]	≤ 50,000	0.01	Use of Certified Chemical Fume Suppressant at or below the certified surface tension.[3]
Existing Facility	> 330[1]	> 50,000 and ≤ 500,000	0.0015[2]	Use of an air pollution control technique that controls hexavalent chromium.
Existing Facility	> 330[1]	> 500,000	0.0015[2]	Add-on air pollution control device(s) or add-on non-ventilated air pollution control device(s).
Modified Facility	Any	Any	0.0015[2]	Using an add-on air pollution control device(s), or an approved alternative method pursuant to subdivision (i).
New Facility	Any	Any	0.0011[2]	Using a HEPA add-on air pollution control device, or an approved alternative method pursuant to subdivision (i).

[1] Distance shall be measured, rounded to the nearest foot, from the edge of the chromium electroplating or chromic acid anodizing tank nearest the sensitive receptor (for facilities without add-on air pollution control devices), or from the stack or centroid of stacks (for facilities with add-on air pollution control devices), to the property line of the nearest sensitive receptor. The symbol ≤ means less than or equal to. The symbol > means greater than.

[2] As demonstrated by source test requirements under subdivision (k).

[3] Alternatively, a facility may install an add-on air pollution control device(s) or add-on non-ventilated air pollution control device(s) that controls hexavalent chromium emissions to below 0.0015 mg/amp-hr as demonstrated through source test requirements under subdivision (k).

(h) (2) (B) The owner or operator of a new facility shall:

(i) Demonstrate in its SCAQMD permit application that the new facility is not located in an area that is zoned for residential or mixed use; and

(ii) Demonstrate in its SCAQMD permit application that the new facility is not located within 1,000 feet from the boundary of a sensitive receptor, a school under construction, or any area that is zoned for residential or mixed use.

(h) (2) (C) A new facility shall be deemed to meet the requirements specified in clauses (h)(2)(B)(i) and (h)(2)(B)(ii) if one of the following criteria is met, even if the facility does not meet the requirement at the time of initial start-up:

(i) The requirements specified in clauses (h)(2)(B)(i) and (h)(2)(B)(ii) are met at the time an SCAQMD Permit to Construct is issued, and substantial use of the SCAQMD Permit to Construct takes place within one year after it is issued; or

(ii) The requirements specified in clauses (h)(2)(B)(i) and (h)(2)(B)(ii) are met at the time an SCAQMD Permit to Construct is issued, and substantial use of the SCAQMD Permit to Construct occurs before any zoning change that affects the operation's ability to meet the requirement at the time of initial start-up.

(D) Prior to initial start-up, the owner or operator of a new facility shall meet the requirements specified in paragraph (h)(2).

(3) Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath During tank operation, the owner or operator of a facility shall control chromium emissions discharged to the atmosphere by meeting one or more of the requirements identified below.

Method of compliance	Requirement
Add-on air pollution control device, or chemical fume suppressants forming a foam blanket, or mechanical fume suppressants (e.g. polyballs)	≤ 0.01 milligrams of total chromium per dry standard cubic meter of air (mg/dscm) (4.4x10-6 gr/dscf) as demonstrated with an initial source test using an approved method pursuant to paragraph (k)(2)
Chemical fume suppressants containing a wetting agent that is not a PFOS based fume suppressant	Use wetting agent as bath component and comply with recordkeeping and reporting provisions of paragraphs (o)(10) and (p)(5)

(h) (4) Tier III Hexavalent Chromium Tanks (Excluding Chromium Electroplating and Chromic Acid Anodizing Tanks)

(A) The owner or operator of a facility shall collect and vent hexavalent chromium emissions from any Tier III Hexavalent Chromium Tank,

excluding chromium electroplating and chromic acid anodizing tanks subject to paragraph (h)(2), to an add-on air pollution control device, or an approved alternative compliance method pursuant to subdivision (i), that meets the following hexavalent chromium emission limits as demonstrated by source test requirements under subdivision (k):

(i) 0.0015 mg/amp-hr, for existing or modified facilities, if any tank(s) vented to an air pollution control device are electrolytic;

(ii) 0.0011 mg/amp-hr, for new facilities, if any tank(s) vented to an air pollution control device are electrolytic;

(iii) 0.20 mg/hr, if all tanks vented to the add-on air pollution control device are not electrolytic and the ventilation system has a maximum exhaust rate of 5,000 cfm or less; or

(iv) 0.004 mg/hr-ft^2, with the applicable surface area based on the surface area of all Tier III Hexavalent Chromium Tank(s) and other tanks required to be vented to an add-on air pollution control device with a SCAQMD Permit to Operate, provided all tanks are not electrolytic, if the ventilation system has a maximum exhaust rate of greater than 5,000 cfm.

(B) For Tier III Hexavalent Chromium Tanks specified in subparagraph (h)(4)(A) existing prior to November 2, 2018, the owner or operator of a facility shall submit complete SCAQMD permit applications for add-on air pollution control devices to the Executive Officer as specified below:

Table 2: Permit Submittal Schedule for Add-on Air Pollution Control Devices for Previously Existing Tier III Hexavalent Chromium Tanks[1]

Electrolytic Process at the Facility	Compliance Date for SCAQMD Permit Application Submittal for Add-on Air Pollution Control Device
Chromic Acid Anodizing	May 1, 2019
Hard Chromium Electroplating	November 2, 2019
Decorative Chromium Electroplating	April 30, 2020

[1] For multiple electrolytic processes at a facility, the owner or operator shall comply with the earliest compliance date.

(h) (4) (B) (i) The owner or operator of a facility shall conduct a source test prior to the issuance of a SCAQMD Permit to Operate.

(ii) Beginning no later than December 2, 2018 until the add-on air pollution control device specified in subparagraph (h)(4)(C) has been installed, cover the tank no later than 30 minutes after ceasing operation of the tank. Tank covers shall be free of holes, tears, and gaps.

(C) The owner or operator of a facility shall:

(i) Install an add-on air pollution control device to meet the requirements under subparagraph (h)(4)(A) no later than 12 months after a Permit to Construct for the add-on air pollution control device has been issued by the Executive Officer;

(ii) Implement the alternative compliance method to meet the requirements under subparagraph (h)(4)(A) based on the timeframe specified in the approved alternative compliance method; or

(iii) No later than two years after approval, implement an approved Hexavalent Chromium Phase-Out Plan pursuant to subdivision (u).

(D) The owner or operator of a facility shall not be subject to the requirement of subparagraph (h)(4)(A) to vent a Tier III Hexavalent Chromium Tank to an add-on air pollution control device if the uncontrolled hexavalent chromium emission rate of the tank is less than 0.2 mg/hr, as demonstrated by a SCAQMD approved source test. The source test shall be conducted pursuant to the Technical Guidance Document for *Measurement of Hexavalent Chromium Emissions from Chromium Plating and Chromic Acid Anodizing Operations for Certification of Wetting Agent Chemical Mist Suppressant Subject to SCAQMD Rule 1469*.

(h) (5) Tier II Hexavalent Chromium Tank

The owner or operator of a facility shall control hexavalent chromium emissions from a Tier II Hexavalent Chromium Tank by:

(A) Utilizing a tank cover, mechanical fume suppressant, or other method approved by the Executive Officer, no later than January 31, 2019; or

(B) Meeting the requirements for a Tier III Hexavalent Chromium Tank specified in subparagraphs (h)(4)(A) and (h)(4)(B).

(6) Ventilation Design and Operation of Air Pollution Control Techniques

The owner or operator of a facility shall operate air pollution control techniques required under subdivisions (h) at or above the applicable minimum hood induced capture velocity specified in the most current edition (i.e., at the time the SCAQMD permit application was deemed complete by SCAQMD) of *Industrial Ventilation, A Manual of Recommended Practice for Design*, published by the American Conference of Governmental Industrial Hygienists.

(i) Alternative Compliance Methods for Existing, Modified, and New Hexavalent Decorative and Hard Chromium Electroplating and Chromic Acid Anodizing Facilities

The owner or operator of a facility that elects to submit an alternative compliance method to meet the emission limits specified in paragraphs (h)(2) and (h)(4) shall:

(1) Submit an SCAQMD permit application that includes the information contained in Appendix 7 to the Executive Officer; and

(2) Demonstrate that the alternative method is enforceable, provides an equal, or greater hexavalent chromium emission reduction, and provides an equal, or greater risk reduction than compliance with the emission limits specified in paragraphs (h)(2) and (h)(4) .

(j) Training and Certification

(1) Chromium electroplating and chromic acid anodizing personnel responsible for environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data shall complete a SCAQMD approved training program every two years and receive a certification issued by the Executive Officer. For new facilities, initial training must be completed within a period not to exceed two years from start-up.

(j) (2) Only persons who have completed a SCAQMD approved training program and have received a certification issued by the Executive Officer shall be responsible for recordkeeping associated with environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data.

(3) Notwithstanding paragraph (j)(2), in the event that all persons who have completed a SCAQMD approved training program and received a certification issued by the Executive Officer leaves employment at a facility, the owner or operator of a facility may be responsible for recordkeeping associated with environmental compliance, maintaining electroplating bath chemistries, and

testing and recording electroplating bath surface tension data for a period not to exceed two years.

(k) Source Test Requirements and Test Methods

(1) Source Test Requirements

(A) The owner or operator of a facility required to meet an emission limit pursuant to paragraphs (h)(2) or (h)(4) shall conduct an initial source test and subsequent source tests pursuant to the schedule specified in Table 3 – Source Tests Schedule.

Table 3: Source Tests Schedule

Facility-wide Permitted Annual Ampere-Hours	**Due Date of Initial Source Test Protocol[a]**	**Initial Source Test Date**	**Due Date of Subsequent Source Test Protocol**	**Subsequent Source Tests**
> 20,000,000	No later than May 1, 2019	No later than 120 days after approval of the initial source test protocol.	180 days prior to the due date of the subsequent source test.	No later than 60 months from the day of the most recent source test that demonstrates compliance with all applicable requirements
≤ 20,000,000 and > 1,000,000	No later than November 2, 2019			
≤ 1,000,000	No later than April 30, 2020			No later than 84 months from the day of the most recent source test that demonstrates compliance with all applicable requirements

[a] New or modified air pollution control techniques used to meet the emission limits under paragraphs (h)(1), (h)(2), or (h)(4) permitted after November 2, 2018, shall submit the initial source test protocol 60 days after initial start-up of the air pollution control technique.

(k) (1) (B) The owner or operator of a facility may conduct the initial source test after the 120 days specified in Table 3 – Source Tests Schedule, provided:

(i) A written request 30 days before the due date of the source test is submitted to the Executive Officer;

(ii) The additional time needed is substantiated by reason(s) outside of their control; and

(iii) The Executive Officer approves the request in writing no later than the due date of the source test.

(C) The owner or operator of a facility may use an existing source test

conducted after January 1, 2015 to demonstrate compliance with the initial source test requirements of subparagraph (k)(1)(A), provided:

(i) The applicable emission limits in subdivision (h) are demonstrated;

(ii) The operating conditions during the source test are representative of the operating conditions as of November 2, 2018; and

(iii) Test methods specified in paragraph (k)(2) are used.

(D) No later than December 2, 2018, an owner or operator of a facility using a source test pursuant to subparagraph (k)(1)(C) that has not been approved, shall submit the source test to the Executive Officer for approval.

(k) (1) (E) An owner or operator of a facility that elects to use an existing source test pursuant to subparagraph (k)(1)(C), shall conduct the first subsequent source test no later than January 1, 2024 and conduct all other subsequent source tests pursuant to schedule in Table 3 - Source Tests Schedule.

(F) An owner or operator of facility that elects to meet an emission limit specified in paragraph (h)(2) using only a certified wetting agent chemical fume suppressant or a certified alternative to a wetting agent chemical fume suppressant shall not be subject to the requirements of subparagraph (k)(1)(A).

(2) Approved Test Methods

(A) Emissions testing shall be conducted in accordance with one of the following test methods:

(i) CARB Test Method 425, last amended July 28, 1997, (section 94135, Title 17, California Code of Regulations (CCR); or

(ii) U.S. EPA Method 306, (40 CFR 63 Appendix A) with a minimum of three test runs; or

(iii) SCAQMD Method 205.1, for results reported as total chromium.

(B) Emissions testing for add-on non-ventilated air pollution control devices shall be conducted in accordance with a Smoke Test for Add-on Non-Ventilated Air Pollution Control Device(s). (See Appendix 5).

(C) Surface tension using a tensiometer shall be measured in accordance with U.S. EPA Method 306B (40 CFR 63 Appendix A). Surface tension using a stalagmometer shall be measured using the procedure set forth

in Appendix 9, or an alternative procedure approved by the Executive Officer.

(3) Use of Emissions Screening Tests

(A) The owner or operator of a facility that elects to use an emissions screening test in lieu of a source test to comply with the subsequent source test requirements in Table 3 - Source Tests Schedule shall conduct an emissions screening test:

(k) (3) (A) (i) Consisting of one run to evaluate the hexavalent chromium emissions for a Tier II or Tier III Hexavalent Chromium Tank;

(ii) In accordance with a source test protocol approved by the Executive Officer; and

(iii) Representative of the operating conditions during the most recent source test.

(B) The owner or operator of a facility may conduct an emissions screening test in lieu of a source test to comply with the requirements for an initial source test in Table 3 ─ Source Tests Schedule provided:

(i) The emissions screening test meets the requirements of clauses (k)(3)(A)(i) through (iii);

(ii) The owner or operator of a facility conducted a source test after January 1, 2009 that meets the requirements of clauses (k)(1)(C)(i) through (iii); and

(iii) No later than December 2, 2018, an owner or operator of a facility using a source test that is not approved to satisfy clause (k)(3)(B)(ii) shall submit the source test to the Executive Officer for approval.

(C) Within 30 days of receiving the results, the owner or operator of a facility shall submit the results of the emissions screening test to the Executive Officer.

(D) The owner or operator of a facility shall conduct a source test using an approved test method specified under paragraph (k)(2) within 60 days of conducting an emissions screening test that:

(i) Failed the capture efficiency test(s) specified in the source test protocol;

(ii) Exceeded an emission limit specified in the SCAQMD Permit to Operate; or

(iii) Exceeded an emission standard specified in subdivision (h).

(4) Source Test Protocol

(A) The source test protocol shall include the source test criteria, all assumptions, required data, and calculated targets for testing the following:

(i) Target chromium concentration;

(ii) Preliminary chromium analytical data; and

(k) (4) (A) (iii) Planned sampling parameters.

(B) The most recent SCAQMD approved source test protocol may be used for subsequent source tests, provided there are no changes to the tank dimensions, collection slots, ventilation flow rate, sampling location(s), sampling method, or analytic method(s).

(5) Emission Points Test Requirements

Each emission point subject to the requirements of this rule shall be tested unless a waiver is granted by U.S. EPA and approved by the Executive Officer.

(6) Capture Efficiency

The owner or operator of a facility that is required to conduct a source test pursuant to subdivision (k) shall demonstrate that each add on-air pollution control device meets the design criteria and ventilation velocities specified in *A Manual of Recommended Practice for Design* authored by the American Conference of Governmental Industrial Hygienists or alternative design criteria and ventilation velocities approved by the Executive Officer.

(7) Smoke Test

The owner or operator of a facility shall conduct an acceptable smoke test for each add-on non-ventilated air pollution control device pursuant to Appendix 5 and each add-on air pollution control device pursuant to Appendix 8.

(l) Certification and Approval of Wetting Agent Chemical Fume Suppressants

(1) The owner or operator of a facility shall not add PFOS based chemical fume suppressants to any chromium electroplating or chromic acid anodizing bath.

(2) The owner or operator of a facility that elects to use a wetting agent chemical fume suppressant to comply with the requirements of this rule shall only use a wetting agent chemical fume suppressant(s) that:

(A) Reduces or suppresses hexavalent chromium emissions at the surface of an electroplating or anodizing bath to meet an emission factor below 0.01 milligrams per ampere hour,

(B) Meets a surface tension below 40 dynes/cm, as measured by a stalagmometer, or below 33 dynes/cm, as measured by a tensiometer, unless an alternative is approved pursuant to subdivision (q), and

(C) Has been certified by the Executive Officer based on a certification process conducted by SCAQMD and CARB.

(l) (3) The owner or operator of a facility shall use a certified wetting agent chemical fume suppressant in accordance with the certification and applicable manufacturer's specifications.

(4) No later than January 1, 2020, the owner or operator of a facility shall be notified by the Executive Officer the status of:

(A) Any wetting agent chemical fume suppressant available on and after July 1, 2021 that meets the requirements specified in paragraphs (1)(2); and

(B) Any potential wetting agent chemical fume suppressant going through the certification process conducted by SCAQMD and CARB.

(5) If a wetting agent chemical fume suppressant will not be available by July 1, 2021, the owner or operator of a facility shall only add a wetting agent chemical fume suppressant to a chromium electroplating or chromic acid anodizing tank based on the information in the notice as specified by paragraph (l)(4) and:

(A) On or before July 1, 2021, meet the hexavalent chromium emission limit specified in Table 1 – Hexavalent Chromium Emission Limits for Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks;

(B) On or before July 1, 2022, phase-out the use of hexavalent chromium in the chromium electroplating or chromic acid anodizing tanks that use a wetting agent chemical fume suppressant that meets the requirements of paragraph (l)(6); or

(C) On or before July 1, 2021 implement an alternative to a wetting agent chemical fume suppressant that meets the requirements of- paragraph (l)(7).

(6) The owner or operator of a facility that elects to meet the requirements of paragraph (l)(5) by phasing out the use of hexavalent chromium in a chromium electroplating or chromic acid anodizing tank shall:

(i) No later than January 1, 2021, submit a written and signed commitment to the Executive Officer stating that the facility will phase out by July 1, 2022, the use of hexavalent chromium in the electroplating or chromic

acid anodizing tank(s) that use a wetting agent chemical fume suppressant.

(l) (6) (ii) No later than July 1, 2022 cease operating and surrender SCAQMD permits to operate the chromium electroplating or chromic acid anodizing tank(s) that use a wetting agent chemical fume suppressant.

(7) The owner or operator of a facility that elects to meet the requirements of paragraph (l)(5) by implementing an alternative to a wetting agent chemical fume suppressant, shall submit a permit application for the chromium electroplating or chromic acid anodizing tank(s) that includes the alternative and any conditions specified in the approval of the alternative in paragraph (l)(8).

(8) The alternative to a wetting agent chemical fume suppressant specified in paragraph (l)(7) shall:

(A) Meet an emission limit that is equally effective as the emission limit required for a wetting agent chemical fume suppressant specified in subparagraph (l)(2)(A);

(B) Be approved by the Executive Officer in consultation with CARB to meet the requirement specified in subparagraph (l)(2)(A); and

(C) Be used by the owner or operator in accordance with the approval specified in subparagraph (l)(8)(B).

(9) An owner or operator of a facility that fails to phase out the use of hexavalent chromium by July 1, 2022 pursuant to paragraph (l)(6) will be required to cease operation of the electroplating or chromic acid anodizing tank that contains hexavalent chromium until the facility can meet the emission limits specified in paragraph (h)(2) for the subject tank.

(m) Parameter Monitoring

(1) Add-On Air Pollution Control Device(s) and Add-On Non Ventilated Air Pollution Control Device(s)

(A) Pressure and Air Flow

The owner or operator of a facility shall continuously monitor the operation of the add-on air pollution control device by:

(i) Installing and maintaining a device to measure the applicable pressures and air flows specified in Table 4 ─ Pressure and Air Flow Measurement Parameters;

(ii) Installing each device so that it is accessible and in clear sight of the operation or maintenance personnel;

(m) (1) (A) (iii) Maintaining all parameters identified in Table 4 ─ Pressure and Air Flow Measurement Parameters within the range specified in the facility's SCAQMD Permit to Operate;

(iv) Labeling each mechanical gauge with the corresponding acceptable operating ranges established during the most recent source test and within the range specified in the SCAQMD Permit to Operate; and

(v) Maintaining the mechanical gauges in accordance to the requirements in Appendix 4.

Table 4: Pressure and Air Flow Measurement Parameters

Permitted Air Pollution Control Technique	Location	Parameter Monitored	Units	Monitoring Start Date
Push-Pull Systems	Push Manifold	Static Pressure	Inches of water	60 Days After Completion of Initial Source Test or within January 1, 2019
All	Collection Manifold or Any Location within the System Using a Flow Meter	Static Pressure or Volumetric Flow Rate	Inches of water or Actual Cubic Feet per Minute	60 Days After Completion of Initial Source Test or within January 1, 2019
Existing on or Before November 2, 2018	Across Each Stage of the Control Device	Differential Pressure	Inches of water	November 2, 2018
Installed after November 2, 2018	Across Each Stage of the Control Device	Differential Pressure	Inches of water	60 Days After Completion of Initial Source Test

(B) Velocity of Collection Slots

Beginning 60 days after the completion of the initial source test required in Table 3 – Source ‑Tests Schedule and at least once every 180 days thereafter, the owner or operator of a facility shall demonstrate that emissions are captured by the add-on air pollution control device that

meets the requirements in Table 5 – Add-on Air Pollution Control Device Parameter Monitoring using any of the following:

(m) (1) (B) (i) A hot-wire anemometer;

(ii) A vane anemometer; or

(iii) A device or method approved by the Executive Officer.

Table 5: Add-on Air Pollution Control Device Parameter Monitoring

	Collection Slot(s) Velocity[1]	**Push Air Manifold Pressure (for push-pull systems only)**	**Required Action**
Row 1: Acceptable Measurement	> 95% of the most recent passing source test or emission screening; or ≥ 2,000 fpm	95-105% compared to the most recent passing source test or emission screening	None
Row 2: Repairable Measurement	90-95% of the most recent passing source test or emission screening test, or < 2,000 fpm and > 1,800 fpm	90-95% or 105-110% of the most recent passing source test or emission screening test	Repair or replace, and re-measure within 3 calendar days of measurement
Row 3: Failing Measurement	< 90% of the most recent passing source test or emission screening test, or <1,800 fpm	> 110% or < 90% of the most recent passing source test or emission screening test	Immediately shut down any tanks controlled by the add-on air pollution control device that had a failing measurement

[1] If the measured slot velocity appears in multiple rows, the owner or operator shall implement the required action in the lower numbered row. For example the owner or operator would implement the required action in Row 2, if the measured slot velocity shows a repairable measurement (row 2) or a failing measurement (row 3).

(C) Repairable Measurements

The owner or operator of a facility with an add-on air pollution control device for a Tier II or Tier III Hexavalent Chromium Tank that demonstrates a repairable measurement according to Table 5 – Add-on Air Pollution Control Device Parameter Monitoring shall:

(i) Perform the required action specified in Table 5 – Add-on Air Pollution Control Device Parameter Monitoring for a repairable measurement,

(ii) Demonstrate an acceptable measurement within the time period established for the required action specified in Table 5 – Add-on Air Pollution Control Device Parameter Monitoring, and

(m) (1) (C) (iii) Immediately shutdown the Tier II or Tier III Hexavalent Chromium Tank if an acceptable measurement is not demonstrated within the time period established for the required action specified in Table 5 – Add-on Air Pollution Control Device Parameter Monitoring. The tank shall remain shutdown until an acceptable measurement is measured.

(D) Failing Measurement

The owner or operator of a facility with an add-on air pollution control device for a Tier II or Tier III Hexavalent Chromium Tank that demonstrates a failing measurement according to Table 5 – Add-on Air Pollution Control Device Parameter Monitoring shall perform the required action specified in Table 5 – Add-on Air Pollution Control Device Parameter Monitoring for a failing measurement. The tank shall remain shutdown until an acceptable measurement is measured.

(E) Smoke Test Requirements

Once every 180 days the owner or operator of a facility subject to subparagraph (k)(7) shall conduct a smoke test:

(i) Using a method described in Appendix 5, Appendix 8, or any other method deemed acceptable by the Executive Officer; and

(ii) Within 30 days of start-up for new and modified add-on air pollution control devices or add-on non-ventilated air pollution control devices.

(F) Failure of Smoke Test

The owner or operator of a facility shall immediately shut down all Tier II and Tier III Hexavalent Chromium Tanks associated with the add-on air pollution control device or add-on non-ventilated air pollution control device if an acceptable smoke test for each add-on air pollution control device pursuant to Appendix 5 and each add-on non-ventilated air pollution control device pursuant to Appendix 8 is not conducted. The Tier II and Tier III Hexavalent Chromium Tank shall remain shut down until an acceptable smoke test is conducted.

(G) HEPA Filters

Beginning 60 days after completion of the initial source test required by subdivision (k), the owner or operator of a facility with an add-on air pollution control device equipped with HEPA filters shall ensure that the device to monitor pressure drop pursuant to subparagraph (m)(1)(A):

(m) (1) (G) (i) Is equipped with ports to allow for periodic calibration in accordance with manufacturer specifications;

(ii) Is calibrated according to manufacturer specifications at least once every calendar year; and

(iii) Is maintained in accordance with manufacturer specifications.

(2) Wetting Agent Chemical Fume Suppressants (Excluding Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath)

(A) The owner or operator of a facility shall monitor the surface tension of the chromium electroplating or chromic acid anodizing tank that contains a certified wetting agent chemical fume suppressant with either a stalagmometer or tensiometer using the applicable method pursuant to subparagraph (k)(2)(C). The surface tension shall be maintained below the respective value established in the list of certified wetting agent chemical fume suppressants pursuant to subdivision (l), or at or below a value specified in the SCAQMD Permit to Operate.

(B) The owner or operator of a facility shall measure the surface tension every third operating day but not less than once per week.

(C) If at any time the surface tension required by subparagraph (m)(2)(A) is not maintained, the owner or operator of a facility shall measure the surface tension:

(i) Daily for 20 consecutive operating days; and

(ii) Resume the measurement schedule pursuant to subparagraph (m)(2)(B).

(D) The owner or operator of a facility operating under an approved alternative compliance method pursuant to subdivision (i), and using chemical fume suppressants as all or partial control of hexavalent chromium emissions shall measure and monitor the surface tension of the electroplating or anodizing bath each operating day~~.~~. The surface tension shall be maintained at or below the surface tension measured during the source test.

(3) Fume Suppressants Forming a Foam Blanket

(A) The owner or operator of a facility shall maintain the foam blanket thickness across the surface of the chromium electroplating or chromic acid anodizing tank established during the most recently approved source test to demonstrate compliance with the emission limit specified in paragraphs (h)(2) or (h)(4).

(m) (3) (B) The owner or operator of a facility shall measure the foam blanket thickness each operating day.

(C) If at any time the foam blanket thickness required by subparagraph (m)(3)(A) is not maintained, the owner or operator of a facility shall measure the foam blanket thickness:

(i) Hourly for 15 consecutive operating days; and

(ii) Resume the measurement schedule pursuant to subparagraph (m)(3)(B).

(4) Polyballs or Similar Mechanical Fume Suppressants

The owner or operator of a facility shall visually inspect the Tier II or Tier III Hexavalent Chromium Tank and maintain coverage comparable to the coverage during the source test each operating day.

(n) Inspection, Operation, and Maintenance Requirements

(1) Inspection and Maintenance

(A) The owner or operator of a facility using an add-on air pollution control device or add-on non-ventilated air pollution control device shall comply with the applicable inspection and maintenance requirements listed in Table 4-1 of Appendix 4.

(B) The owner or operator of a facility using an add-on air pollution control device or add-on non-ventilated air pollution control device custom designed for a specific operation shall develop operating and maintenance requirements for approval by the Executive Officer. The requirements and frequency of inspection shall be sufficient to ensure compliance.

(2) The owner or operator of a facility using chemical fume suppressants or mechanical fume suppressants shall comply with the applicable inspection and maintenance requirements in Table 4-4 of Appendix 4.

(3) Beginning January 31, 2019, the owner or operator of a facility operating a Tier II Hexavalent Chromium Tank that is not controlled by an add-on air

pollution control device shall comply with the applicable inspection and maintenance requirements in Table 4-3 of Appendix 4.

(n) (4) Beginning January 31, 2019, the owner or operator of a facility operating a Tier I, Tier II, and Tier III Hexavalent Chromium Tank shall comply with the applicable inspection and maintenance requirements in Table 4-2 of Appendix 4.

(5) Operation and Maintenance Plan

The owner or operator of a facility subject to the inspection and maintenance requirements of paragraphs (n)(1), (n)(2), (n)(3), or (n)(4) shall prepare an operation and maintenance plan. For major sources, the plan shall be incorporated by reference into the source's Title V permit. The plan shall incorporate the inspection and maintenance requirements for that device or monitoring equipment, as identified in Tables 4-1, 4-2, 4-3, and 4-4 of Appendix 4, and shall include the following elements:

(A) A standardized checklist to document the operation and maintenance of the source, the add-on air pollution control device, and the process and control system monitoring equipment; and

(B) Procedures to be followed to ensure that equipment is properly maintained.

(6) Notwithstanding the operation and maintenance plan required by paragraph (n)(5), the owner or operator of a facility may use applicable standard operating procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans, provided the alternative plans meet the requirements of this subdivision.

(7) Operation and Maintenance Plan Availability

The owner or operator of a facility shall keep the written operation and maintenance plan on record after it is developed, to be made available for inspection, upon request.

(8) Operation and Maintenance Plan Modifications

Any changes made by the owner or operator of a facility shall be documented in an addendum to the plan. In addition, the owner or operator of a facility shall keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, for a period of 5 years after each revision to the plan.

(9) Amended Operation and Maintenance Plan

No later than January 31, 2019, the facility's operation and maintenance plan shall be revised and made available upon request to the Executive Officer to reflect the incorporation of the inspection and maintenance requirements for a device or monitoring equipment that is identified in Table 4-2 and Table 4-3 of Appendix 4 and shall include the elements required in subparagraphs (n)(5)(A) and (n)(5)(B).

(n) (10) Replacement of Ampere-Hour Meter

Prior to replacement of a continuous recording non-resettable ampere-hour meter that is required under paragraph (d)(1), the owner or operator of a facility shall photograph the actual ampere-hour reading of:

(A) The ampere-hour meter being replaced; and

(B) The new ampere-hour meter immediately after installation.

(o) Recordkeeping

(1) Inspection Records for Sources Using an Add-on Air Pollution Control Device or Non-Ventilated Air Pollution Control Device

The owner or operator of a facility shall maintain inspection records to document that the inspection and maintenance requirements of subdivision (n) , and that the provisions of the operation and maintenance plan required by subdivision (n) have been met. The record can take the form of a checklist and shall identify:

(A) The device inspected;

(B) The date and time of inspection;

(C) A brief description of the working condition of the device during the inspection;

(D) Maintenance activities performed on the components of the air pollution control system (i.e. duct work replacement, filter pad replacement, fan replacement, etc.); and

(E) Any actions taken to correct deficiencies found during the inspection.

(2) Inspection Records for Sources Using Chemical or Mechanical Fume Suppressants

The owner or operator of a facility shall maintain inspection records to document that the applicable inspection and maintenance requirements of paragraphs (n)(1), (n)(2), (n)(3), and (n)(4) have been met. The record can take the form of a checklist.

(3) Source Test, Capture Efficiency, and Smoke Test Records

The owner or operator of a facility shall maintain the conditions and results of all source tests, capture efficiency tests, emissions screening test, and smoke tests required by subdivision (k). The records shall include source test results required to determine compliance with paragraph (m)(1), including the pressure drop established during the source test to demonstrate compliance with the applicable emission limitation.

(o) (4) Monitoring Data Records

The owner or operator of a facility shall maintain records of continuously recorded ampere-hour data required by paragraph (d)(1) and monitoring data required by subdivision (m).

(A) Cumulative Rectifier Usage Records

The owner or operator of a facility shall, on a monthly basis, record the actual cumulative rectifier usage expended during each month of the reporting period, and the total usage expended to date.

(B) Pressure and Air Flow Measurements

The owner or operator of a facility shall record the applicable pressures and air flow as specified in Table 4: Pressure and Air Flow Measurement Parameters ~~Table 5 – Add-on Air Pollution Control Device Parameter Monitoring~~ of subdivision (m) once a week.

(5) Surface Tension Records

(A) The owner or operator of a facility shall record the surface tension pursuant to the requirements of paragraph (m)(2).

(B) For facilities operating under an approved alternative compliance method pursuant to subdivision (i), and using chemical fume suppressants as all or partial control of hexavalent chromium emissions, the owner or operator of the facility shall record the surface tension of the electroplating or anodizing bath daily.

(6) Mechanical Fume Suppressant and Foam Blankets Records

(A) The owner or operator of a facility that is required to measure the foam blanket thickness pursuant to paragraph (m)(3), shall record the foam thickness.

(B) The owner or operator of a facility using polyballs or other mechanical fume suppressants to comply with the emission standards of subdivision (h) or (i), shall record the coverage of the electroplating

or anodizing bath daily. Coverage shall be reported as a percentage of bath surface area.

(o) (7) Records of Excesses

The owner or operator of a facility shall maintain records of exceedances of: the emission limitations in subdivisions (h) and (i), the parameter monitoring values established under subdivision (m), or any site-specific operating parameters established for alternative equipment. The records shall include the date of the occurrence, the duration, cause (if known), and, where possible, the magnitude of any excess emissions.

(8) Housekeeping and Best Management Practice Records

The owner or operator of a facility shall maintain records demonstrating compliance with housekeeping practices and best management practices, as required by subdivisions (f) and (g), including the dates on which specific activities were completed, and records showing that chromium or chromium-containing wastes have been stored, disposed of, recovered, or recycled using practices that do not lead to fugitive emissions.

(9) Records of Fume Suppressant Additions

For sources using fume suppressants to comply with the standards, the owner or operator of a facility shall maintain records of the date, time, approximate volume, and product identification of the fume suppressants that are added to the electroplating or anodizing bath.

(10) Records of Trivalent Bath Components

For sources complying with paragraph (h)(3) using trivalent chromium baths, the owner or operator of a facility shall maintain records of the bath components purchased, with the wetting agent clearly identified as a bath constituent contained in one of the components.

(11) Records of Filter Purchase and Disposal

For sources using add-on air pollution control devices to comply with the standards, the owner or operator of a facility shall retain purchase orders for filters and waste manifest records for filter disposal.

(12) Records Retention

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

(p) Reporting

(1) Source Test Documentation

(p) (1) (A) Notification of Source Test

At least 60 calendar days before the source test is scheduled to occur, the owner or operator of a facility shall notify the Executive Officer that a source test will be conducted.

(B) Reports of Source Test Results

The owner or operator of a facility shall report source test results to the Executive Officer. Reports of source test results shall be submitted no later than 90 calendar days following the completion of the required source test, and shall be submitted as part of the notification of compliance status required by paragraphs (p)(2) and (p)(3).

(C) The source test reports shall contain, at a minimum, the information identified in Appendix 1.

(2) Initial Compliance Status Report

An initial compliance status report is required each time that a source becomes subject to the requirements of this rule. The owner or operator of a facility shall submit to the Executive Officer an initial compliance status report, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with this rule.

(A) Initial Compliance Status Report Due Date

The initial compliance status report for existing facilities shall be submitted to the Executive Officer no later than April 24, 2008. New or modified facilities shall submit the initial compliance status report upon start-up.

(B) The initial compliance status report shall contain, at a minimum, the information identified in Appendix 2.

(3) Ongoing Compliance Status and Emission Reports

The owner or operator of a facility shall submit a summary report to the Executive Officer to document the ongoing compliance status.

(A) Frequency of Ongoing Compliance Status and Emission Reports

The report shall be submitted each calendar year on or before February 1 for all sources and shall include information covering the preceding calendar year (January 1 through December 31).

(B) The ongoing compliance status and emission reports shall, at a minimum, contain the information identified in Appendix 3.

(p) (4) Notification of Incident

(A) The owner or operator of a facility shall notify the Executive Officer within four hours of the incident or within four hours from the time the owner or operator of a facility knew or reasonably should have known of, any failed smoke test, any failed source test, any exceedance of a permitted ampere-hour limit, or any malfunction of a non-resettable ampere-hour meter by calling 1-800-CUT SMOG. In the cases of emergencies that prevent the owner or operator of a facility from reporting all required information within the four hour limit, the Executive Officer may extend the time for reporting the required information provided such owner or operator of a facility has notified the Executive Officer of the incident within 24-hours. The notification shall include the following information:

(i) Date and time of the incident and when it was discovered;

(ii) Specific location and equipment involved;

(iii) Responsible party to contact for further information;

(iv) Causes of the incident, to the extent known; and

(v) Estimated time for repairs and correction.

(B) Within seven calendar days after a reported incident has been corrected, but no later than thirty calendar days from the initial date of the incident, unless an extension has been approved in writing by the Executive Officer, the owner or operator of a facility shall submit a written incident report to the Executive Officer that includes:

(i) An identification of the equipment involved in causing, or suspected of having caused, or having been affected by the incident;

(ii) The duration of the incident;

(iii) The date of correction and information demonstrating that compliance is achieved;

(iv) An identification of the types of emissions, if any, resulting from the incident;

(v) A quantification of the excess emissions, if any, resulting from the incident and the basis used to quantify the emissions;

(p) (4) (B) (vi) Information substantiating that steps were immediately taken to correct the condition causing the incident, and to minimize the emissions, if any, resulting from the incident;

(vii) Written verification that the facility is operating in compliance with this rule. If the facility is not in compliance with this rule, provide an approximate date the facility is expected to be in compliance;

(viii) A description of the corrective measures undertaken and/or to be undertaken to avoid such an incident in the future; and

(ix) Pictures of the equipment that failed, if available.

(5) Reports Associated with Trivalent Chromium Baths Exclusively Using a Chemical Fume Suppressant Containing a Wetting Agent

Owners or operators switching to trivalent chromium baths exclusively using a chemical fume suppressant containing a wetting agent to comply with subparagraph (h)(3)(A) are not subject to paragraphs (p)(1) through (p)(3), but shall instead submit a report within 30 days of a change to the trivalent chromium electroplating process that includes:

(A) A description of the manner in which the process has been changed and the emission limitation, if any, now applicable to the source; and

(B) The notification and reporting requirements of paragraphs (p)(1), (p)(2), and (p)(3), if the facility complies with the emission limitation option, or paragraph (p)(5), if the source uses a wetting agent to comply. The report shall be submitted in accordance with the schedules identified in those paragraphs.

(6) Adjustments to the Timeline for Submittal and Format of Reports

The Executive Officer may adjust the timeline for submittal of periodic reports, allow consolidation of multiple reports into a single report, establish a common schedule for submittal of reports, or accept reports prepared to comply with other state or local requirements. Adjustments shall provide the same information and shall not alter the overall frequency of reporting.

(q) Procedure for Establishing Alternative Requirements

(1) Request Approval of an Alternative Requirement

Any person may request approval of an alternative requirement. The person seeking such approval shall submit the proposed alternative requirement to the Executive Officer for approval. The request shall include the proposed alternative requirement, the reason for requesting the alternative requirement, and information demonstrating that the criteria for approval identified in Appendix 6 is met.

(q) (2) Approval of an Alternative Requirement

The Executive Officer may approve an alternative requirement if it determines that application of the alternative requirement meets the criteria for approval identified in Appendix 6 and the Executive Officer has submitted the proposed alternative requirements and has received concurrence from the applicable concurring agencies identified in Appendix 6.

(3) Approval Criteria

Nothing in this subdivision prohibits the Executive Officer from establishing approval criteria more stringent than that required in Appendix 6.

(4) Alternatives Already Approved by U.S. EPA

Waivers for alternatives already approved by the U.S. EPA prior to October 24, 2007 shall remain in effect until the effective dates of the specified requirements become effective.

(r) Exemptions

(1) The requirements of subdivisions (m) and (n) do not apply to decorative chromium electroplating tanks using a trivalent chromium bath with a wetting agent.

(2) The requirements of paragraphs (f)(6), (g)(4), and (g)(5) do not apply to buffing, grinding, or polishing operations conducted under a continuous flood of metal removal fluid.

(s) Rule 1402 Inventory Requirements

The owner or operator of a facility that is in compliance with this rule will not be required to submit an emission inventory to the Executive Officer for emissions of toxic compounds subject to this rule, pursuant to paragraph (p)(1) of Rule 1402 - Control of Toxic Air Contaminants from Existing Sources.

(t) Conditional Requirements for Permanent Total Enclosure

(t) (1) The owner or operator of a facility shall install a Permanent Total Enclosure that does not exceed 3.5% for all enclosure openings, as specified in paragraph (e)(1) for a Tier III hexavalent chromium tank:

(A) That results in more than one non-passing source test as required in paragraph (k)(1) occurring within a consecutive 48-month period; or

(B) That is not immediately shut down pursuant to clause (m)(1)(C)(iii), subparagraph (m)(1)(D) or subparagraph (m)(1)(F):

(i) More than once within a consecutive 48-month period for a facility that is located more than 1,000 feet from a sensitive receptor; or

(ii) Once for a facility that is located less than or equal to 1,000 feet from a sensitive receptor.

(2) Within 30 days of the date of notification by the Executive Officer that a Permanent Total Enclosure is required, the owner or operator of facility may submit a written report to the Executive Officer providing evidence that the installation of a Permanent Total Enclosure is not warranted based on the following criteria:

(A) The incidents of non-compliance specified in paragraph (t)(1) did not occur; or

(B) The owner or operator of a facility resolved the incidents of non-compliance specified in paragraph (t)(1) in a timely manner; and

(C) The owner or operator of a facility implemented specific measures to minimize hexavalent chromium emissions.

(3) The Executive Officer shall use the information provided by the owner or operator of a facility to determine if a permanent total enclosure is required and will notify the owner or operator of a facility within 90 days of receiving the written report.

(4) The owner or operator of a facility required to install a permanent total enclosure pursuant to subdivision (t) shall vent the permanent total enclosure to an add-on air pollution control device that is fitted with HEPA filters, or other filter media that is rated by the manufacturer to be equally or more effective; and designed in a manner that does not conflict with requirements or guidelines set forth by OSHA or CAL-OSHA regarding worker safety, or the National Fire Protection Association regarding safety.

(t) (5) The owner or operator of a facility required to install a permanent total enclosure pursuant to subdivision (t) shall install the permanent total enclosure no later than 12 months after the SCAQMD Permit to Construct is issued by the Executive Officer. The owner or operator of a facility shall submit complete SCAQMD permit applications for the permanent total enclosure to the Executive Officer no later than:

(A) 180 days after notification by the Executive Officer if the property line of the facility is within 500 feet of the property line of any sensitive receptor.

(B) 270 days after notification by the Executive Officer for all other facilities.

(u) Hexavalent Chromium Phase-Out Plan

(1) The owner or operator of a facility shall not be subject to the requirements of paragraph (h)(4) to vent a Tier III Hexavalent Chromium Tank, existing on or before November 2, 2018, to an add-on air pollution control device, if the owner or operator of a facility submits a Hexavalent Chromium Phase-Out Plan to the Executive Officer for review and approval no later than January 31, 2019 containing the following:

(A) A commitment that the facility will permanently eliminate or reduce hexavalent chromium concentrations within the subject tank to below the concentration of the definition of a Tier II or Tier III Hexavalent Chromium Tank;

(B) A description of the method by which hexavalent chromium concentrations will be permanently eliminated or reduced from the subject tank(s) and the date of final completion, not to exceed two years from approval of the Hexavalent Chromium Phase-Out Plan;

(C) A list of milestones, including any testing required to meet specifications or quality assurance requirements, to allow the facility to reduce or eliminate hexavalent chromium by the completion date;

(D) Completion date for each of the milestones listed in subparagraph (u)(1)(C); and

(E) A list of all control measures that will be implemented for the subject tank(s), including dates of implementation, until the hexavalent chromium-concentration is eliminated or reduced as stated.

(u) (2) The Hexavalent Chromium Phase-Out Plan shall be subject to the fees specified in Rule 306.

(3) The Executive Officer shall notify the owner or operator of a facility in writing whether the Hexavalent Chromium Phase-Out Plan is approved or disapproved. Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in paragraph (u)(1). If the Hexavalent Chromium Phase-Out Plan is

disapproved, the owner or operator of a facility shall resubmit the plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the Hexavalent Chromium Phase-Out Plan. The resubmitted Hexavalent Chromium Phase-Out Plan shall include any information necessary to address deficiencies identified in the disapproval letter.

(4) Upon approval of the Hexavalent Chromium Phase-Out Plan, the owner or operator of a facility shall implement the approved plan and shall submit a progress report to the Executive Officer by the first day of every calendar quarter indicating the increments of progress for the previous quarter, or submit according to an alternative schedule as specified in the approved plan.

(5) The Executive Officer shall notify the owner or operator of a facility to submit complete SCAQMD permit applications for an add-on air pollution control device to comply with subdivision (h) if:

(A) The owner or operator does not eliminate or reduce hexavalent chromium by the final completion date in the approved Hexavalent Chromium Phase-Out Plan;

(B) The Executive Officer denies a resubmitted Hexavalent Chromium Phase-Out Plan; or

(C) The owner or operator fails to resubmit a Hexavalent Chromium Phase-Out Plan as required under paragraph (u)(3).

(6) The owner or operator shall install the add-on air pollution control device specified in the permit application submitted pursuant to paragraph (u)(5) no later than 180 days after a SCAQMD Permit to Construct has been issued.

(v) Time Extensions

(1) An owner or operator of a facility may submit a request to the Executive Officer for a one-time extension for up to 12 months to:

(v) (1) (A) Complete installation of an add-on air pollution control device, implement an approved alternative compliance method, or implement an approved Hexavalent Chromium Phase-Out Plan to meet the requirements under subparagraph (h)(4)(C); or

(B) Meet the hexavalent chromium emission limit, phase-out the use of hexavalent chromium, or implement an alternative to a wetting agent chemical fume suppressant required under paragraph (l)(5);

(2) An owner or operator of a facility that elects to submit a request for a time extension shall submit the request no later than 90 days before the compliance deadline specified in subparagraph (h)(4)(C) or paragraph (l)(5) and provide:

(A) The facility name, SCAQMD facility identification number, and the name and phone number of a contact person;

(B) A description of the chromium electroplating or chromic acid anodizing tank and the SCAQMD Permit to Operate and tank number;

(C) A description of the emission reduction approach that is being implemented;

(D) The specific provision under subparagraph (h)(4)(C) or paragraph (l)(5) for which a compliance extension is being requested;

(E) The reason(s) a time extension is needed;

(F) Progress in meeting the provisions in subparagraph (h)(4)(C) or paragraph (l)(5) including but not limited to date permit application was submitted to the SCAQMD, date permit to construct was approved, purchase order of equipment, date of service of contractors or consultants to install equipment; and

(G) Length of time requested, up to 12 months.

(3) Approval of Time Extensions

The Executive Officer will review the request for the time extension and will approve the time extension if the owner or operator:

(A) Demonstrates that there are specific circumstances beyond the control of the owner or operator that necessitate additional time to meet the compliance dates specified under subparagraph (h)(4)(C) and paragraph (l)(5); and

(v) (3) (B) The demonstration is substantiated with information that includes, but is not limited to detailed schedules, engineering designs, construction plans, permit applications, purchase orders, economic burden, and technical infeasibility.

Appendix 1 – Content of Source Test Reports.

Source test reports shall contain, at a minimum, the following information:

1. A brief process description;
2. Sampling location description(s);
3. A description of sampling and analytical procedures and any modifications to standard procedures;
4. Test results in milligrams/ampere-hour;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test, preparation of standards, and calibration procedures;
7. Original data for field sampling and field and laboratory analyses;
8. Documentation of calculations;
9. Applicable Industrial Ventilation Limits;
10. Collection slot velocities (if applicable);
11. Measured static, differential, or volumetric flow rate at the push manifold, collection manifold, across each stage of the control device, and exhaust stack (if applicable); and
12. Any other information required by the test method.

Appendix 2 – Content of Initial Compliance Status Reports.

Initial compliance status reports shall contain, at a minimum, the following information:

1. Facility name, SCAQMD ID number, facility address, owner and operator name, and telephone number;
2. The distance of the facility to the property line of the nearest commercial/industrial building and sensitive receptor using measurement methods provided in paragraph (h)(2);
3. Sensitive receptor locations, if they are located within one-quarter of a mile from the center of the facility;
4. Building parameters
   - Stack height in feet (point sources); or
   - Building area in square feet (volume sources).
5. Maximum potential rectifier capacity per tank and facility maximum operating schedule (more than or less than or equal to 12 hours per day);
6. The applicable emission limitation and the methods that were used to determine compliance with this limitation;
7. Facility-wide emissions, if applicable;
8. If a source test is required, the test report documenting the results of the source test, which contains the elements listed in Appendix 1;
9. If an initial smoke test demonstrating the capture efficiency of the add-on air pollution control device or add-on non-ventilated air pollution control device is required, the test report documenting the results which contain the elements listed in Appendix 8;
10. The type and quantity, in pounds, of hazardous air pollutants emitted by the source.;
11. For each monitored parameter for which a compliant value is to be established under subdivision (m), the specific operating parameter value, or range of values, that corresponds to compliance with the applicable emission limit;
12. The methods that will be used to determine continuous compliance, including a description of monitoring and reporting requirements, if methods differ from those identified in this section;
13. A description of the air pollution control technique for each emission point;
14. A statement that the owner or operator of a facility has completed and has on file the operation and maintenance plan as required by subdivision (n);

15. The actual cumulative ampere-hour usage expended during the preceding calendar year, if operation occurred;
16. Information on calculations for the building enclosure envelope pursuant to paragraph (e)(1), including locations and dimensions of openings that are counted towards the applicable building envelope allowance;
17. A statement that the owner or operator of a facility, or personnel designated by the owner or operator of a facility, has completed a SCAQMD-approved training program pursuant to subdivision (j); and
18. A statement by the owner or operator of a facility as to whether the source has complied with the provisions of this section.

Appendix 3 – Content of Ongoing Compliance Status and Emission Reports.

Ongoing compliance status and emission reports shall, at a minimum, contain the following information:

1. The company name and address of the source;
2. An identification of the operating parameter that is monitored for compliance determination, as required by subdivision (m);
3. The relevant emission limitation for the source, and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the notification of initial compliance status required by Appendix 2;
4. The beginning and ending dates of the calendar year for the reporting period;
5. A description of the type of process performed in the source;
6. The actual cumulative rectifier usage expended during the calendar year of the reporting period, on a month-by-month basis, if the source is a hard or decorative chromium electroplating tank or chromic acid anodizing tank;
7. Updated facility-wide emissions, if applicable;
8. Hexavalent chromium and trivalent chromium emissions data in grams per year for the reporting period;
9. Sensitive receptor distances, if they are located within ¼ of mile from the center of the facility and facility maximum operating schedule (more than or less than or equal to 12 hours per day), if changed since submittal of the initial compliance status report or subsequent ongoing compliance status and emission reports. Sensitive receptor distances shall be measured using methods provided in paragraph (h)(2);
10. A summary of any excess emissions or exceeded monitoring parameters as identified in the records required by paragraph (o)(7);
11. A certification by a responsible official that the inspection and maintenance requirements in subdivision (n) were followed in accordance with the operation and maintenance plan for the source;
12. If the operation and maintenance plan required by subdivision (n) was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emissions and/or monitoring parameter excesses are believed to have occurred, and a copy of the record(s) required by paragraph (o)(1) documenting that the operation and maintenance plan was not followed;

13. If applicable, results of periodic smoke tests demonstrating capture efficiency of an add-on air pollution control device or add-on non-ventilated air pollution control device conducted during the reporting period;
14. A description of any changes in monitoring, processes, or controls since the last reporting period;
15. A statement that the owner or operator of a facility, or personnel designated by the owner or operator of a facility has, within the last 2 years, completed a SCAQMD-approved training program pursuant to subdivision (j);
16. Add-on air pollution ventilation measurements conducted during the most recent successful SCAQMD approved source test that include:

    (A) The velocity of each collection slot, including the velocity values that would be 95% and 90% of the source-tested value.

    (B) For push-pull systems, the pressure of each push air manifold, including the pressure values that would be 110%, 105%, 95%, and 90% of the source-tested value;
17. A summary of any pollution prevention measures that the facility has implemented that eliminates or reduces the use of hexavalent chromium in the chromium electroplating or chromic acid anodizing process and associated process tanks.
18. Information on calculations for the building enclosure envelope pursuant to paragraph (e)(1), including locations and dimensions of openings that are counted towards the applicable building envelope allowance.
19. The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
20. The date of the report.

Appendix 4 – Summary of Inspection and Maintenance Requirements

Table 4-1:
Summary of Inspection and Maintenance Requirements for Sources Using Add-on Air Pollution Control Device(s) or Add-On Non-Ventilated Air Pollution Control Device(s)

Control Technique/Equipment	Inspection and Maintenance Requirements	Frequency
Composite mesh-pad (CMP) system.	1. Visually inspect device to ensure that there is proper drainage, no unusual chromic acid buildup on the pads, and no evidence of chemical attack that affects the structural integrity of the device.	1. Once per quarter.
	2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.	2. Once per quarter.
	3. Visually inspect ductwork from tank to the control device to ensure there are no leaks.	3. Once per quarter.
	4. Perform washdown of the composite mesh-pads in accordance with manufacturer's recommendations.	4. Per manufacturer.
Packed-bed scrubber (PBS)	1. Visually inspect device to ensure there is proper drainage, no unusual chromic acid buildup on the packed-beds, and no evidence of chemical attack that affects the structural integrity of the device.	1. Once per quarter.
	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.	2. Once per quarter.
	3. Same as number 3 above for CMP system.	3. Once per quarter.
	4. Add fresh makeup water to the packed-bed[A].	4. Whenever makeup is added.

[A] Horizontal packed-bed scrubbers without continuous recirculation must add make-up water to the top of the packed-bed.

Table 4-1:
Summary of Inspection and Maintenance Requirements for Sources Using Add-on Air Pollution Control Device(s) or Add-On Non-Ventilated Air Pollution Control Device(s) (cont)

Control Technique/Equipment	Inspection and Maintenance Requirements	Frequency
PBS/CMP system	1. Same as for CMP system.	1. Once per quarter.
	2. Same as for CMP system.	2. Once per quarter.
	3. Same as for CMP system.	3. Once per quarter.
	4. Same as for CMP system	4. Per manufacturer.
Fiber-bed mist eliminator[B]	1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no unusual chromic acid buildup in the units, and no evidence of chemical attack that affects the structural integrity of the devices.	1. Once per quarter.
	2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks.	2. Once per quarter.
	3. Perform washdown of fiber elements in accordance with manufacturer's recommendations.	3. Per manufacturer.
High Efficiency Particulate Arrestors filter (HEPA)	1. Look for changes in the pressure drop.	1. Once per week.
	2. Replace HEPA filter.	2. Per manufacturer's specifications or SCAQMD's requirement.

[B] Inspection and maintenance requirements for the control device installed upstream of the fiber-bed mist eliminator to prevent plugging do not apply as long as the inspection and maintenance requirements for the fiber-bed unit are followed.

Table 4-1:
Summary of Inspection and Maintenance Requirements for Sources Using Add-on Air Pollution Control Device(s) or Add-On Non-Ventilated Air Pollution Control Device(s) (cont)

Control Technique/Equipment	Inspection and Maintenance Requirements	Frequency
Chromium Tank Covers	1. Drain the air-inlet (purge air) valves at the end of each day that the tank is in operation.	1. Once per day.
	2. Visually inspect access door seals and membranes for integrity.	2. Once per week.
	3. Drain the evacuation unit directly into the electroplating tank or into the rinse tanks (for recycle into the electroplating tank).	3. Once per week.
	4. Visually inspect membranes for perforations using a light source that adequately illuminates the membrane (e.g., Grainger model No. 6X971 Fluorescent Hand Lamp).	4. Once per month.
	5. Visually inspect all clamps for proper operation; replace as needed.	5. Once per month.
	6. Clean or replace filters on evacuation unit.	6. Once per month.
	7. Visually inspect piping to, piping from, and body of evacuation unit to ensure there are no leaks and no evidence of chemical attack.	7. Once per quarter.
	8. Replace access door seals, membrane evacuation unit filter, and purge air inlet check valves in accordance with the manufacturer's recommendations.	8. Per manufacturer.
Pitot 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.	Once per quarter.
Ampere-hour meter	Install and maintain per manufacturer's specifications.	Per manufacturer.

Table 4-2:
Additional Inspection and Maintenance Requirements for Tier I, II, and III Hexavalent Chromium Tank(s)

Control Technique/Equipment	Inspection and Maintenance Requirements	Frequency
Temperature Gauge	1. Install and maintain per manufacturer's specification at each Tier I, II, and III Hexavalent Chromium Tank.	1. Per manufacturer.
	2. Calibrated or confirmed to be accurate.	2. Once per year.
Collection Slots and Push Air Manifolds for Push-Pull Systems	1. Visually inspect slots and push air manifolds to ensure that there are no obstructions or clogs.	1. Once per week.
	2. Clean slots or push air manifolds.	2. Once every 180 days.
	3. Measure slot velocity of each slot and pressure at each push air manifold using a hot-wire anemometer, vein anemometer, or approved device	3. Once every 180 days.
Air Flow Gauges	Install and maintain per manufacturer's specifications.	Per manufacturer

Table 4-3
Summary of Inspection and Maintenance Requirements for Sources Not Using Add-on Air Pollution Control Devices to Control Tier II Hexavalent Chromium Tank(s)

Equipment	Inspection and Maintenance Requirement for Monitoring Equipment	Frequency
Temperature Data Logger	1. Install and maintain per manufacturer's specification at each Tier II Hexavalent Chromium Tank.	1. Per manufacturer.
	2. Calibrate or confirm to be accurate.	2. Per manufacturer.

Table 4-4
Summary of Inspection and Maintenance Requirements for Sources Using Chemical or Mechanical Fume Suppressants

Equipment	Inspection and Maintenance Requirement for Monitoring Equipment	Frequency
Ampere-hour meter	Install and maintain per manufacturer's specifications.	Per manufacturer.
Stalagmometer/ Tensiometer	Calibrate and maintain per manufacturer's specifications.	Per manufacturer.

Appendix 5 – Smoke Test for Add-on Non-Ventilated Air Pollution Control Device

SMOKE TEST TO VERIFY THE SEAL INTEGRITY OF COVERS DESIGNED TO REDUCE CHROMIUM EMISSIONS FROM TIER III HEXAVALENT CHROMIUM TANKS

1. Applicability and Principle

1.1 Applicability. This method is applicable to all Tier III Hexavalent Chromium Tanks where a chromium tank cover or add-on non-ventilated air pollution control device is used on the tank for reducing chromium emissions.

1.2 Principle. During electrolytic operations, gas bubbles generated during the process rise to the surface of the tank liquid and burst. Non-electrolytic tanks that are either heated or air sparged generate bubbles that rise to the surface. Upon bursting, tiny droplets of chromic acid (chromium mist) or hexavalent chromium laden liquid become entrained in the air above the tank. Because the chromium tank cover completely encloses the air above the tank, the chromium mist either falls back into the solution because of gravity or collects on the inside walls of the chromium tank cover and runs back into the solution. A semi-permeable membrane allows passage of the hydrogen and oxygen out of the chromium tank cover. A smoke device is placed inside the chromium tank cover to detect leaks at the membrane, joints, or seals.

2. Apparatus

2.1 Smoke device. Adequate to generate 500 to 1000 ft^3 of smoke/20 ft^2 of tank surface area.

2.2 Small container. To hold the smoke device.

3. Procedure

Place the small container on a stable and flat area at center of the chromium tank cover (you can use a board and place it on the buss bars). Place the smoke device inside the container. After activating the smoke device, quickly close the access door to avoid smoke from escaping. Let smoke device fill the entire space under the chromium tank cover with smoke. An acceptable smoke test shall demonstrate no leaks of smoke from each seal, joint, and membrane of the chromium tank cover. Record these observations including the locations and a qualitative assessment of any leaks of smoke.

When all seals, joints, and membranes have been observed, evacuate the unit to remove the smoke from the chromium tank cover.

Appendix 6 – Approval of Alternatives for Specific Requirements

Section	Requirement	Description of Authority	Approving Agency	Concurring Agency
(b)	Applicability	Assisting an owner or operator of a facility in determining whether a facility is subject to the rule	SCAQMD	
(h)	Standards	Approving alternative standards	SCAQMD	U.S. EPA
(k)(1)	Source Test Requirement	Waiving a source test requirement	SCAQMD	
(k)(1)	Use of Existing Source Tests	Approving the use of existing performance test results to demonstrate compliance, based on the "Description of the Technical Review Protocol for Performance Tests of California Chrome Plating Sources" (see Attachment 2 of the July 10, 1998 memorandum from John S. Seitz entitled, "Delegation of 40 CFR Part 63 General Provisions Authorities to State and Local Air Pollution Control Agencies.")	SCAQMD	
(k)(2)	Test Method	Approving site-specific alternatives to test methods	SCAQMD for minor[1] or intemediate[2] changes	U.S. EPA for major[3] changes, and ARB
(k)(4)	Pre-Test Protocol	Approving pre-test protocols	SCAQMD	
(k)(5)	Test All Emission Points	Waiving the requirement to test all emission points	SCAQMD	
(m)	Parameter Monitoring	Approving site-specific changes in monitoring methodology	SCAQMD for minor[1] or intermediate[4] changes	U.S. EPA for major[3] changes
(n)	Inspection and Maintenance Requirements	Approving site-specific changes to inspection and maintenance requirements	SCAQMD	
(n)	Operation and Maintenance Plans	Approving or requiring site-specific changes to operation and maintenance plans	SCAQMD	
(o)(1)-(o)(11)	Recordkeeping	Waiving or altering recordkeeping requirements	SCAQMD	U.S. EPA for major[3] changes

Section	Requirement	Description of Authority	Approving Agency	Concurring Agency
(o)(12)	Retention of Records	Waiving or altering the requirement to retain records for 5 years	SCAQMD	U.S. EPA for major[3] changes
(p)	Reporting	Waiving or altering reporting requirements	SCAQMD	U.S. EPA[5] for major[3] changes

1 Minor change to a test method or monitoring is a modification to a federally enforceable test method or monitoring that (a) does not decrease the stringency of the emission limitation or standard or the compliance and enforcement measures for the relevant standard; (b) has no national significance (e.g., does not affect implementation of the applicable regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the test method or monitoring requirement); and (c) is site specific, made to reflect or accommodate the operation characteristics, physical constraints, or safety concerns of an affected source.

2 Intermediate change to a test method is a within-method modification to a federally enforceable test method involving "proven technology" (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Intermediate changes are not approvable if they decrease the stringency of the standard.

3 Major change to a test method or monitoring is a modification to a federally enforceable test method or federally required monitoring that uses unproven technology or procedures or is an entirely new method (sometimes necessary when the required test method is unsuitable).

4 Intermediate change to monitoring is a modification to federally required monitoring involving "proven technology" (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the compliance and enforcement measures for the relevant standard.

5 U.S. EPA concurrence is not needed for adjustments made according to paragraph (p)(6).

Appendix 7 – Information Demonstrating an Alternative Method(s) of Compliance Pursuant to Subdivision (i)

The owner or operator of a facility applying for approval of an alternative method of compliance must submit to the Executive Officer the following information.

1. A source test as specified in subdivision (i) that is submitted after receipt of the SCAQMD Permit to Construct. The test shall have been conducted in a manner consistent with normal electroplating or anodizing operations.
2. A demonstration that the alternative method achieves an equal or greater amount of reductions in hexavalent chromium emissions than would be achieved with direct compliance with the applicable emission rate in paragraphs (h)(2) or (h)(4).
3. Calculations based on scientifically valid risk assessment methodologies demonstrating that the alternative method results in reducing risk equally or greater than the risk reduction that would be achieved by direct compliance with the applicable emission rate. A facility using in-tank controls shall only be modeled as a volume source and the resulting risk shall be compared to the same facility modeled as a point source.
4. Documentation which demonstrates that the method is enforceable, including an operation and maintenance plan, an inspection and maintenance schedule, and a recordkeeping plan.
5. A demonstration that the facility is at least 75 feet from a sensitive receptor.

Appendix 8 – Smoke Test to Demonstrate Capture Efficiency for an Add-on Air Pollution Control Device(s) Pursuant to Paragraph (k)(6).

1. Applicability and Principle

1.1 Applicability. This method is applicable to all hard and decorative chromium electroplating and chromic acid anodizing operations where an add-on air pollution control device is used to reduce chromium emissions from the chromium electroplating or anodizing tank.

1.2 Principle. During chromium electroplating or anodizing operations, bubbles of hydrogen and oxygen gas generated during the process rise to the surface of the tank liquid and burst. Upon bursting, tiny droplets of chromic acid (chromium mist) become entrained in the air above the tank. Collection of this chromium mist is achieved with the add-on air pollution control device for the tank(s) where chromium emissions are reduced downstream. Emission control efficiency at the exhaust of an add-on control device is related to capture efficiency at the inlet of the add-on air pollution control device. For this reason, it is imperative that 100% capture efficiency is maintained. A smoke device placed within the area where collection of chromic mist by the add-on air pollution control device occurs reveals this capture efficiency.

2. Apparatus

2.1 Smoke Generator. Adequate to produce a persistent stream of visible smoke.

3. Testing Conditions

The smoke test shall be conducted while the add-on air pollution control device is in normal operation and under typical draft conditions representative of the facility's chromium electroplating and/or chromic acid anodizing operations. This includes cooling fans and openings affecting draft conditions around the tank area including, but not limited to, vents, windows, doorways, bay doors, and roll-ups. The smoke generator must be at full generation during the entire test and operated according to manufacturer's suggested use.

3. Procedure

The smoke test shall be conducted over a minimum twelve point matrix evenly distributed over the entire liquid surface of each chromium electroplating or chromic acid anodizing tank vented to the add-on air pollution control device. Place the aperture of the smoke device at each point of the matrix at a height within one inch above the tank top. Observe collection of the smoke to the collection location(s) of the add-on air pollution control device. An acceptable smoke test shall demonstrate

a direct stream to the collection location(s) of the add-on air pollution control device without meanderings out of this direct path. Record these observations at each of the points on the matrix providing a qualitative assessment of the collection of smoke to the add-on air pollution control device. The test shall also be documented by photographs or video at each point of the matrix.

Appendix 9 – Surface Tension Measurement Procedure for a Stalagmometer

The stalagmometer shall first be properly cleaned before being used for the first time and after a period of storage. Properly clean the stalagmometer using the following procedure:

1. Set up stalagmometer in stand in a fume hood.
2. Place a clean 150 mL beaker underneath the stalagmometer then fill with reagent grade concentrated nitric acid. Immerse bottom tip (approximately ½") of stalagmometer into the beaker.
3. Squeeze rubber bulb and pinch at the arrow up (1) position to collapse. Place bulb end securely on top end of stalagmometer. Carefully draw the nitric acid by pinching the arrow up (1) position until the level is above the top etched line.
4. Allow nitric acid to remain in stalagmometer for 5 minutes and then carefully remove the bulb allowing the acid to completely drain.
5. Fill a clean 150 mL beaker with distilled or deionized water. Using the rubber bulb per the instructions in Step #3, rinse and drain stalagmometer with deionized or distilled water until the inside is "water break" free.
6. Fill a clean 150 mL beaker with isopropyl alcohol. Again using the rubber bulb per Step #3, rinse and drain stalagmometer twice with isopropyl alcohol and allow the stalagmometer to dry completely.
7. Take a sample of the solution to be tested and adjust the solution to room temperature. Measure the specific gravity and record reading.
8. Fill a clean 150 mL beaker with solution to be tested. Immerse bottom end of stalagmometer into the beaker. Fill the stalagmometer per instructions in Step #3, making sure that the solution level is above the top etched line.
9. Raise the stalagmometer so that the bottom end is completely out of solution. Remove bulb and immediately place a finger on the top end of the stalagmometer. Carefully use the finger to bring the solution level down to the top etched line. Do not release finger at this time.
10. "Wipe" the excess solution on the lower tip by touching it against the side of the beaker.
11. Release fingertip to allow solution to drain and count number of drops until the level reaches the bottom etched line.

Calculations for Surface Tension

$$\text{Surface tension (dynes/cm)} = \frac{Sw * Nw * D}{N * Dw}$$

Sw = Surface tension of water at 25°C or 77°F (72.75 dynes/cm)
Nw = water drop number etched on instrument
D = measured specific gravity (g/ml)
N = # of solution drops
Dw = water density (1.0 g/mL)

PRECAUTIONS:

1. Make sure the stalagmometer is clean (no sludge or film)
2. No chips, cracks, etc
3. Vertical placement
4. No vibration
5. 20 drops per minute rate (10 dynes/cm) +/- 1 drop per minute
6. Performance checked with water. The number of drops etched on the instrument shall be verified with deionized water to +/- 1 drop. If the number of drops are not within 1 drop, then the stalagmometer shall be cleaned. If the cleaning process does not bring the drop count within 1 drop of the etched number on the instrument, then the operator shall:
    a) Purchase a new stalagmometer; or
    b) Use the number of drops recorded for the distilled water run as (Nw) in the equation instead of the number of drops etched on the stalagmometer.
7. Sample at room temperature.

Appendix 10 – Tier II and Tier III Hexavalent Chromium Tank Thresholds

1. Tier II Tank hexavalent chromium concentrations shall remain in the concentration range for the specified temperature and be required to comply with paragraph (h)(5). Tanks that exceed the hexavalent chromium concentration for a corresponding temperature for Tier II Tanks shall be considered a Tier III Tank and shall be required to comply with subparagraph (h)(4)(A).

Temperature (° F)	Tier II Tank Hexavalent Chromium Concentration (ppm)	Tier III Tank Hexavalent Chromium Concentration (ppm)
140 to <145° F	5,200 to <10,400	≥10,400
145 to <150° F	2,700 to <5,500	≥5,500
150 to <155° F	1,400 to <2,900	≥2,900
155 to <160° F	700 to <1,600	≥1,600
160 to <165° F	400 to <800	≥800
165 to <170° F	180 to <400	≥400
≥170° F	≥100 to <200	≥200

2. Electrolytic tanks, such as chromium electroplating or chromic acid anodizing tanks, with hexavalent chromium concentration greater than 1,000 ppm shall be considered a Tier III tank regardless of operating temperature.

3. Air sparged tanks with a hexavalent chromium concentration greater than 1,000 ppm shall be considered a Tier III tank regardless of operating temperature.

4. The owner or operator of a facility shall not be subject to the requirement of subparagraph (h)(4)(A) to vent a Tier III Hexavalent Chromium Tank to an add-on air pollution control device for one tank at a facility if the tank meets the following requirements:
   a) The surface area is less than or equal to four (4) square feet;
   b) The hexavalent chromium concentration is less than or equal to 11,000 ppm;
   c) The tank is operated and permitted at less than or equal to 210° F;
   d) The tank is operated at a temperature between 170-210° F for less than or equal to two and one-half (2.5) hours per week; and
   e) The tank complies with the tank cover requirements in paragraph (h)(5) and the temperature data logger requirements in paragraph (n)(3), and the data logger must log the duration of time and temperature of the tank to demonstrate compliance with (d) above.

   A Tier III Tank that fails to comply with any of the conditions listed in a through e shall be subject to subparagraph (h)(4)(A).

Appendix 11 – Implementation Schedule

Requirement	Affected Tanks	Implementation Date
(d)(6)	Tier I Hexavalent Chromium Tank	Beginning January 1, 2023
(f)(10)	Tier I, Tier II, or Tier III Hexavalent Chromium Tank	Beginning January 1, 2023
(g)(1)	Chromium electroplating or chromic acid anodizing tank	[Date of Rule Adoption]
	Tier I or Tier II Hexavalent Chromium Tank or Tier III Hexavalent Chromium Tank (except chromium electroplating or chromic acid anodizing tanks)	Beginning January 1, 2023
(g)(2)	Tier II or Tier III Hexavalent Chromium Tank	[Date of Rule Adoption]
	Tier I Hexavalent Chromium Tank	Beginning January 1, 2023
(g)(5)	Chromium electroplating or chromic acid anodizing tank	[Date of Rule Adoption]
	Tier I or Tier II Hexavalent Chromium Tank or Tier III Hexavalent Chromium Tank (except chromium electroplating or chromic acid anodizing tanks)	Beginning January 1, 2023

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report
Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations
Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

April 2021

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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CHAPTER 1 – BACKGROUND

INTRODUCTION

Rule 1426 – Emissions from Metal Finishing Operations was adopted in 2003. This rule along with Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Operations are the two key South Coast Air Quality Management District (South Coast AQMD) rules that regulate plating and anodizing metal finishing operations, which are processes that prepare or treat the surface of parts by submerging them into tanks. The solution in these tanks often contain a metal that is classified as a Toxic Air Contaminant (TAC). Rule 1426 regulates five of these metal TACs that include hexavalent chromium, nickel, cadmium, lead, and copper whereas, Rule 1469 regulates hexavalent chromium from only a subset of the Rule 1426 facilities.

In 2015, South Coast AQMD staff initiated rule development to amend both Rule 1426 and Rule 1469. During the rule development process, Rule 1426 was separated from the Rule 1469 with a commitment to resume the development of Rule 1426 at a later date.

Rule 1426 currently applies to facilities that perform chromium, nickel, cadmium, lead or copper electroplating, or chromic acid anodizing. Rule 1426 has basic housekeeping measures and a prohibition on the air sparging of tanks containing chromic acid (i.e., hexavalent chromium). The rule also includes a one-time data collection requirement for the 2003 calendar year followed by a 2004 calendar year update if there were any changes from the 2003 report. This information was intended to be used to assess the need to amended Rule 1426 for additional emission controls. Rule 1426 required facilities to submit facility operation and equipment information. This included:

- Facility name and contact information
- Process descriptions
- Purchase records for nickel, cadmium, lead and copper
- Nickel, cadmium, lead, and copper electroplating tank information
    - dimension, volume, and metal concentrations
    - Control equipment information and test results
    - Amp-hr records for at least 4 months
    - Associate acid tank information (excluding rinse and dragout tanks)
- Sodium hydroxide spraying information
- Sensitive receptor distance

Currently Rule 1426 lacks the building enclosure requirements, enhanced housekeeping requirements, and best management practices included in the 2018 amendments to Rule 1469 and other recently amended or adopted metal TAC rules needed to address fugitive metal TAC emissions. Rule 1426 also does not specify emission limits nor does it include requirements for add-on air pollution controls like those provisions included in Rule 1469 to address the emissions from the heated and air sparged non-rectified hexavalent chromium tanks.

Rule 1426 needs to be amended to incorporate building enclosure requirements, enhanced housekeeping requirements, and best management practices in order to minimize metal TAC emissions from chromium, nickel, cadmium, or lead metal finishing tanks. Proposed Amended Rule 1426 (PAR 1426) is designed to minimize fugitive emissions from the tank solutions that contain hexavalent chromium, nickel, cadmium, or lead. Point source metal TAC emissions would be addressed through separate rulemaking efforts. Proposed Rule 1426.1 would address point source emissions of hexavalent chromium at facilities not subject to Rule 1469. Other point source

emissions of metal TAC would be addressed through future rulemaking efforts as needed as Proposed Rule 1426.X.

Rule 1469 specifies requirements to reduce hexavalent chromium emissions from certain metal finishing tanks. PAR 1426 would have additional requirements for hexavalent chromium tanks at facilities subject to Rule 1469. In order to avoid duplicate requirements and to streamline implementation, Rule 1469 is being amended to incorporate the PAR 1426 requirements into PAR 1469. Staff is also making two additional amendments to Rule 1469, one to revise the definition of High Efficiency Particulate Arrestors (HEPA) to remove reference to a chemical which is no longer used, consistent with PAR 1426, and the other to correct a table reference in recordkeeping.

INDUSTRY CHARACTERIZATION

Metal finishing is the surface treatment of a metal substrate to give it a desired characteristic. This can include anti-corrosion, durability, and adhesion. Due to the beneficial properties that can be imparted to products, metal finishing support many industries including fixtures (home, kitchen, and bath), machinery and industrial equipment, and commercial and military aerospace. In the South Coast AQMD basin alone, facilities span over 90 different classifications under the North American Industry Classification System (NAICS) standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy codes. This illustrates the diverse industries that use metal finishing with tank solutions. Most metal finishing involve the use of metal TACs, hexavalent chromium, nickel, cadmium, lead, or copper, which are in tank solutions.

Rule 1426 originally applied to an industry that performed chromium, nickel, cadmium, lead or copper electroplating operations, or chromic acid anodizing. PAR 1426 expands the applicability to include other facilities using tanks containing hexavalent chromium, nickel, cadmium or lead that are not electroplating (i.e., non-electrolytic). Non-electrolytic tanks include sealing, passivation, or strip tanks. Both operations of electrolytic and non-electrolytic tanks can be classified as metal finishing.

HEALTH EFFECTS OF METAL TOXIC AIR CONTAMINANTS

A substance is considered toxic if it has the potential to cause adverse health effects in people. A toxic substance released to the air is considered a TAC or "toxic air contaminant". A TAC is defined as an "air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health" (Health and Safety Code Section 39655(a)). TACs are identified by state and federal agencies based on a review of available scientific evidence. In California, the Office of Environmental Health Hazard Assessment (OEHHA) is responsible for the scientific evaluation and determination of the health values for TACs that guide regulatory actions, including those of South Coast AQMD. South Coast AQMD Rule 1401 – New Source Review of Toxic Air Contaminants lists these TACs on Table 1 – Toxic Air Contaminants. Metal finishing operations that use tanks to prepare or treat the surface of parts use solutions that contain metals or metal compounds that are TACs. Rule 1426 regulates the following metal TACs used in metal finishing: hexavalent chromium, nickel, cadmium, lead, and copper.

Table 1 below summarizes the unit risk factor, chronic and acute reference exposure levels and multipathway values, if applicable, for hexavalent chromium, nickel, cadmium, lead, and copper,

based on data from OEHHA. These health values are used to estimate risks to individuals such as workers and residents for health risk assessments purposes.

Table 1 - Toxicity of Metals

Toxic Air Contaminant	Inhalation Cancer Potency Factor[1] $(mg/kg\text{-}d)^{-1}$	Multipathway[2] (Residential Cancer)	REL[1] (Chronic) $(\mu g/m^3)^{-1}$	Multipathway[2] (Residential Non-cancer Chronic)	REL[1] (Acute) $(\mu g/m^3)^{-1}$
Hexavalent Chromium	5.1E+02	1.60	2.00E-01	2.44	
Nickel and Compounds	9.1E-01		1.4E-02		2.00E-01
Cadmium and Compounds	1.5E+01		2.00E-02	1.98	
Lead and Compounds	4.2E-02	11.41			
Copper and Compounds					1.00E+02

Hexavalent Chromium

Hexavalent chromium[3] is one of the most potent carcinogens. Hexavalent chromium is a multipathway toxic air contaminant, meaning there are multiple exposure pathways for a person to be exposed, such as inhalation and ingestion. Inhalation of hexavalent chromium can cause both cancer and non-cancer health effects. Inhalation of hexavalent chromium over a long period of time increases the risk of lung cancer and nasal cancer. The non-cancer effects of being exposed to hexavalent chromium at high levels over time can cause or worsen health conditions such as irritation of the nose, throat and lungs; allergic symptoms (wheezing, shortness of breath); and nasal sores and perforation of the membrane separating the nostrils.

Nickel

Nickel[4] is a carcinogen and also results in non-cancer chronic effects, affecting the respiratory and hematologic or blood system, and non-cancer acute effects, affecting the immune system.

[1] California Air Resources Board. *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values*. (2020, October 2). https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/contable.pdf

[2] South Coast AQMD. *SCAQMD Permit Application Package N*. (2017, August 7). Available online at https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/attachmentn_080717.pdf.

[3] Office of Environmental Health and Hazard Assessment. *Health Effects of Hexavalent Chromium*. Retrieved January 14, 2021 from https://oehha.ca.gov/air/health-effects-hexavalent-chromium.

[4] Office of Environmental Health and Hazard Assessment. *Nickel and Nickel Compounds*. Retrieved January 14, 2021 from https://oehha.ca.gov/chemicals/nickel-and-nickel-compounds.

Cadmium

Cadmium[5] is a carcinogen and also results in non-cancer chronic effects, affecting the kidneys and respiratory system. Additionally, exposure to cadmium can result in developmental toxicity.

Lead

Lead is a carcinogen and a multipathway toxic air contaminant. Lead[6] has non-cancer chronic health effects including nervous and reproductive system disorders, neurological and respiratory damage, cognitive and behavioral changes, and hypertension. Young children are especially susceptible to the effects of environmental lead because their bodies accumulate lead more readily than do those of adults, and because they are more vulnerable to certain biological effects of lead including learning disabilities, behavioral problems, and deficits in IQ.

Copper

Copper[7] health effects are primarily due to acute exposure for non-cancer and are 500 times less than that of nickel. Copper exposure can result in non-cancer acute effects, affecting the respiratory system. For PAR 1426, requirements for copper electroplating tanks will no longer be included due to the relatively low health risk as a metal toxic air contaminant for acute exposure.

FINDINGS FROM OTHER TOXIC METAL TAC RULE DEVELOPMENTS

South Coast AQMD has developed other rules to address point and fugitive emissions metal TACs from various industries and operations. This includes metal grinding at forging facilities (Rule 1430 – Control of Emissions from Metal Grinding Operations at Metal Forging Facilities), metal melting for lead (Rule 1420 – Emission Standard for Lead, Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, and Rule 1420.2 – Emission Standards for Lead from Metal Melting Facilities) , metal melting of non-chromium metals (Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations), and chromium electroplating and chromic acid anodizing facilities (Rule 1469). Through each of these rule developments, staff identified practices and methods to minimize and contain fugitive emissions from being re-entrained into the ambient air that generally included housekeeping provisions to clean fugitive dust, building enclosures to containment of fugitive metal dust, and best management practices to minimize the generation of fugitive metal dust.

In addition, during the investigation process of ambient monitoring near metal processing facilities, ambient monitoring results demonstrated metal TAC emissions were being emitted from the facility. After the implementation of methods and practices to control fugitive and point source emissions, ambient monitoring results demonstrated a decrease in metal TAC concentrations. Point source emissions controls can include the installation, repair, or upgrading of an add-on air

[5] Office of Environmental Health and Hazard Assessment. *Cadmium*. Retrieved January 14, 2021 from https://oehha.ca.gov/chemicals/cadmium.
[6] Office of Environmental Health and Hazard Assessment. *Proposed Identification of Inorganic Lead as a Toxic Air Contaminant*. Retrieved January 14, 2021 from https://oehha.ca.gov/air/proposed-identification-inorganic-lead-toxic-air-contaminant.
[7] Office of Environmental Health and Hazard Assessment. *Copper and Copper Compounds*. Retrieved January 14, 2021 from https://oehha.ca.gov/air/chemicals/copper-and-copper-compounds.

pollution control system. Practices and methods to control fugitive emissions are grouped into three key categories: housekeeping requirements, building enclosure requirements, and best management practices. These categories were incorporated into PAR 1426 as rule requirements.

Rule 1430

In 2012, the South Coast AQMD began receiving complaints from the public regarding a burning metallic odor and metal particulate in the City of Paramount[8]. Through ambient monitoring, air quality analysis and investigation of surrounding businesses a metal forging facility was identified as a source of these metallic odors, which arise primarily from their metal grinding operations. Staff conducted glass plate sampling at other metal forging facilities that demonstrated fugitive metal particulates were not exclusive to grinding operations at one metal forging facility. During the rule development process for Rule 1430, staff visited many metal forging facilities. The following were key findings from the site visits:

- Facilities were conducting metal grinding operations in the open air. Because of the fugitive nature of grinding operations, with no containment structure such as an enclosure and no air pollution control device, the metal particulates were being released in the open air and into the community.
- Pollution control equipment did not appear to have proper ventilation, operation, and maintenance. Evidence that there were issues with the existing pollution controls was that the metal particulates during the grinding operations were not moving towards the control equipment.
- Grinding operations conducted within structures that had large openings, for ingress and egress, with large vents and openings on the sides and top of the building did not adequately contain fugitive metal particulate.
- Housekeeping measures varied at each facility (e.g. cleaning method, frequency, areas cleaned).

Rule 1430 reduced metal particulate emissions from metal grinding and metal cutting operations at metal forging facilities to ensure that these operations have the appropriate pollution control equipment. Rule 1430 required that these operations are conducted within an enclosure to ensure fugitive emissions that did not make it to the control device are contained, and that housekeeping requirements are followed to ensure any accumulation of metal particulate in around grinding operations is not re-entrained into the air or tracked outside of the facility.

Rule 1420.1

Rule 1420.1 was adopted in November 2010 to address lead emissions from large lead-acid battery recycling facilities to ensure attainment of the National Ambient Air Quality Standard (standard) for lead. Prior to adoption, both large lead-acid battery recycling facilities were determined to be contributors to the exceedance of the federal lead standard. Violations issued to both of these facilities required additional housekeeping, process changes, and more stringent monitoring. Staff determined that fugitive lead-dust can accumulate in process areas, from lead point sources, on roof tops, in and around facility, and during maintenance operations. As such, Rule 1420.1 required a variety of housekeeping and containment strategies. The concept behind many of these strategies

[8] South Coast AQMD. (n.d.). *Carlton forge works*. Retrieved January 7, 2021, from https://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/facilities---order-for-abatement/carlton-forge-works

is to either contain or remove lead dust so it cannot become airborne. Housekeeping practices specifying adequate frequencies and locations for all cleanings to be performed are also critical in the effectiveness to control fugitive lead-dust emissions. The use of enclosures or containment materials ensured that the materials do not become fugitive.

Amendments to the Rule 1420.1 identified additional sources of fugitive emissions and required further housekeeping or best management practices.

Rule 1469

During the rule development for Rule 1469 which was amended in 2018, South Coast AQMD identified that the process of air sparging and heating of tanks with solutions containing chromic acid also generated hexavalent chromium emissions. Rule 1469 was amended to address these previously unknown sources of hexavalent chromium through point source controls. Additional requirements to control fugitive emissions included enhanced housekeeping and best management practices as well as new building enclosure requirements.

Investigations of several Rule 1469 facilities through ambient monitoring demonstrated the effectiveness of implementation of these control measures to control emissions, including fugitive emissions. Staff conducted ambient monitoring of hexavalent chromium near two chromic acid anodizing facilities located in two cities in the South Coast Air Basin: a facility in Newport Beach and a facility in Paramount, where hexavalent chromium levels were above background levels near those facilities. Ambient monitoring near the Rule 1469 facilities in Newport Beach and Paramount provided information about previously unknown sources of hexavalent chromium emissions. Ambient monitoring also showed that ambient levels of hexavalent chromium were reduced after the facilities implemented control measures for fugitive emissions and installed add-on controls.

Through the rule amendments to Rule 1469 in 2018, based on ambient monitoring, emissions testing, and other investigative activities it was determined that there were tanks that were not previously known that had significant hexavalent chromium emissions that needed pollution controls. Additionally, control measures to minimize fugitive emissions, while not quantifiable, were effective in reducing ambient levels of hexavalent chromium. As a result, Rule 1469 requires pollution controls on these tanks to address point source emissions whereas, fugitive emissions are addressed through building enclosure requirements, enhanced housekeeping, and best management practices.

REGULATORY HISTORY

Chrome plating and chromic anodizing operations are under Rule 1469 as well as state and federal regulations. Whenever the South Coast AQMD adopts or amends a rule, the requirements must be equal to or more stringent than the federal or state requirements. The recent amendments to Rule 1469 added more stringent requirements based on findings during the 2018 rule development.

U.S. EPA NESHAP

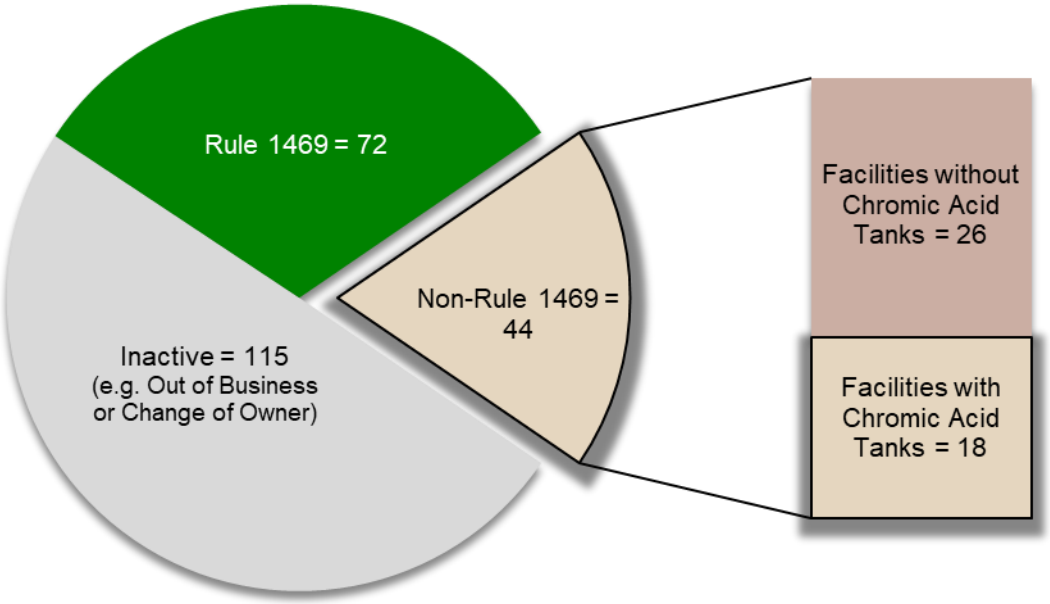
On June 12, 2008, the U.S. EPA issued 40 CFR Part 63 Subpart WWWWWW (6W)[9], the Plating and Polishing NESHAP for area sources. It addressed national air toxics standards for smaller-emitting sources, known as area sources, in the plating and polishing industry. The requirements apply to existing and new area sources in the plating and polishing rule. The rule affected existing and new plating and polishing facilities and applies to non-chromium electroplating; electroforming; electropolishing; electroless plating or other non-electrolytic metal coating operations, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; dry mechanical polishing operations, and thermal spraying operations that use or emit compounds of one or more of the following metal toxic air pollutants: cadmium, chromium, lead, manganese, and nickel with operations containing at least 1,000 ppm of chromium, cadmium, lead, nickel or at least 10,000 ppm of manganese. It includes management practices such as use of wetting agent/fume suppressants, use of tank covers or control devices, and capture and control of emissions from thermal spraying and dry mechanical polishing. Also included were management practices that were to be implemented as practicable by the facilities.

Rule 1426

On May 2, 2003, Rule 1426 was adopted to address the emissions from non-Rule 1469 tanks and facilities. Basic housekeeping and recordkeeping requirements were required as well as limited air sparging restrictions on tanks that contain chromic acid. Staff initiated amendments to Rule 1426 during rulemaking for amendments Rule 1469 in 2008 and 2018, but were suspended to allow staff to focus on Rule 1469 amendments. At the time of adoption, the approach was to collect additional information about facilities with Rule 1426 tanks, and use that information to establish additional requirements. Requirements for data gathering included the submittal of a 2003 Initial Compliance Report and 2004 Compliance Reports. For the Initial Compliance Reports, 231 facilities submitted an Initial Compliance Report of which only 116 facilities are still active with 72 subject to Rule 1469. Of the remaining 44 facilities, 18 facilities had a total of 44 tanks that contained chromic acid that were unregulated because the tanks were not located at facilities subject to Rule 1469 as presented in Figure 1. In addition to these unregulated chromic acid tanks, there are many nickel, cadmium, and lead electroplating tanks that are operating without point source controls and without requirements to reduce fugitive emissions.

[9] United States Environmental Protection Agency. *Subpart WWWWWW—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*. (2012). Retrieved 16 December 2020, from https://www.govinfo.gov/content/pkg/CFR-2015-title40-vol15/pdf/CFR-2015-title40-vol15-part63-subpartWWWWWW.pdf.

Figure 1 - Number of Facilities from 2003 Year Initial Compliance Reports



AFFECTED RULE 1426 FACILITIES

There are approximately 339 facilities expected to be impacted by PAR 1426 and PAR 1469. Table 2 provides the number of facilities by North American Industry Classification System (NAICS) code. The facilities conducting metal finishing using process tanks containing metal TACs are generally classified under the following two digit NAICS codes:

- 56XXXX - Administrative and Support and Waste Management and Remediation Services
- 23XXXX - Construction
- 62XXXX - Health Care and Social Assistance
- 51XXXX - Information
- 31XXXX, 32XXXX, 33XXXX - Manufacturing
- 81XXXX - Other Services (except Public Administration)
- 54XXXX - Professional, Scientific and Technical Services
- 44XXXX - Retail Trade
- 49XXXX - Transportation and Warehousing
- 42XXXX - Wholesale Trade

Table 2 - Facility Categories

	Facility Type	Number of Facilities
236115	New Single-Family Housing Construction (except For-Sale Builders)	1
238990	All Other Specialty Trade Contractors	1
311942	Spice and Extract Manufacturing	1
313310	Textile and Fabric Finishing Mills	1
313320	Fabric Coating Mills	1
323113	Commercial Screen Printing	1
323120	Support Activities for Printing	2
324191	Petroleum Lubricating Oil and Grease Manufacturing	1
325110	Petrochemical Manufacturing	1
325180	Other Basic Inorganic Chemical Manufacturing	1
325510	Paint and Coating Manufacturing	1
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	1
331315	Aluminum Sheet, Plate, and Foil Manufacturing	2
331318	Other Aluminum Rolling, Drawing, and Extruding	2
331420	Copper Rolling, Drawing, Extruding, and Alloying	1
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	1
331524	Aluminum Foundries (except Die-Casting)	3
331529	Other Nonferrous Metal Foundries (except Die-Casting)	1
332119	Metal Crown, Closure, and Other Metal Stamping (except Automotive)	1
332216	Saw Blade and Handtool Manufacturing	1
332312	Fabricated Structural Metal Manufacturing	1
332322	Sheet Metal Work Manufacturing	1
332439	Other Metal Container Manufacturing	1
332510	Hardware Manufacturing	1
332710	Machine Shops	6
332721	Precision Turned Product Manufacturing	1
332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	12
332811	Metal Heat Treating	3
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	9
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	162
332912	Fluid Power Valve and Hose Fitting Manufacturing	1
332913	Plumbing Fixture Fitting and Trim Manufacturing	4
332991	Ball and Roller Bearing Manufacturing	1
332996	Fabricated Pipe and Pipe Fitting Manufacturing	1
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	1
333249	Other Industrial Machinery Manufacturing	3
333314	Optical Instrument and Lens Manufacturing	2
333413	Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing	1
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing	1
333515	Cutting Tool and Machine Tool Accessory Manufacturing	1

	Facility Type	Number of Facilities
333613	Mechanical Power Transmission Equipment Manufacturing	1
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	1
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	1
334412	Bare Printed Circuit Board Manufacturing	2
334416	Capacitor, Resistor, Coil, Transformer, and Other Inductor Manufacturing	1
334417	Electronic Connector Manufacturing	1
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	16
334419	Other Electronic Component Manufacturing	9
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	2
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	1
334519	Other Measuring and Controlling Device Manufacturing	1
335129	Other Lighting Equipment Manufacturing	1
335312	Motor and Generator Manufacturing	1
335314	Relay and Industrial Control Manufacturing	2
335931	Current-Carrying Wiring Device Manufacturing	2
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	1
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing	1
336390	Other Motor Vehicle Parts Manufacturing	1
336411	Aircraft Manufacturing	2
336412	Aircraft Engine and Engine Parts Manufacturing	2
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	10
336414	Guided Missile and Space Vehicle Manufacturing	1
336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	1
337920	Blind and Shade Manufacturing	1
339114	Dental Equipment and Supplies Manufacturing	1
423510	Metal Service Centers and Other Metal Merchant Wholesalers	2
423830	Industrial Machinery and Equipment Merchant Wholesalers	1
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	1
423930	Recyclable Material Merchant Wholesalers	1
423940	Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers	1
441228	Motorcycle, ATV, and All Other Motor Vehicle Dealers	1
441310	Automotive Parts and Accessories Stores	1
443142	Electronics Stores	1
493110	General Warehousing and Storage	1
511130	Book Publishers	1
531210	Offices of Real Estate Agents and Brokers	1
541330	Engineering Services	1
541380	Testing Laboratories	4
541712	Aerospace research and development (except prototype production)	1
541990	All Other Professional, Scientific, and Technical Services	3
561499	All Other Business Support Services	4

	Facility Type	Number of Facilities
561990	All Other Support Services	3
621999	All Other Miscellaneous Ambulatory Health Care Services	1
811111	General Automotive Repair	1
811118	Other Automotive Mechanical and Electrical Repair and Maintenance	1
811121	Automotive Body, Paint, and Interior Repair and Maintenance	2
811219	Other Electronic and Precision Equipment Repair and Maintenance	1
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	2
811490	Other Personal and Household Goods Repair and Maintenance	1
812210	Funeral Homes and Funeral Services	1

PROCESS DESCRIPTIONS

Metal finishing operations involves a process used to prepare or treat the surface of a part, typically a metal substrate, by submerging the part into a tank of solution that typically contains a metal TAC. The part typically would need to be prepared by removing impurities through cleaning or etching tanks before being plated or anodized. Plating can be either electrolytic (i.e., electroplating) or electroless (e.g., electroless nickel). There may be multiple treatment steps involved for any particular part. This may include a copper layer deposited to even out surface irregularities or build up the thickness of the part. The part may undergo mechanical manipulation, such as buffing, grinding, or polishing to level the surface before being prepared for plating with a decorative layer such as nickel. Some treatments may involve plating with a functional layer such as cadmium for corrosion resistance. Passivation or sealing treatments in tanks may be applied to further protect the parts final surface.

Job shops may additionally receive a part to repair which may necessitate the chemical or electrolytic stripping of plated surfaces prior to the procedures describe above. The stripping of metal layers may result in the accumulation of these removed metal TACs from the part and into the stripping tank solution, which previously did not contain any metal TAC. Metal finishing tanks can be grouped into two type of categories, electrolytic or non-electrolytic.

Electrolytic Tanks

These tanks are typically the electroplating tanks used to deposit a layer of metal on the part, however there are anodizing, electroforming, electropolishing, and electrolytic strip tanks as well. Common to all these tanks is the application of an electrical current to drive the intended process for the tank. The tank solution may contain a metal TAC as a reagent for electroplating or anodizing tanks. The tank solution also may contain a metal TAC as a result of electrocleaning or electrolytic stripping.

Non-Electrolytic Tanks

Metal finishing facilities may have multiple tanks that are in the electroplating or anodizing process line. These include tanks to either prepare or finish parts that are not considered anodizing or electroplating tanks themselves, but the tank solutions may contain a metal TAC.

Tank solutions containing metal TACs – Sources of Fugitive Emissions

Both electrolytic and non-electrolytic tank solution can contain metal TACs. If these tank solutions find their way outside the tank, the metal containing solution can become sources of fugitive emissions if left unattended. Descriptions of metal finishing processes and the tanks used are listed below. Note that a tank may fit the description of more than one category.

- *Anodizing Tanks*[10,18]
  Anodizing is an electrolytic process to by which an oxide layer is produced on the surface of a part, typically aluminum. The current is reversed compared to electroplating. The two most common anodizing processes are chromic acid anodizing and sulfuric acid anodizing, however, phosphoric acid and oxalic acid may also be used. Anodizing can impart a hard, corrosion and abrasion resistant coating that resists wear. A dye may be used to color the surface prior to sealing.
- *Conversion Coating Tanks*[11]
  Conversion coating is the process of converting the surface of a part into a coating using a chemical or electro-chemical process. Chromate conversion is conversion coating using chromic acid to treat aluminum. The chromate conversion coating process converts the surface properties of the substrate by applying a thin protective coating utilizing bath chemistry rather than an electrolytic process. Chromate conversion tanks are also referred to as "chem film" tanks, but can also be called other proprietary names such as Alodine or Iridite tanks.
- *Electroforming Tanks*[12]
  Electroforming is the process of electroplating onto a mandrel or template that is subsequently separated from the electrodeposit formed part.
- *Electroless Plating Tanks*[13,18]
  Electroless plating is the process of autocatalytic or chemical reduction of aqueous metal ions plated onto a part. The most common process is electroless nickel plating.
- *Electroplating Tanks*[14,18]
  Electroplating is the process where a layer of metal is electrodeposited onto a part. Decorative and hard chrome, nickel, cadmium, lead, and copper electroplating are common examples.
- *Electropolishing Tanks*[15]
  Electropolishing is the process to smooth, polish, deburr, or clean a part using an electrolytic bath solution. Material from the metallic part is removed faster on protruding surfaces such as edges.

[10] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 465)
[11] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 112, 142, 395, 479)
[12] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 343)
[13] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 454)
[14] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 293, 313, 334)
[15] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 89, 153)

- *Etch Tanks*[16,17,18]
  Etching is a process to remove material from the surface of a part. Etching roughens the metal surface of the part so that a subsequent layer will better adhere to the part. Chemical milling using the same process with a different rate and depth of metal removal. Etching can use both acidic or alkaline solutions.
- *Passivation Tanks*[18]
  Passivation is the process of forming an oxide layer onto a part. Passivation is a chemical process designed to increase the corrosion resistance of parts. Parts are placed in the tank solution and submerged in a nitric acid bath or nitric acid with sodium with sodium dichromate. A hard non-reactive surface film that inhibits further corrosion forms on the surface.
- *Pre-Dip Tanks*[17,19]
  Pre-dip is the process to prepare or activate a part's surface immediately prior to introduction into another metal finishing tank in order to preserve or prolong the life of that metal finishing tank's bath solution.
- *Sealing Tanks*[18,20]
  Sealing closes the porous surface generated during the anodizing process, which gives the product maximum corrosion resistance and minimizes the wear resistance of the anodized oxide layer. The anodized part is immersed in either hot water, nickel acetate, or sodium dichromate seal tanks. The pores on the surface are filled or plugged by hydrating. The seal tanks are heated to near boiling temperatures.
- *Stripping Tanks*[21]
  Parts may have an existing layer of metal coating on them that must be stripped prior to plating. The stripping process may either use a chemical process or use an electrical current to remove the layer. The concentration of metal TACs in stripping tanks can vary by facility with the concentration increasing with use over time unless there is maintenance or a tank solution clean out.

Rinse Process[22]

In-between metal finishing processes or toward the end of the process line, metal finishing facilities will rinse a part to remove any residual tank solution that is remaining on the part. This is done by either dragout/rinse tanks, counter-flow rinsing, or spray rinsing.

- *Rinse Tanks*
  Following metal finishing of a part, the part can be placed into a rinse tank. A rinse tank may also be referred to as a dragout tank. This tank collects excess tank solution still on

[16] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 153)
[17] U.S. EPA. (2000, March). Implementing Cleaner Printed Wiring Board Technologies: Surface Finishes. https://www.epa.gov/sites/production/files/2013-12/documents/pwb_surface_finishes_guide.pdf
[18] U.S. EPA. (1984, February). Guidance Manual for Electroplating and Metal Finishing Pretreatment Standards. https://www3.epa.gov/npdes/pubs/owm0022.pdf
[19] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 352)
[20] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 372)
[21] Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 60, 81)
[22] U.S. EPA. (2007, November). Clean Lines: Strategies for Reducing Your Environmental Footprint - Metal Finishing Operations. https://www.epa.gov/sites/production/files/2015-03/documents/finishing.pdf

the part from the previous tank and rinses the part. The dragout tank is a rinse tank initially filled with water. Air agitation is often used to aid the rinsing process because there is no water flow in the tank to cause turbulence. The rinse tanks may also be heated, depending upon the operation. As the process tank line is operated, no additional water is added to the tank, thus the chemical concentration and the amount of metal TACs in the tank increase as more parts are rinsed. The liquid in the rinse tank can be used as makeup water for the preceding tank or be processed as waste.

- *Counter-flow Rinsing*
  Counter-flow rinsing, also referred to as counter current cascade rinsing, is the process of utilizing multiple rinse tanks connected in series. Fresh water flows into the rinse tank located furthest from the process tank and overflows, in turn, to the rinse tanks closer to the process tank. This technique is called counter-flow rinsing because the work piece and the rinse water move in opposite directions. Over time, the first rinse becomes contaminated with dragout. The second rinse tank has a lower concentration of metal TACs compared to the first rinse tank. The more counter-flow rinse tanks, the lower the water flow needed for adequate removal of the process solution.
- *Spray Rinsing*
  Spray rinsing is the use of spray nozzles to rinse parts. Spray rinsing can significantly decrease dragout, however, too high a water pressure can cause water that is laden with metal TACs to ricochet off the parts. Water containing metal TACs that dries on surfaces has the potential to become fugitive emissions. Some facilities use a variety of techniques to contain the water spray, such as spray rinsing in a tank or using splash guards to contain the spraying operation when it occurs over the tanks.

PAR 1426 will address the fugitive emissions from the tank solutions containing metal TACs as well as any tank emissions potentially not captured by required add-on air pollution controls. The metal TACs found in the tank solution of the above tanks processes are the primary source of the fugitive emissions that PAR 1426 addresses through building enclosure, housekeeping, and best management practices. The next section describes how these fugitive emissions are generated at metal finishing facilities.

PATHWAYS FOR FUGITIVE EMISSIONS

Fugitive emissions generally originate from four key areas as summarized in Figure 2.

Figure 2 - Four Key Areas of Fugitive Emissions Movement

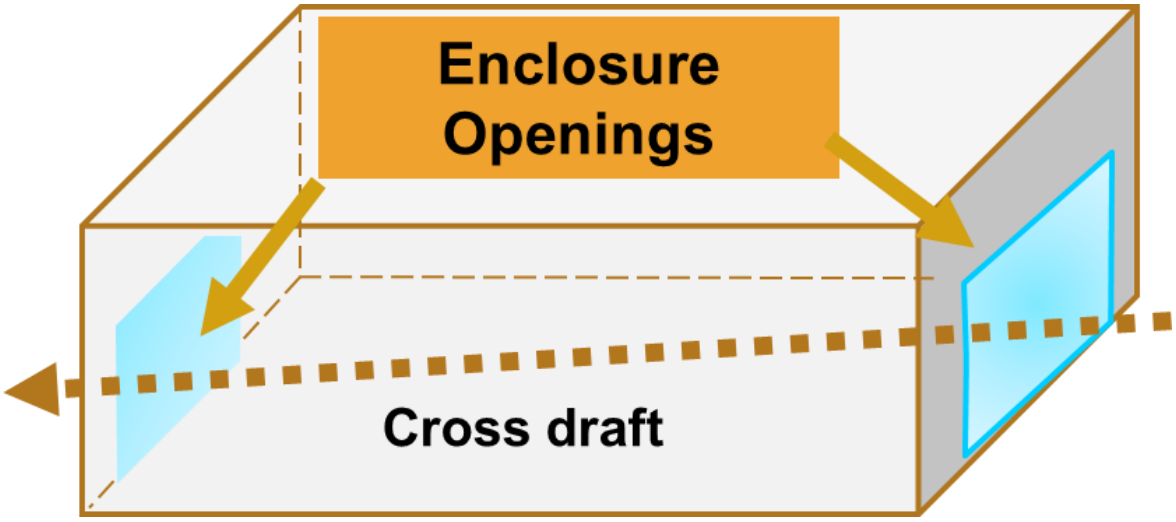
Electrified, Air Sparged, and Heated Tanks

The first category where fugitive emissions are created from a process tank due to electrification, heating, or air sparging, are not captured or controlled due to either:

- Lack or pollution controls that are not required
- Improper maintenance or operation of pollution controls
- Other influences that may affect the 100% capture efficiency

Cross drafts, and other air currents, can carry fugitive emissions outside the building as illustrated in Figure 3 below. Air currents produced from facility operations, such as comfort fans or rectifier fans, or cross drafts can also negatively impact the collection efficiency of an add-on air pollution control device. Fugitive emissions from these tanks can be addressed by both requirements on point source controls in future rulemaking (i.e., inspection, maintenance, and parametric monitoring) as well as building enclosure requirements and best management practices. Cross drafts and air currents are also capable of causing other metal particulates within the building enclosure to become airborne and carrying these particulates outside the building as fugitive emissions.

Figure 3 - Cross Drafts though a Building Enclosure



Tank solutions that leave the metal finishing tanks

The second category occurs when the metal TACs in the tank solution makes their way outside of a tank that is intended to contain these metal TACs. This occurs primarily during the movement of parts out of the tank with residual tank solution that drips (i.e, dragout) onto unintended surfaces such as the floor. Tank solutions can also splash onto the ground during vigorous rinsing operations and agitation. These occurrences can be minimized through the use of drip trays and splash guards as best management practices. The accumulations of tank solution on surfaces can be minimized through routine housekeeping and spill cleanup.

Dried Tank Solutions Tracked Outside Building Enclosure

The third key category occurs when there is an accumulation of dried tank solutions that build up over time and become solid. These solids can become metal particulates when crushed where it is tracked outside the building enclosure by foot or equipment traffic. These solids can be minimized though routine housekeeping. The use of specific cleaning methods is important as cleaning methods such as using a broom or a non-HEPA vacuum can entrain dried metal particulates into the air as the solids are not captured.

Practices How Parts and Materials are Cleaned, Stored, and Handled

The fourth key category involves practices used by facilities that are known to generate fugitive emissions. This includes the storage and handling wastes, spent filters cleaning equipment, tank covers, extra anodes and cathodes that have come in contact with the metal TAC tank solutions. Proper handling of these materials in a careful manner using containers and storing in enclosed storage areas minimizes the likelihood that the dried metal particulates can be entrained due to air currents and carried outside the building enclosure by cross drafts as fugitive emissions.

SITE VISITS AND FACILITY SURVEY

As part of PAR 1426 development, staff conducted site visits at 11 facilities that conducted metal finishing using tanks containing a metal TAC. Beginning in 2019 and continuing into 2020, staff performed pre-arranged site visits at these facilities. Unfortunately, COVID-19 prevented further

site visits after March 2020. The site visits focused on housekeeping, best management practices, emission control methods at electroplating and non-electroplating tanks, conditions of buildings containing process tanks. A facility survey was sent to the potentially affected facility to gather additional information for rulemaking.

Based on the site visits for PAR 1426, staff observed that all 11 facilities conducted metal finishing within a building enclosure. Housekeeping varied but most facilities employed some form of routine housekeeping to address fugitive emissions. Staff observed potential housekeeping issues such as: mops stored out in the open and a visible accumulation of dried tank solution at circulation pumps. Drip trays were installed to minimize dragout and splash guards were installed to control spray rinsing operations.

Staff received 38 responses from the survey sent out to the potentially affected facilities. No facility reported operating tanks outside a building enclosure. 33 of the 38 facilities reported conducting housekeeping in the tank process area at least weekly. 18 of the 38 facilities reported that the housekeeping was performed it daily. 18 of the 38 facilities reported using drip trays. Nine facilities reported the use of splash guards with spray rinsing, while seven reported using spray rinsing without splash guards, and one facility performed spray rinsing inside a tank.

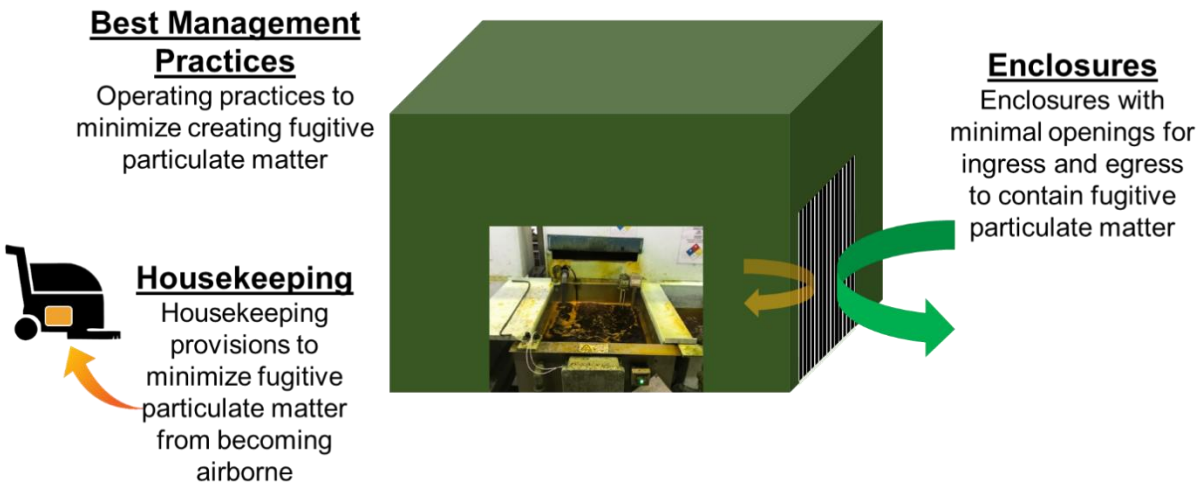
In addition to the facility information obtained during the development of PAR 1426, staff conducted site visits at 47 facilities subject to Rule 1469 from the beginning in 2015 and continuing into 2018 as part of the rule development for the 2018 amendment. Many of these Rule 1469 facilities would be subject to the requirements of PAR 1426. The site visits included the focus on housekeeping, conditions of buildings containing hexavalent chromium tanks, and grinding operations. Staff observed fugitive emissions generated due to atomization of chromium-laden liquid, contamination, or uncontained tank solutions being dried liquid originating from uncontained chromium-laden liquids during parts rinsing without splash guards and drag out without drip trays.

NEED FOR PROPOSED AMENDED RULE 1426

As previously discussed, prior rule developments efforts demonstrated that building enclosure requirements, housekeeping requirements, and best management practices were effective in reducing metal TAC emissions from facilities. Rule 1426 currently has minimal housekeeping and best management practice requirements and lacks any requirements for building enclosures. The pathways for fugitive emissions to be created and be discharged out of the facility are similar to other metal TAC operations and are nearly identical to facilities subject to Rule 1469.

PAR 1426 is needed to ensure that the emissions from hexavalent chromium, nickel, and cadmium are reduced using building enclosure requirements, enhanced housekeeping requirements, and best management practices that are now required by recent South Coast AQMD rules regulating metal TACs. PAR 1426 would focus on fugitive emissions reductions primarily due to the metal TACs found in the tank solutions when they make their way outside of the tanks that were meant to contain them. These three categories are described in Figure 4.

Figure 4 - Three Main Strategies to Minimize Fugitive Emissions



Hexavalent chromium, nickel, cadmium, lead, and copper are metal TACs with acute and chronic health effects that are harmful to humans as discussed earlier. Recent South Coast AQMD rules that regulate metal TACs have provisions for building enclosure requirements, housekeeping requirements, and best management practices to address emissions due to metal TACs. Table 3~~Table 3~~ and Table 4 compare recent South Coast AQMD rules to PAR 1426. Best management practices are specific to the operations regulated by the respective rules, so they are not directly comparable to other non-metal finishing operations. PAR 1426 incorporates the needed best management practices from Rule 1469 such as the use of drip trays and splash guard to minimize tank solutions making their way outside the tanks resulting in fugitive emissions.

The control of metal TAC emissions from electrolytic, heated, and air-sparged tank solutions with metal TACs from process tanks would be addressed through point source control requirements in future Proposed Rules 1426.X (PR 1426.X) through separate rulemaking for specific metal TACs, such as lead, nickel, and cadmium. Additional information, such as emission testing results, needs to be collected to determine the appropriate point source controls and requirements for metal TACs other than hexavalent chromium. It is anticipated that PR 1426.1 rulemaking will follow after PAR 1426 in order to address point source emissions from currently unregulated non-electrolytic hexavalent chromium tanks, identified in during the recent rule development efforts for amendments to Rule 1469, at non-Rule 1469 facilities.

Table 3 - Comparison of Enclosure Provisions of South Coast AQMD Rules

Requirement	Rule 1407 Metal Melting (Cadmium, Arsenic, and Nickel)	Rule 1420 Lead Standards (Lead)	Rule 1420.1 Lead-Acid Battery Recycling (Lead, Arsenic)	Rule 1420.2 Lead Metal Melting (Lead)	Rule 1430 Metal Grinding (Various Metals)	Rule 1426 Metal Finishing Operations (Multiple Metals)
Require operation in a building enclosure	Yes	Yes	Yes	Yes	Yes	No
Cross draft restrictions	Yes	Yes	Yes	Yes	Yes	No
Sensitive receptor or school proximity based requirements	No	No	Yes	No	Yes	No

Table 4 - Comparison of Housekeeping Provisions of South Coast AQMD Rules

Category	Rule 1407 Metal Melting (Cadmium, Arsenic, and Nickel)	Rule 1420 Lead Standards (Lead)	Rule 1420.1 Lead-Acid Battery Recycling (Lead, Arsenic)	Rule 1420.2 Lead Metal Melting (Lead)	Rule 1430 Metal Grinding (Various Metals)	Rule 1426 Metal Finishing Operations (Multiple Metals)
Approved Cleaning Methods	Yes	Yes	Yes	Yes	Yes	No
Routine Cleaning	Yes	Yes	Yes	Yes	Yes	No
Cleaning Spills	Yes	Yes	Yes	Yes	No*	No

* Does not involve metals in liquid form

NEED FOR PROPOSED AMENDED RULE 1469

As previously discussed, prior rule developments efforts demonstrated that building enclosure requirements, housekeeping requirements, and best management practices were effective in reducing metal TAC emissions from facilities and would be addressed in PAR 1426. However, facilities that are subject to the requirements of Rule 1469 would also be subject to the requirements of PAR 1426. PAR 1426 builds upon the fugitive emission requirements of Rule 1469 with additional requirements for specific tanks. This would cause duplicate requirements for certain tanks and operations that contain hexavalent chromium in Rules 1426 and 1469 and stakeholders provided feedback that this approach was confusing and difficult to follow. In order to avoid duplicate requirements and to streamline implementation, PAR 1469 will incorporate the applicable PAR 1426 requirements, which were presented at the Public Workshop. In addition, two minor amendments will be made, one to a definition for HEPA to remove a reference to a

chemical no longer used for testing and one to change an incorrect reference to a table in recordkeeping for pressure and air flow measurements.

PUBLIC PROCESS

Development of PAR 1426 and PAR 1469 is being conducted through a public process. A PAR 1426 ~~and 1469~~ Working Group ~~has been~~was formed to provide the public and stakeholders an opportunity to discuss important details about the proposed rule and provide staff with input during the rule development process. After the PAR 1426 Public Workshop and based on stakeholder feedback, provisions affecting Rule 1469 facilities were incorporated into PAR 1469 to avoid duplicate requirements across two rules and streamline implementation. Rule 1469 stakeholders were already included in the PAR 1426 Working Group, since all Rule 1469 facilities are also subject to PAR 1426. The ~~PAR 1426 and PAR 1469~~ Working Group is composed of representatives from businesses, environmental groups, public agencies, and consultants. South Coast AQMD has held six working group meetings conducted virtually using Zoom due to COVID-19 restrictions. The meetings were held on June 24, 2020, August 19, 2020, September 23, 2021, November 4, 2020, December 2, 2020, and February 3, 2021. In addition, a Public Workshop was held on January 21, 2021 to present ~~the proposed amended rule~~PAR 1426 and receive public comment.

CHAPTER 2 – SUMMARY OF PROPOSED AMENDED RULE 1426

OVERVIEW OF PAR 1426

PAR 1426's objective is to further reduce fugitive emissions from facilities that conduct metal finishing using tank solutions that contain metal TACs such as hexavalent chromium, nickel, cadmium, or lead in the tank solutions. PAR 1426 accomplishes this with building enclosure, housekeeping, and best management practice requirements. Building enclosure requirements prevent the migration of fugitive emissions to leave the facility due to cross drafts. Housekeeping requirements minimize the accumulation of metal TACs that can become fugitive emissions. Best management practices minimize tank solutions from leaving the tank. During the rule development process of PAR 1426, stakeholders commented that different metals have different toxicity and should have different requirements. While nickel, cadmium, and lead are less toxic than hexavalent chromium, they still have long-term health effects. However, copper has only acute health effects at comparatively larger REL with mild health effects.

Additionally, existing South Coast AQMD Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II was amended in May 2017 to address operations or equipment that would or would not require a permit. Rule 219 paragraphs (p)(4) and (p)(5) were amended to require tanks that contain chromium, nickel, lead, or cadmium and are either rectified, sparged, or heated to be listed on a South Coast AQMD permit. Copper electroplating is an exempt process pursuant to Rule 219 subparagraph (p)(5)(A). As such, the requirements for copper emissions from copper electroplating operations are being removed.

The basis for the requirements is from other toxic metal South Coast AQMD rules that have requirements to minimize fugitive emissions as discussed in Chapter 1. For facilities that are subject to both PAR 1426 and Rule 1469, PAR 1426 either builds upon the requirements or mirrors the requirements. PAR 1426 provides exemptions and clarifications where Rule 1469 and Rule 1426 provisions affect the same activity at the facility to identify which rule would apply and to avoid duplicative requirements.

PAR 1426 was developed during the COVID-19 pandemic, which placed operating restrictions on some facilities and prevented South Coast AQMD staff from physically meeting with stakeholders. During the rule development process, industry stakeholders request a delayed implementation date for potential requirements due to the financial strain that COVID-19 created for their industry. Industry stakeholders expressed concern with the financial hardships due to increase compliance costs to comply with OSHA requirements, supply chains that were negatively impacted, reduced consumer demand, and some facilities not being able to operate for an extended period of time because they were deemed as "non-essential businesses". Recognizing the difficulties faced by the industry stakeholders during this pandemic, PAR 1426 implementation dates have been adjusted to reflect the challenges brought upon due to COVID-19. PAR 1426 was developed through a public process with multiple meetings with stakeholders. This chapter outlines changes and additions made to the current version of Rule 1426 and is divided into subdivisions as they appear in PAR 1426.

PROPOSED AMENDED RULE 1426

Purpose – Subdivision (a)

The purpose of PAR 1426 is to reduce fugitive emissions of hexavalent chromium, nickel, cadmium, or lead from metal finishing facilities. A metal finishing facility is any facility that

conducts metal finishing as defined in subdivision (c) such as electroplating or electroless plating. This subdivision was added to PAR 1426, consistent with other South Coast AQMD rules.

Applicability – Subdivision (b)

PAR 1426 amends the applicability to apply to an owner or operator of any metal finishing facility. Rule 1426 previously applied only to facilities that conduct electroplating of metals or chromic acid anodizing. As discussed in Chapter 1, there are other tank processes that are not electroplating nor anodizing, but the tank solution may still contain a metal. These tanks can be located as part of a process line at a facility with an electroplating or anodizing line. However, these tanks can also be located in process lines without any electroplating or anodizing tanks. Solutions with metals in these non-electrolytic tanks are also sources of fugitive metal emissions should they make their way outside the tank. The applicability was expanded to include facilities that operate any of these type of tanks that contain a metal by specifying the operations that would be considered in the definition of metal finishing.

Definitions – Subdivision (c)

PAR 1426 includes definitions for specific terms. Several of the definitions are based on Rule 1469 with slight modifications, while other definitions are unique to PAR 1426. For certain definitions, additional clarification is provided in this section or where the definition is used within a specific subdivision. Please refer to PAR 1426 subdivision (c) for definitions used in the proposed amended rule.

PAR 1426 modifies, removes, or adds the definitions of the following terms used in the proposed amendment. Please refer to PAR 1426 for actual definitions. Key definitions would be discussed in the associated rule requirement.

- ADD-ON AIR POLLUTION CONTROL EQUIPMENT (modified)
- ANODIZING (added)
- APPROVED CLEANING METHOD (added)
- BARRIER (added)
- BUILDING ENCLOSURE (added)
- CONVERSION COATING (added)
- DRAGOUT (added)
- ELECTROFORMING (added)
- ELECTROPLATING (added)
- ELECTROPLATING BATH (removed)
- ELECTROPOLISHING (added)ETCH (added)
- FUGITIVE DUST (modified)
- HEPA VACUUM (added)
- METAL (added)
- METAL FINISHING (added)
- METAL PLATING FACILITY (removed)
- METAL REMOVAL FLUID (added)
- PASSIVATION (added)
- PRE-DIP (added)
- PROCESS TANK (modified)
- RINSE TANK (added)

- SCHOOL (added)
- SEALING
- SENSITIVE RECEPTOR LOCATION (modified to sensitive receptor)
- STALAGMOMETER (removed)
- STRIPPING (added)
- SURFACE TENSION (removed)
- TANK PROCESS AREA (added)
- TENSIOMETER (removed)
- TIER I HEXAVALENT CHROMIUM TANK (added)
- TIER II HEXAVALENT CHROMIUM TANK (added)
- TIER III HEXAVALENT CHROMIUM TANK (added)
- WEEKLY (added)

Requirements – Subdivision (c) and Inspection and Maintenance Requirements – Subdivision (d) - REMOVED

In Rule 1426, paragraphs (c)(1) to (c)(3) required the collection of data and the submission of an Initial Compliance Report and a Compliance Report, and by specific dates. These dates have past and are no longer applicable. As these requirements are no longer applicable, PAR 1426 would remove them.

Rule 1426 paragraphs (c)(4), (c)(5), and (d)(1) have been moved to Interim Requirements for Facilities in subdivision (i) in order to keep these current rule requirements in effect until the implementation date of respectively either Housekeeping Requirements in subdivision (e) or Best Management Practices in subdivision (f), at which point the interim requirements are phased out. A discussion of each revision is in the specific subdivision. Table 5 provides a summary of the current provision under Rule 1426 and the corresponding interim and permanent provisions under PAR 1426.

Table 5 - Prior Requirements

Rule 1426 Location	PAR 1426 – Interim Requirements for Facilities	PAR 1426 – Permanent Subdivision Location	PAR 1426 – Rule Reference
(c)(4)	(i)(1)	Best Management Practices	(f)(8)
(c)(5)(A)	(i)(2)(A)	Housekeeping Requirements	(e)(1)
(c)(5)(B)	(i)(2)(B)	Housekeeping Requirements	(e)(2)
(c)(5)(C)	(i)(2)(C)	Housekeeping Requirements	(e)(3)(B)
(c)(5)(D)	(i)(2)(D)	Housekeeping Requirements	(e)(4)
(d)(1)	(i)(2)(E)	Best Management Practices	(f)(7)
(e)(1)(A)	Not needed	Recordkeeping	(g)(1)
(e)(2)	(i)(3)	Recordkeeping	(g)(3)

As the requirements of Rule 1426 subdivision (c) and subdivision (d) have been either moved or removed, PAR 1426 is deleting subdivision (c) and (d).

Building Enclosure Requirements – Subdivision (d)

PAR 1426 adds requirements that metal finishing operations using process tanks or rinse tanks, and mechanical activities such as grinding, polishing, or buffing must be conducted within a building enclosure beginning January 1, 2023 that is designed to meet specific requirements to prevent cross draft by the implementation date. A building enclosure is a permanent building or physical structure with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. A room within a building enclosure that is completely enclosed with a floor, walls, and a roof would also meet this definition. The building enclosure exterior walls should be solid and permanent to withstand winds, preventing the passage of cross draft from outside the building enclosure. However, a building enclosure does not need to have walls at all sides. The purpose of a building enclosure is to contain fugitive emissions and provisions for the building enclosure focus on preventing cross drafts that can carry fugitive emissions through the building and that may affect the collection efficiency of emissions from pollution control equipment venting tank emissions.

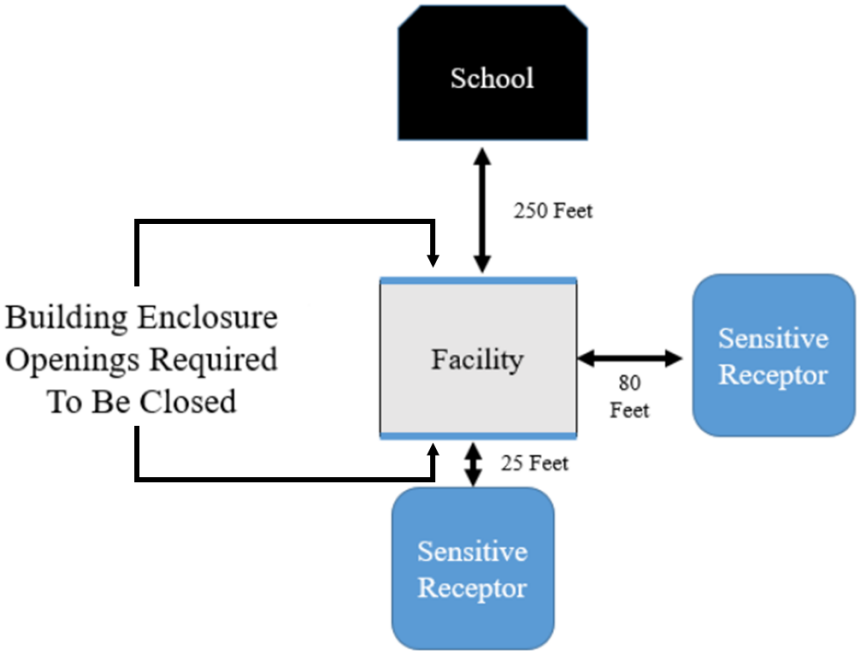
Prevention of Cross Drafts (d)(1)

Paragraph (d)(1) establishes the requirements to eliminate or minimize cross draft from activities that can generate fugitive emissions if those activities are not performed within a building enclosure. Subparagraphs (d)(1)(A) and (d)(1)(B) specify both requirements for the building enclosure openings.

Subparagraph (d)(1)(A) prohibits the concurrent opening of building enclosure openings at opposite ends of a building enclosure to eliminate cross-drafts. Under this subparagraph, the owner or operators are required to ensure that any building enclosure opening that is on opposite ends of the building enclosure where air movement can pass through are not simultaneously open except during the passage of vehicles, equipment or people by either closing or using one or more of the methods for the enclosure opening(s) on one of the opposite ends of the building enclosure. A provision was added to PAR 1426 that also allows use of a barrier or obstruction, such as a large piece of equipment, a wall, or any other type of barrier that restricts air movement from passing through the building enclosure to meet this requirement.

Subparagraph (d)(1)(B) establishes additional requirements for enclosure openings that are facing a sensitive receptor or school. Except for the movement of vehicles, equipment or people, the owner or operator is required to close any building enclosure opening or use any of the methods that prevent cross draft that directly faces and opens towards the nearest: (A) sensitive receptor, with the exception of a school, that is located within 1,000 feet, as measured from the property line of the sensitive receptor to the building enclosure opening; and (B) school that is located within 1,000 feet, as measured from the property line of the school to the building enclosure opening. If more than one school is within 1,000 feet of the building enclosure, only enclosure openings that directly face the nearest school are required to be closed to comply with subparagraph (d)(1)(B)(ii). Also, if more than one sensitive receptors, that is not a school, are within 1,000 feet of the building enclosure, only enclosure openings that directly face the nearest sensitive receptor are required to be closed to comply with paragraph (d)(1)(B)(i). Figure 5~~Figure 5~~ provides an overview of the requirements for building enclosure opening restrictions for subparagraph (d)(1)(B).

Figure 5 - Building Enclosure Openings Required To Be Closed When Within 1,000 Feet of Sensitive Receptors and Schools



Buffing, Grinding, and Polishing Operations (d)(2)

Paragraph (d)(2) requires all buffing, grinding, and polishing operations to take place within a building enclosure to prevent the generation of fugitive emissions unless these operations are conducted under a flood of metal removal fluid to prevent the generation of dry particulates.

During the rule development process, stakeholders commented to South Coast AQMD that the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) had required new temporary practices[1] in response to COVID-19. Staff contacted Cal/OSHA to enquire about the new requirements. Cal/OSHA staff stated that the COVID-19 requirements were primarily to ensure social distancing and the use of masks while in the workplace. These measures are dependent on the facility and would be incorporated into a facility's Injury Illness Prevention Program. Examples of measures that a facility could implement are plastic barriers, social distancing of employees, or installing new air filters. As such, staff does not anticipate that there would be any conflicts with Cal-OSHA requirements with the most recent COVID-19 requirements.

Housekeeping Requirements – Subdivision (e)

PAR 1426 housekeeping requirements are intended to prevent the accumulation of metals that can become fugitive, require the proper handling of materials that may contain metals, and to properly operate the cleaning equipment beginning January 1, 2023. Due to the similar operating process of facilities subject to the requirements of Rule 1469, many of the housekeeping requirements are incorporated from Rule 1469 and modified to meet the applicability of PAR 1426. Specific

[1] Cal/OSHA COVID-19 Temporary Emergency Standards – What Employers Need to Know fact sheet can be found at: https://www.dir.ca.gov/dosh/dosh_publications/COVIDOnePageFS.pdf. Accessed on 12/20/2020.

operations or areas that are subject to the housekeeping requirements of Rule 1469 would be exempt from the corresponding rule requirement in PAR 1426 to avoid duplication. However, some facilities may be subject to both the requirements of Rule 1469 and PAR 1426. An example would be a facility with two separate tank process areas: A tank process area for nickel electroplating without any tanks subject to Rule 1469 would be subject to the housekeeping requirements of PAR 1426 and a tank process area for chrome electroplating would be subject to the housekeeping requirements of Rule 1469.

PAR 1426 moves housekeeping requirements from the Rule 1426 Requirements - Subdivision (c), to its own dedicated subdivision (e) and modifies the existing requirement to include hexavalent chromium, specifies the areas that are required to be cleaned, and modifies the frequency of cleaning.

Storage and Transport of Chemicals (e)(1) and (e)(2)

Paragraph (e)(1) is a modification to Rule 1426 subparagraph (c)(5)(A), which specified the storage of nickel, cadmium, lead, and copper in powder or metal salt. PAR 1426 modifies the requirement to include hexavalent chromium, removes copper, and clarifies the use of closed containers.

When the chemical is not being used, the container must be kept closed and stored in an enclosed storage area, which would be in dedicated area protected from potential air currents that could entrain metals. Acceptable examples would include a separate room with a door, or a chemical storage cabinet.

Paragraph (e)(2) is a modification to Rule 1426 subparagraph (c)(5)(B), which required the use of closed containers when transporting nickel, cadmium, and lead in powder or metal salt. PAR 1426 expands this requirement to include chemicals that contain one or more of the four metals that now includes hexavalent chromium.

Cleaning of Spills and Regular Cleaning (e)(3)

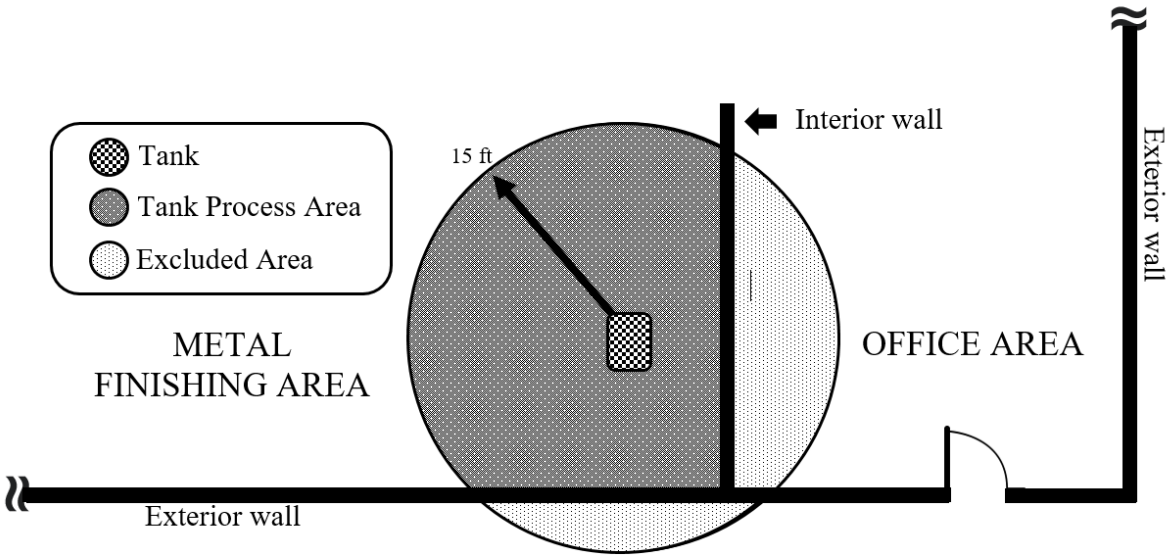
Paragraph (e)(3) requires the cleaning of areas or spills to prevent the accumulation of material that can lead to fugitive emissions.

Subparagraph (e)(3)(A) requires the cleanup of any spills at the facility using of an approved cleaning method no later than one hour of the spill of any materials that may contain a metal.

Subparagraphs (e)(3)(B) and (e)(3)(C) are modifications to subparagraph (c)(5)(C) regarding areas to be cleaned. The use of an approved cleaning method when cleaning is performed in the specified areas or locations weekly. A tank process area is the area within 15 feet of the lip of a process tank or rinse tank unless there is a wall that is closer than 15 feet that would prevent any tank solution from spreading beyond the wall during normal operations of the process tank. Figure 6 illustrates an example of this situation.

Subparagraph (e)(3)(D) requires that on each day when buffing, grinding, or polishing occurs, the owner or operator shall clean floors within 20 feet of a buffing, grinding, or polishing workstation. The requirements of subparagraph (e)(3)(D) do not apply to owner or operators that utilize a metal removal fluid to control buffing, grinding, or polishing operations.

Figure 6 - Example of a Tank Process Area



Storage of Waste (e)(4)

Paragraph (e)(4) is a modification to subparagraph (c)(5)(D) regarding the storage of wastes. This paragraph was modified to require containers that collect and store hexavalent chromium, nickel, cadmium or lead containing waste material. The containers are required to be kept closed at all times except during filling or emptying. Based on site-visits, many facilities were already implementing this practice.

Removal of Fabric Flooring (e)(5)

Paragraph (e)(5) has been added to require owners or operators to remove any flooring in the tank process areas that is made of fabric or fibrous material such as carpets or rugs. Examples of acceptable flooring material are wooden floor boards and other solid material that can be cleaned and maintained as prescribed by the rule.

Storage of Equipment (e)(6)

Paragraph (e)(6) has been added to require the storage of reusable equipment that may have been in contact with Metal TACs in either a closed container or an enclosed storage area to minimize fugitive emissions. When not being used, the equipment would be required to be stored away. This is to avoid tank solution or dried material from being entrained.

Operating HEPA Vacuum (e)(7)

Paragraph (e)(7) requires that if a HEPA vacuum is used to comply with housekeeping provisions of subdivision (e), that the HEPA filter is free of tears, fractures, holes or other types of damage, and securely latched and properly situated in the vacuum to prevent air leakage from the filtration system. An owner or operator should have a HEPA vacuum maintained and serviced per

manufacturer's recommendations to ensure the integrity of the filtration as any breakthrough passing the HEPA filter will result in metal TACs entrained into the air. Workers should follow the manufacturer's recommended precautions regarding Personal Protective Equipment when servicing the HEPA vacuum. All wastes collected and removed during filter changes or cleaning of the HEPA vacuum must be handled, stored, and disposed as hazardous waste.

The definition for HEPA vacuum was added to clarify its use as an approved cleaning method. A HEPA vacuum needs to be designed and equipped with HEPA filters that have been individually tested and certified by the manufacturer to have a control efficiency of not less than 99.97 percent on 0.3 micron particles. South Coast AQMD added the specific designs to differentiate with home or commercial "HEPA-like" vacuums, which are not tested nor intended to clean-up toxic metal TAC spills. Staff contacted multiple manufacturers to verify that the filters are individually tested. A certification or statement from the manufacturer can demonstrate that the vacuum satisfies this definition that the fitted HEPA filter is individually tested and certified. Staff found that local hardware stores offer for sale "HEPA-like" vacuums with filters that are lot (batch) tested, which do not satisfy this definition of HEPA Vacuum. In addition, HEPA vacuums are designed to be operated for either "dry" or both "wet and dry" cleanup of materials. A HEPA vacuum operated contrary to manufacturer's design or recommendations may have its filters damage or compromised. Prior to obtaining a HEPA vacuum, an owner or operator should consult with their vendor to ensure that the proper HEPA vacuum is selected for the housekeeping requirements needed when dealing with solid and liquid metal TACs.

Best Management Practices Requirements – Subdivision (f)

PAR 1426 creates a new subdivision, (f), for the use of Best Management Practices beginning January 1, 2023. A best management practice prescribes how an owner or operator shall conduct metal finishing and other ancillary operations to prevent the release or generation of fugitive dust that contain metals. This can occur when the tank solution leaves a process tank or rinse tank and the tank solution dries up. Specific operations or areas that are subject to the housekeeping requirements of Rule 1469 would be exempt from the corresponding rule requirement in PAR 1426 to avoid duplication.

Drip Trays, Collection Devices, or Containment Devices (f)(1), (f)(2), and (f)(3)

Paragraphs (f)(1) and (f)(2) require owners or operators to install and use drip trays, collection devices, or containment devices for automated or manual process lines. An automated line has tanks that are in a sequence where parts and equipment are submerged into a tank with an automated hoist. Drip trays, collection devices, and containment devices are designed to prevent dragout. Dragout is the fluid that drips from parts or equipment as it is removed from a process tank and is not collected or returned to the tank or separate rinse tank. Instead, the tank solution ends up on surfaces such as tank lips or walkways. These tank solutions can be carried out of the facility through vehicle or foot traffic or dried out and be carried out through cross drafts.

Paragraph (f)(3) requires collected tank solution to be returned to the tank, unless the tank solution is treated as waste or a spill. Staff has observed during the development of PAR 1426 and the most recent amendment to Rule 1469 in 2018 that drip trays are placed between tanks to prevent tank solutions from landing on surfaces. The drip trays return the collected tank solutions to the tanks.

Spray Rinsing (f)(4)

Paragraph (f)(4) prohibits owners or operators from spray rinsing parts or equipment that were previously in a process tank or rinse tank, unless the part or equipment are:

- Fully lowered inside a tank where the liquid is captured in the tanks
- Above a tank where all liquid is captured and returned to the tank that has splash guards that is free of holes, tears or openings; or
- For tanks located within a process line utilizing an overhead crane system that would be restricted by the installation of splash guards, a low pressure spray nozzle may instead be used and operated in a manner that all liquid flows off of the part or equipment and is returned back to the tank. A low pressure spray was determined to be 35 pounds per square inch based on the definition of low pressure for residential water pressure.

Tank Labeling (f)(5)

Paragraph (f)(5) requires owners or operators to label each tank within the tank process area that specifies the tank name or other identifier, South Coast AQMD permit number and tank number, bath contents, maximum concentration (in ppm) of all metals, rectification, operating temperature range, and any agitation methods used, if applicable. Tank labeling will help operators as well as staff identify tanks and ensure the appropriate operating conditions are maintained.

Barriers for Buffing, Grinding, and Polishing (f)(6)

Paragraph (f)(6) requires the installation of a barrier that separates the buffing, grinding, or polishing area from a process tank or rinse tank that is located in the same building enclosure. The requirement prevents the generation of particulates that could act as a transportation medium for metals.

Inspection and Maintenance of Add-On Pollution Controls (f)(7)

Paragraph (f)(7) was previously in Rule 1426 paragraph (d)(1), but is incorporated and restructured in best management practices. The requirement requires inspection and maintenance of add-on air pollution control equipment pursuant to the manufacturer schedule or at least once per calendar quarter. This requirement only applies to nickel, cadmium, and lead electroplating process tanks. Additional requirements to verify proper operation of add-on air pollution control equipment is anticipated in future rule developments or is specified in Rule 1469.

Air Sparging (f)(8)

Paragraph (f)(8) expands the air sparging prohibitions originally specified in paragraph (c)(4) of Rule 1426 to include all process tanks instead of just process tanks containing chromic acid. Process tanks cannot be air sparged when metal finishing is not occurring or while a dry chemical containing a metal is being added.

Recordkeeping – Subdivision (g)

Paragraph (g)(1) modifies the existing requirement in subparagraph (e)(1)(A) to expand the requirement to maintain ampere hour records for all process tanks with an ampere meter and not just the process tanks with a dedicated ampere meter for cumulative rectifier usage. There are instances where a rectifier would be used for multiple tanks and would not be dedicated to one

tank. To address this situation, the requirement was modified to remove the limitation on dedicated ampere meters.

Paragraph (g)(2) requires the owner or operator to photograph the ampere-hour reading of the ampere-hour prior to being replaced.

Paragraph (g)(3) requires that the owner or operator photograph the reading of the new ampere-hour meter immediately after installation.

Paragraph (g)(4) and (g)(5) requires maintaining of records to demonstrate compliance with housekeeping, best management practice, and recordkeeping requirements. Owners or operators would need to demonstrate that compliance with rule requirements are demonstrated by the effective dates and that periodic activities such as weekly cleaning requirements are being conducted. A checklist would satisfy this requirement.

Reporting – Subdivision (h)

Subdivision (h) specifies the requirements for an owner or operator of Metal Finishing facility as of January 1, 2022 to create and submit a Tank Inventory Report that is kept onsite. The Tank Inventory Report serves as a current list of process tanks with specific operating information that can assist both the operator and staff in identifying and obtaining an accurate count of process tanks and rinse tanks. The count of these tanks may assist in the development of future rules for metal finishing. The Tank Inventory Report is not a substitute for a permit nor will changes that are made in the Tank Inventory Report serve as a substitute for a permit modification. The owner or operator would still be required to comply with all applicable permitting requirements and permit conditions.

Tank Inventory Report (h)(1), (h)(2), and (h)(3)

Paragraph (h)(1) requires the owner or operator to create and keep a Tank Inventory Report onsite by January 1, 2022. It also requires the owner or operator to provide the Tank Inventory Report to South Coast AQMD staff upon request.

Subparagraphs (h)(1)(A) through (h)(1)(F) specifies the information to be included in the Tank Inventory Report. This information may be similar to what is submitted in a permit application, but it is not identical. Older permit application may not include the specific temperature range, the concentration in ppm, and the specific metal. All Metal Finishing facilities operating on or before January 1, 2022 must complete and submit a Tank Inventory Report.

Paragraph (h)(2) requires the owner or operator of a Metal Finishing facility to submit the above Tank Inventory Report by February 1, 2022. A facility is only required to submit a Tank Inventory Report once. As discussed in Chapter 1, a facility survey was sent to potentially affected facility owners or operators to gather information for PAR 1426. The survey requested information that would be included in the Tank Inventory Report. An owner or operator of a facility may review and update the submitted survey and resubmit to South Coast AQMD in order to satisfy the requirement of paragraph (h)(2).

Paragraph (h)(3) requires the owner or operator to provide an updated Tank Inventory Report, that reflects the current equipment at the facility, within 14 days of receiving a written request from the Executive Officer. An example is included in Appendix B – Sample Tank Inventory Report of this staff report.

Interim Requirements for Facilities – Subdivision (i)

As discussed in prior subdivisions, many of the existing rule requirements from Rule 1426 and have been re-organized in PAR 1426. Some requirements have a delayed implementation date before the owner or operator is required to comply with the new requirements. To avoid a potential backsliding of existing requirements until the future implementation date, subdivision (i) incorporates prior housekeeping, best management practices, and recordkeeping requirements existing in Rule 1426. These requirements would be effective until the requirements of subdivisions (e) and (f) become effective. These requirements would only apply to facilities conducting chromium, nickel, or lead electroplating, or chromic acid anodizing, which were already subject Rule 1426.

Exemptions – Subdivision (j)

Rule 1426 required facilities to submit process and tank information after the adoption of the rule. This requirement could be met through either through the submittal of a compliance report or by complying with the emission inventory requirements of Rule 1402 as the information submitted in an emission inventory for AB2588 would satisfy the intent of the Rule 1426's reporting requirements. Rule 1426 subdivision (f) exempts facilities that are in compliance with Rule 1426 from submitting an emission inventory pursuant to Rule 1402. The reporting requirement has been removed as the submittal dates have passed. Therefore the exemption to only submit data pursuant to either Rule 1426 or Rule 1402 is not needed and will be removed in PAR 1426. Exemptions for Process Tanks and Rinse Tanks (j)(1) through (j)(3).

The exemptions in paragraphs (j)(1) through (j)(3) are for:

- Process tanks with specified operating metal concentration
- Process tanks with a metal concentration that can vary, which includes Stripping, Etch, or Electropolishing Tanks
- Rinse tanks

Process tanks and rinse tanks may qualify for an exemption from certain requirements of PAR 1426 with a permit condition that limits the operating concentration of tank to be less than 1,000 ppm for each individual Metal. The permit condition may be added to an existing permit to operate through a permit modification. Additionally, there are other exemption options for process tanks and rinse tanks to demonstrate the tank would operate at a concentration less 1,000 ppm, such as analysis of the tank solution, records of tank solution change out, or designed in a manner where the metal concentration would not build up.

Process tanks with specified operating concentration are tanks with known tank solution where the metal concentration typically is maintained within a certain allowable percent. This can include electroplating or conversion coating tanks. Since the metal concentration in a tank solution is not expected to deviate from the specified operating concentration, records demonstrating that the tank solution in the tank that does not list any metals having a concentration above 1,000 ppm may be used to demonstrate the process tank qualifies for the exemption. An example of an acceptable record would be a Safety Data Sheet. Also, a one-time analysis of the tank solution may be used to demonstrate the process tank qualifies for the exemption.

Certain process tanks such as stripping, etch, and electropolishing tanks may start with concentrations less than 1,000 ppm of each individual metal but due to the function of the tank,

metals may be removed from the part and go into the tank solution gradually increasing metal concentrations. As the concentration may vary, periodic analysis of the tank solution may be used to demonstrate the process tank qualifies for the exemption or records of tank solution change-out would need to be retained, such as photographs or work orders.

Rinse tanks that follow process tanks will gradually accumulate metals from the process tank solution still adhering to the parts or equipment which accumulate in the rinse tank water. As discussed in Chapter 1, rinse tanks may be static where the metal concentration can build up or be part of the counter-flow system. A rinse tank that is designed to be continuously refreshed or connected to an on-site water treatment system where the metals are removed would also qualify for an exemption. As the concentration may vary, periodic analysis of the tank solution may be used to demonstrate the process tank qualifies for the exemption or records of tank solution change-out would need to be retained, such as photographs or work orders. In general, rinse tanks accumulate metals slower than stripping, etch, or electropolish tanks so the tank solution change out or testing interval is at least once every 12 calendar months rather than at least once every six calendar months.

Duplicate Requirements with Rule 1469 (j)(4) through (j)(6)

Where possible, requirements that affected hexavalent chromium tanks at a Rule 1469 facility were incorporated in PAR 1469. Paragraphs (j)(4) through (j)(6) are exemptions needed to avoid duplicate requirements in PAR 1426. These exemptions specify building enclosures, areas, materials or equipment rather than the tanks, with the exception for tank labeling (f)(5) which was required to keep specific labeling requirements for nickel, cadmium, and lead tanks that were not in Rule 1469.

Duplicative Requirements with Rule 1420 (j)(7)

Paragraph (j)(7) exempts total enclosures that are subject to Rule 1420 from duplicate requirements of subdivision (d).

Metal Removal Fluid (j)(8)

Paragraph (j)(8) exempts buffing, grinding, or polishing operations which are conducted under a continuous flood of metal removal fluid. The application of metal removal fluid has been demonstrated to reduce fugitive emissions. This exemption is applicable for buffing, grinding, or polishing operations of materials other than hexavalent chromium, nickel, cadmium or lead, such as aluminum or copper.

Appendices

The following appendices are proposed to be removed as they listed the requirements for a report that is no longer required.

Appendix 1 – Content of Initial Compliance Report

Appendix 2 – Content of Compliance Report

CHAPTER 3 – SUMMARY OF PROPOSED AMENDED RULE 1469

OVERVIEW OF PAR 1469

PAR 1426 requirements build upon Rule 1469's requirements for building enclosures, housekeeping, and best management practices. Unlike Rule 1469 requirements, PAR 1426 requirements apply to metal finishing tanks regardless of if the tanks were heated, air sparged, or electrified. Rule 1469's requirements were specific to a chromic acid anodizing or chromium electroplating tank, a Tier I Hexavalent Chromium Tank, a Tier II Hexavalent Chromium Tank, or a Tier III Hexavalent Chromium Tank. Depending on the classification of tank, different requirements would be applicable. PAR 1426 includes additional requirements on these tanks. However, PAR 1426 would create duplicate requirements, where a tank could be subject to the same requirements in PAR 1426 and Rule 1469. During the rule development process for PAR 1426, South Coast staff introduced different approaches to exempt facilities and tanks from the requirements of PAR 1426 to avoid duplicate requirements with Rule 1469. Stakeholders commented that this approach was confusing. As a result, staff decided to incorporate the PAR 1426 requirements for specific hexavalent chromium tanks located at Rule 1469 facilities into PAR 1469. The hexavalent chromium requirements for tanks subject to Rule 1469 would be contained in PAR 1469, while the nickel, cadmium, and lead requirements would be in PAR 1426. Additionally, PAR 1469 would correct a definition and table reference. The compliance dates for the new requirements in PAR 1469 would be identical to PAR 1426.

PROPOSED AMENDED RULE 1469

Definitions – Subdivision (c)

PAR 1469 modifies the following terms used in the proposed amendment. Please refer to PAR 1469 for actual definitions.

- DRAGOUT (modified)
- HIGH EFFICIENCY PARTICULATE ARRESTORS (modified)

DRAGOUT has been modified to include parts that were not only electroplated or anodized. The requirements to limit dragout has been revised to include Tier I, Tier II, or Tier III Hexavalent Chromium Tanks. The parts originating from these tanks may not be electroplated or anodized, but the liquid coming off them can still contain hexavalent chromium.

High Efficiency Particulate Arrestors (HEPA) has been modified to remove reference to dioctyl phthalate (DOP). The specific testing method to use dicotyl pthatlate was included in the Rule 1469 2018 amendment to specify the type of HEPA filters that could be used[1]. However, dicotyl phthalate has been determined to be a carcinogen[2] and is no longer used. PAR 1469 would allow the use of other chemicals or methods to test the HEPA filters and not the restrict the test testing to use DOP.

[1] U.S. EPA. (n.d.). Air Pollution Cocntrol Technology Fact Sheet. Https://Www3.Epa.Gov/Ttncatc1/Dir1/Ff-Hepa.Pdf. Retrieved February 12, 2021, from https://www3.epa.gov/ttncatc1/dir1/ff-hepa.pdf

[2] Rowdhwal, S. S. S., & Chen, J. (2018). Toxic Effects of Di-2-ethylhexyl Phthalate: An Overview. BioMed Research International, 2018, 1–10. https://doi.org/10.1155/2018/1750368

Requirements – Subdivision (d)

PAR 1469 adds requirements to building enclosures that contain a Tier I Hexavalent Chromium Tank to prevent cross draft and to address openings that are facing a sensitive receptor, which are identical to the building enclosure requirements in PAR 1426 for Process Tanks and Rinse Tanks. Tier II and Tier III Hexavalent Chromium Tanks are subject to more restrictive building enclosure requirements in Rule 1469 subdivision (e). Tier I Hexavalent Chromium Tanks that share a building enclosure with a Tier II or Tier III Hexavalent Chromium Tank would be subject to the more restrictive building enclosure requirements and no further action is needed to ensure compliance with this requirement.

Housekeeping Requirements – Subdivision (f)

PAR 1469 housekeeping requirements would include Tier I, Tier II, or Tier III Hexavalent Chromium tanks and areas surrounding these tanks instead of just chromium electroplating or chromic acid anodizing tanks, which is consistent with the PAR 1426 requirements. The surfaces that would be required to be cleaned on a weekly basis is not anticipated to change as these surfaces are already subject to cleaning requirements in Rule 1469. Therefore, the requirements would be effective upon date of adoption.

Paragraph (f)(10) has been added to require the storage of equipment that may have been in contact with hexavalent chromium in either a closed container or an enclosed storage area to minimize fugitive emissions. The date of implementation of this requirement would be in Appendix 11 – Implementation Schedules and would be the same effective date as PAR 1426 for the corresponding requirement.

Best Management Practices Requirements – Subdivision (g)

PAR 1469 Best Management Practices have been amended to include Tier I, Tier II, and Tier III Hexavalent Chromium tanks with requirements to prevent dragout, minimize overspray from spray rinsing, and to install a barrier to separate buffing, grinding, and polishing operations from these tanks.

Rule 1469 requirements for dragout were limited to chromium electroplating and chromic acid anodizing tanks and spray rinsing requirements were limited to Tier II or Tier III Hexavalent Chromium Tank. However, tank solutions can leave a Tier I, Tier II, or Tier III Hexavalent Chromium Tank through dragout or spray rinsing where the tank solution dries up. Therefore, the PAR 1426 requirements have been included here.

Rule 1469 requirements to separate buffing, grinding, and polishing operations were limited to chromium electroplating and chromic acid anodizing operations. Consistent with PAR 1426, PAR 1469 expands this requirement to include Tier I, Tier II, and Tier III Hexavalent Chromium Tanks.

The existing Rule 1469 requirements would still be in effect upon the date of adoption, while the new requirements would be in effect according to the implementation schedule specified in Appendix 11 – Implementation Schedules and would be the same effective date as PAR 1426 for the corresponding requirement.

Appendices

Appendix 11 – Implementation Schedule was added to specify the implementation dates for the new requirements in PAR 1469, which would be the same as PAR 1426. The existing requirements for tanks under Rule 1469 would be effective upon the date adoption to avoid backsliding.

CHAPTER 4 – IMPACT ASSESSMENT

AFFECTED SOURCES

Based on site visits conducted by staff, South Coast AQMD permit database, and internet searches, there are a total of 339 facilities that conduct metal finishing, such as anodizing, passivation, or plating. Of the 339 facilities, 107 facilities are subject to PAR 1426 and PAR 1469, and 232 facilities are subject to PAR 1426, but not PAR 1469. As part of this rule development process, staff conducted site visits at 11 facilities, each with a variety of air pollution controls and operations. Beginning in 2019 and continuing into 2020, staff performed pre-arranged site visits at these facilities. Unfortunately, COVID-19 prevented further site visits after March 2020. The site visits focused on housekeeping, best management practices, emission control methods at electroplating and non-electroplating tanks, conditions of buildings containing process tanks. A facility survey was sent to the potentially affected facility to gather additional information for rulemaking.

EMISSIONS IMPACT

PAR 1426 affects 339 facilities conducting metal finishing that use hexavalent chromium, nickel, cadmium, or lead. Based on an evaluation of best available information for these facilities, many facilities have already implemented equivalent or more stringent methods to reduce fugitive emissions. However, it is anticipated that the implementation of PAR 1426 will reduce fugitive emissions from facilities that have not implemented building enclosure requirements, housekeeping requirements, and best management practices. This can include minimizing cross draft, reducing tank solutions from leaving the tank, and performing regular housekeeping to prevent the accumulation of a metal TAC.

PAR 1469 affects 107 facilities conducting chromium electroplating or chromic acid anodizing with hexavalent chromium. PAR 1469 facilities are subject to the recent 2018 amendment that addressed both point source and fugitive source emissions through building enclosure requirements, housekeeping requirements, and best management practices. PAR 1469 implements the PAR 1426 requirements to address fugitive source emissions of hexavalent chromium at facilities subject to Rule 1469.

Quantifying the fugitive source emission reductions in both PAR 1426 and PAR 1469 is difficult as there are no source tests or other ways to measure the reductions, however, monitoring data has demonstrated that ambient air concentrations of metals reduces after the implementation of measures such as the proposed requirements in PAR 1426.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption ~~will be~~has been prepared pursuant to CEQA Guidelines Section 15062. ~~and i~~If the proposed project is approved, the Notice of Exemption will be electronically filed with the ~~county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties~~ State Clearinghouse of the Governor's Office of Planning and Research to be posted on their CEQAnet Web Portal, which may be accessed via the following weblink: https://ceqanet.opr.ca.gov/search/recent. In addition, the Notice of Exemption will be

electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2021. The electronic filing and posting of the Notice of Exemption is being implemented in accordance with Governor Newsom's Executive Orders N-54-20 and N- 80-20 issued on April 22, 2020 and September 23, 2020, respectively, for the State of Emergency in California as a result of the threat of COVID-19 ~~filed with the State Clearinghouse of the Governor's Office of Planning and Research to be posted on their CEQAnet Web Portal, which may be accessed via the following weblink: https://ceqanet.opr.ca.gov/search/recent~~.

SOCIOECONOMIC IMPACT ASSESSMENT

California Health and Safety Code Section 40440.8 requires a socioeconomic impact assessment for proposed and amended rules resulting in significant impacts to air quality or emission limitations. This assessment shall include affected industries, range of probable costs, cost effectiveness of control alternatives, and emission reduction potential.

Rule 1426 (adopted in 2003) and Rule 1469 (recently amended in 2018) together regulate plating and anodizing metal finishing operations, which are processes that prepare or treat the surface of parts by submerging them into tanks. The solutions in these tanks often contain a metal that is classified as a TAC. Rule 1426 regulates five of these metal TACs - hexavalent chromium, nickel, cadmium, lead, and copper. Whereas, Rule 1469 regulates hexavalent chromium from only a subset of Rule 1426 facilities.

The proposed amendments to Rule 1426 are designed to minimize fugitive emissions from the tank solutions that contain hexavalent chromium, nickel, cadmium, or lead. PAR 1426 would require building enclosures, enhanced housekeeping, and best management practices needed to address fugitive metal TAC emissions, similar to those included in the 2018 amendments to Rule 1469 and other recently amended or adopted metal TAC rules.

Affected Facilities and Industries

PAR 1426 would affect a total of 339 facilities, out of which 232 are facilities only subject to PAR 1426 and the remaining 107 are facilities subject to both PAR 1426 and PAR 1469. Because of the similarities between the requirements in PAR 1426 and Rule 1469, 107 of the facilities subject to and in compliance with Rule 1469 would also be in compliance with many of the PAR 1426 requirements. As such, a facility subject to *both* PAR 1426 and PAR 1469 would have fewer modifications to existing operations, and thus, are expected to incur lower overall compliance costs. Table 6 presents the distribution of affected facilities by county and which rules apply.

Table 6 - Number of Facilities by County and Rule

County	Facilities Only Subject to PAR 1426	Facilities Subject to both PAR 1426 and PAR 1469
Los Angeles	140	77
Orange	68	26
Riverside	14	2
San Bernardino	10	2
Total	**232**	**107**

Compliance Costs

To analyze the costs associated with the rule amendments, staff used facility survey responses to estimate the potential compliance costs for the universe of affected facilities. The facility-specific information provided by facility operators in the written survey establishes a representative cross-section of the affected universe, and costs were estimated accordingly. Of the 339 total estimated potential facilities affected by PAR 1426 , responses were received from approximately 10 percent of facilities (36 respondents out of 339 facilities included in the survey).[26] Of the survey responses, there were 25 facilities identified as facilities only subject to PAR 1426 and 11 facilities subject to both PAR 1426 and PAR 1469, which is representative of the proportion of facilities only subject to PAR 1426 and facilities subject to both PAR 1426 and PAR 1469.

Because the housekeeping and best-management practices in PAR 1426 apply to facility tanks and process areas, staff assumed an average for each facility based on survey responses and whether the facility is subject to PAR 1426 or both PAR 1426 and PAR 1469. These facility averages determined the range of costs associated with the proposed amended rule requirements. Facilities that are currently subject to Rule 1469 requirements are expected to incur fewer costs because the requirements in PAR 1426 are similar to those in Rule 1469.

The one-time costs of PAR 1426 were estimated by using tank counts provided in the survey responses. These tanks were then aggregated by whether the facility is subject to PAR 1426 or both PAR 1426 and PAR 1469. Table 7 presents the one-time capital costs for an average facility subject to both PAR 1426 and PAR 1469, while Table 8 presents the one-time capital costs for an average facility subject to only PAR 1426. These costs were estimated by multiplying the quantity of equipment needed (based on averages from the survey responses) by the unit cost of the item (based on staff research and vendor provided information). The estimated capital costs were annualized based on a 10-year equipment life and a four percent real interest rate. The total annual cost of complying with PAR 1426 and PAR 1469 for a facility already subject to Rule 1469 is estimated at $972. The total annual cost of complying with PAR 1426 for a facility only subject to PAR 1426 is estimated at $2,735.

[26] Rule staff sent out a facility survey to a list of approximately 350 potentially affected facilities on July 10, 2020 via email. Staff received 38 completed surveys however 2 of these were copper electroplating only facilities which were not included as copper was removed from the applicability of PAR 1426.

Table 7 - Estimated Annual Compliance Cost of PAR for a Facility Subject to both PAR 1426 and PAR 1469

Average Facility Subject to both PAR 1426 and PAR 1469			
	Quantity	Per unit cost	Subtotal
One-Time Costs (annualized over 10 yrs)			
Building Enclosure opening using plastic strip curtains	0*	$ 6,000.00	$ -
Drip Trays (for Process Tanks and Rinse Tanks)	9.7	$ 425.00	$509.70
Splash Guards (for Tier I and Rinse tanks)	9.5	$ 375.00	$437.12
Barrier between metal Tanks and BGP area	0*	$ 1,500.00	$ -
Tank Labels	0*	$ 25.00	$ -
Reporting one-time TIR (additional man-hours)	1.0	$ 200.00	$ 24.66
Recurring Costs (annual cost)			
Routine Cleaning	0*	$ 2,500.00	$ -
Recordkeeping (additional man-hours)	0*	$ 313.00	$ -
TOTAL			**$971.48**

*Already compliant with Rule 1469

Table 8 - Estimated Annual Compliance Cost of PAR 1426 for a Facility Only Subject to PAR 1426

Average Facility Only Subject to PAR 1426			
	Quantity	Per unit Cost	Subtotal
One-Time Costs (annualized over 10 yrs)			
Building Enclosure opening using plastic strip curtains	1	$6,000.00	$ 739.75
Drip Trays (for Process Tanks and Rinse Tanks)	8.08	$ 425.00	$ 423.38
Splash Guards (for Tier I and Rinse tanks)	8.08	$ 375.00	$ 373.57
Barrier between metal Tanks and BGP area	0.6	$1,500.00	$ 110.96
Tank Labels	16.16	$ 25.00	$ 49.81
Reporting one-time TIR (additional man-hours)	1	$ 200.00	$ 24.66
Recurring Costs (annual cost)			
Routine Cleaning	0.28	$2,500.00	$ 700.00
Recordkeeping (additional man-hours)	1	$ 313.00	$ 313.00
TOTAL			**$2,735.13**

The total annual compliance cost of PAR 1426 and PAR 1469 is estimated at $738,500 across all 339 affected facilities.

Table 9 presents the total annual cost of PAR 1426 and PAR 1469. Manufacturing sector (North American Industrial Classification System or NAICS 31-33) bears the majority of the additional compliance costs.

Table 9 - Compliance Cost of PAR 1426 and PAR 1469 by Industry

2-,3-, or 4-digit NAICS	Industry Name	% of Total Cost	Annualized PAR 1426 and PAR 1469 Cost
23	Construction	0.74%	$ 5,470.26
42	Wholesale trade	1.74%	$ 12,883.46
31-33	Manufacturing	88.16%	$ 651,048.55
44-45	Retail trade	0.87%	$ 6,441.73
493	Warehousing and storage	0.37%	$ 2,735.13
531	Real estate	0.50%	$ 3,706.60
5111	Newspaper, periodical, book, and directory publishers	0.37%	$ 2,735.13
5413	Architectural, engineering, and related services	1.61%	$ 11,911.99
5417	Scientific research and development services	0.74%	$ 5,470.26
5419	Other professional, scientific, and technical services	0.87%	$ 6,441.73
5614, 5616, 5619	Business support services; Investigation and security services; Other support services	1.40%	$ 10,327.64
6214, 6215, 6219	Outpatient, laboratory, and other ambulatory care services	0.37%	$ 2,735.13
81	Other Services	2.25%	$ 16,590.07
Total			**$ 738,497.67**

Regional Macroeconomic Impacts

South Coast AQMD does not estimate regional macroeconomic impacts when the total annual compliance cost is less than one million current U.S. dollars as the Regional Economic Models Inc. (REMI)'s Policy Insight Plus Model is not able to reliably evaluate impacts that are so small relative to the baseline regional economy.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

California Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

Necessity

PAR 1426 and PAR 1469 are needed to reduce emissions of hexavalent chromium, nickel, cadmium, and lead from metal finishing operations.

Authority

The South Coast AQMD Governing Board has authority to adopt PAR 1426 and PAR 1469 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40440, 40441, 40702, 40725 through 40728, 41508, and 41700.

Clarity

PAR 1426 and PAR 1469 are written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency

PAR 1426 and PAR 1469 are in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

Non-Duplication

PAR 1426 and PAR 1469 will not impose the same requirements as or in conflict with any existing state or federal regulations. The proposed amended rules are necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

By adopting PAR 1426 and PAR 1469, the South Coast AQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Section 41700 (nuisance), and Federal Clean Air Act Section 112 (Hazardous Air Pollutants) and Section 116 (Retention of State authority).

COMPARATIVE ANALYSIS

California Health and Safety Code Section 40727.2 requires a comparative analysis of the proposed rule requirements with those of any Federal or District rules and regulations applicable to the same equipment or source category.

The proposed rule amendments do not affect chromium electroplating and chromic acid anodizing tanks. These proposed requirements in PAR 1426 also affect facilities subject to Rule 1469, which have hexavalent chromium containing tanks that are non-chromium electroplating or non-chromic acid anodizing tanks. As discussed in Chapter 1 and Chapter 3, these proposed requirements have been consolidated into PAR 1469, so that facilities subject to Rule 1469 have most, if not all, their requirements in one rule. PAR 1426 and PAR 1469 have been compared to the Federal NESHAP Subpart WWWWWW – Area Source Standards for Plating and Polishing Operations (commonly referred to as Subpart 6W). This is appropriate as the rule amendments do not affect chromium electroplating and chromic acid anodizing tanks, which are covered by the Federal NESHAP Subpart N. Staff is not aware of any other applicable regulations. Since the requirements in PAR 1426 build upon the existing requirements in Rule 1469, the comparative analysis only focuses on those changes from PAR 1426.

New requirements for building enclosure, housekeeping, and best management practices do no begin until January 1, 2023. Tank Inventory Reports are due by February 1, 2022 for a Metal Finishing facility existing prior to January 1, 2022.

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
Applicability	Facilities that conduct Metal Finishing using hexavalent chromium, nickel, cadmium, or lead	Facilities that conduct chromium electroplating or ~~chormic~~ chromic acid anodizing	Plating and polishing facility that is an area source of hazardous air pollutant emissions
Processes	Anodizing, conversion coating, electroforming, electroless plating, electroplating, electroforming, electropolishing, etch, passivation, pre-dip, sealing, stripping	Chromium electroplating or chromic acid anodizing	Electroplating (other than chromium electroplating), non-electrolytic plating, non-electrolytic metal coating, dry mechanical polishing, electroforming, electropolishing
Building Enclosure Requirements: Enclosure Openings	Process Tanks and Rinse Tanks must be operated inside a building enclosure meeting the following requirements: • Close or limit openings that are on opposite ends of the building • Close any enclosure opening that directly faces and opens towards up to two sensitive receptors	Tier I Hexavalent Chromium Tanks[27] must be operated within a building enclosure meeting the following requirements: • Close or limit openings that are on opposite ends of the building • Close any enclosure opening that directly faces and opens towards up to two sensitive receptors	None Specified
Building Enclosure Requirements: Buffing, grinding, and polishing	Conduct all buffing, grinding, and polishing operations within a building enclosure	No additional amendments proposed	None Specified

[27] Existing requirement for Tier II and Tier III Hexavalent Chromium Tanks, no amendments proposed

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
Housekeeping: Storage of Chemicals	Store chemicals containing a Metal in a closed container in an enclosed storage space	No additional amendments proposed	None Specified
Housekeeping: Transport of Chemicals	Transport chemicals containing a Metal in a closed container to and from storage area and tank process area	Transport chemicals containing hexavalent chromium in a closed container to and from Tier I, Tier II, or Tier III Hexavalent Chromium Tanks that are not Chromium Electroplating or Chromic Acid Anodizing Tank(s)[28]	None Specified
Housekeeping: Cleaning	• Clean, using an approved method, or contain using a drip tray or other containment device, any liquid or solid material that may contain a Metal is spilled immediately and no later than one hour after being spilled • Clean, using an approved method, surfaces within the enclosed storage area, open floor area, walkways around Process Tanks or Rinse Tanks or any surface potentially contaminated with a Metal weekly. • Clean splashguards, drip trays, collection devices, or containment devices weekly • On days when buffing, grinding, or polishing are conducted, clean floors within 20 feet of a buffing, grinding or polishing workstation using an approved cleaning method,	• No additional amendments proposed • Clean, using an approved method, surfaces within walkways around Tier I, Tier II, or Tier III Hexavalent Chromium Tanks that are not Chromium Electroplating or Chromic Acid Anodizing Tank(s)[28] • No additional amendments proposed • No additional amendments proposed	As practicable: • Perform general good housekeeping, such as regular sweeping or vacuuming

[28] Existing requirement for Chromium Electroplating and Chromic Acid Anodizing Tanks, no additional amendments proposed.

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
Housekeeping: Storage of Waste	Containers that contain Metal containing waste material shall be kept closed at all times except when being filled or emptied	No additional amendments proposed	None Specified
Housekeeping: Fabric Flooring	Eliminate all flooring or walkways in the tank process area that is made of fabric such as carpets or rugs where Metal containing materials can become trapped	No additional amendments proposed	None Specified
Housekeeping: Reusable Equipment	• Store reusable cleaning equipment and supplies when not in use in a closed container or enclosed storage area • Store reusable tank covers, hangers, anodes, and cathodes when they are not in place at tanks in a closed container or enclosed storage area	• Store reusable cleaning equipment and supplies when not in use in a closed container or enclosed storage area • Store reusable tank covers, hangers, anodes, and cathodes when they are not in place at tanks in a closed container or enclosed storage area	None Specified
Housekeeping: HEPA Vacuums	Ensure integrity of HEPA filters used in HEPA Vacuums	No additional amendments proposed	None Specified

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
Best Management Practices: Dragout	• For facilities with automated lines, drip trays or other containment devices must be used to ensure that liquid from a Process Tank or Rinse Tank does not fall through the space between tanks • Facilities without automated lines must handle parts and equipment used to handle parts, so that liquid containing chromium is not dripped outside the Process Tanks or Rinse Tanks, unless the liquid is captured by a drip tray or other containment device	• For facilities with automated lines, drip trays or other containment devices must be used to ensure that liquid from a Tier I, Tier II, or Tier III Hexavalent Chromium Tank that is not a Chromium Electroplating or Chromic Acid Anodizing Tank[28] does not fall through the space between tanks • Facilities without automated lines must handle parts and equipment used to handle parts, so that liquid containing chromium is not dripped outside Tier I, Tier II, or Tier III Hexavalent Chromium Tanks that are not Chromium Electroplating or Chromic Acid Anodizing Tank(s)[28], unless the liquid is captured by a drip tray or other containment device	As practicable: • Maximize the draining of bath solution back to the tank by extending drip time when removing parts, drain boards, or withdrawing parts slowly • Minimize dragout of bath solution to allow tank solution to drip back into the tank (e.g., use of slotted barrels and tilted racks)

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
Best Management Practices: Spray Rinsing	• Do not spray rinse parts or equipment that have any Metal containing liquid from Process Tanks or Rinse Tanks unless the parts or equipment are fully lowered inside a tank where the overspray and all liquid is captured inside the tank. • Alternatively the owner or operator may: o Install a splash guard that is free of holes, tears, or openings o For tanks located within a process line using an overhead crane system, a low pressure spray nozzle is used such that all liquid flows off of the part or equipment and into the tank	• Do not spray rinse parts or equipment that have chromium containing liquid from Tier I Hexavalent Chromium Tanks[27] unless the parts or equipment are fully lowered inside a tank where the overspray and all liquid is captured inside the tank. • Alternatively the owner or operator may: o Install a splash guard that is free of holes, tears, or openings o For tanks located within a process line using an overhead crane system, a low pressure spray nozzle is used such that all liquid flows off of the part or equipment and into the tank	None Specified
Best Management Practices: Labeling	Maintain clear labeling of each tank within the tank process area with a tank number or other identifier, South Coast AQMD permit number, bath contents, maximum concentration (ppm) of all Metals, operating temperature range, any agitation methods used	No additional amendments proposed	None Specified
Best Management Practices: Buffing, Grinding, or Polishing Areas	Install a barrier to separate the buffing, grinding, or polishing areas within a facility from all Process Tanks or Rinse Tanks	Install a barrier to separate the buffing, grinding, or polishing areas within a facility from all Tier I, Tier II, or Tier III Hexavalent Chromium Tanks that are not Chromium Electroplating or Chromic Acid Anodizing Tank(s)[28]	None Specified

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
Recordkeeping	• Record Ampere-hour meter equipped at a Process Tank for each calendar month and the total for each calendar year • Prior to replacement of an Ampere-hour meter photograph the actual Ampere-hour reading • Following the installation of a new Ampere-hour meter photograph the actual Ampere-hour reading • Maintain records to demonstrate compliance with other requirements	• No additional amendments proposed • No additional amendments proposed • No additional amendments proposed • No additional amendments proposed	• Maintain records of: o Startup of tank pH o Additions of fume suppressant o Inspections of add-on air pollution control devices o Operating hours of a tank o Times when tank is covered • Maintain records onsite for two years • Retain records for at least five years
Reporting	• Maintain Tank Inventory Report for Process Tanks and Rinse Tanks • Submit Tank Inventory Report • Update Tank Inventory Report upon request from Executive Officer	• No additional amendments proposed • No additional amendments proposed • No additional amendments proposed	• Submit an Initial Notification of Compliance Status o List of sources o Metals used o Methods used to comply with the applicable management practices • Submit an amended Notification of Compliance Status within 30 day of changes
Interim Requirements	Existing requirements (not new rule language)	None Specified	None Specified

APPENDIX A: RESPONSE TO COMMENTS

TABLE OF CONTENTS

Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 04/09/2020

MFASC
METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, INC.

April 9, 2020

Dr. William A. Burke, Chair
South Coast Air Quality Management District Governing Board
21865 Copley Drive
Diamond Bar, CA 91765

Dear Chair Burke -

The Metal Finishing Association of Southern California [MFASC] appreciates the consideration the South Coast Air Quality Management District is giving to the impact the COVID-19 pandemic is having not only on public health but also the economic viability of businesses including metal finishers and our workers.

Following the discussion during the April 3 Meeting of the Governing Board, MFASC as a stakeholder has had a candid and timely conversation about the COVID-19 pandemic this week with district staff including Susan Nakamura and others on the district's policy and rulemaking team.

In our conversation, MFASC explained that all metal finishing companies are suffering significant losses in sales, temporary closures, and employees unwilling to work. It is quite unfortunate to state that we do not expect some shops to survive this recession.

The backbone of our industry is aerospace, and the COVID-19 pandemic is hitting this sector very hard. For instance, Boeing recently closed two major aircraft assembly facilities indefinitely – Seattle and South Carolina - where the 747, 767, 777, and 787 models are manufactured. In addition, those facilities that do not serve aerospace are experiencing serious disruption. Many have lost the majority of their customers.

The timing of this unprecedented pandemic is particularly tough. Many companies are still spending time and money complying with the comprehensive and costly mandates of Rule 1469. The equipment is more expensive than anticipated, and is taking longer to be installed and permitted.

Financial assistance remains problematic. Significant shops are thus far unable to apply for loans under the Payroll Protection Act because either their banks are not offering such loans or their banks have established criteria that the companies do not meet – for example, a limitation on the number of employees.

The stress in both time and energy the pandemic places on the key personnel makes them less available to participate in the regulatory process. Significant resources are necessarily dedicated to human resource issues including increased housekeeping and cleaning, social distancing in the workplace, separation of departments, and accommodations for workers with health issues.

The upside to these developments is that facilities will be operating less frequently and therefore there will be a decrease in emissions. It is anticipated that this situation will persevere several more months, perhaps a year or more.

For these reasons, MFASC is requesting forbearance during this time as the district considers the timeframe for new rulemakings such as Rules 1469.1 and 1426 that will significantly impact our shops. In our conversation with district this week, we agreed to stay in touch and provide timely updates.

Thank you for your consideration of our request. We would be pleased to discuss at your convenience.

Sincerely,

Bryan Leiker

Bryan Leiker, Executive Director
MFASC

C: Members, SCAQMD Governing Board
Wayne Nastri, SCAQMD Executive Officer

MFASC, P.O. Box 6547, Burbank, CA 91510 877-238-9490

Response to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 04/09/2020

Staff conducted the development of PAR 1426 and PAR 1469 in a robust public process using virtual meetings to allow stakeholders to join remotely to help increase participation and to remain consistent with South Coast AQMD's COVID-19 policies. PAR 1426 and PAR 1469 balance the need for emissions reductions with the financial burdens that the COVID-19 pandemic has had on industry by allowing for a longer lead time for compliance whereby proposed requirements for building enclosure, housekeeping, and best management practices are not effective until January 1, 2023. MFASC representatives actively participated during the rule development process provided input on proposed amendments.

Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 10/02/20

MFASC
METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, INC.

October 2, 2020

Dr. William A. Burke, Chairman
Governing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

COVID-19 Pandemic and 2020 District Rulemakings Impacting Metal Finishing Facilities

Governing Board Chair Burke –

The Metal Finishing Association of California [MFASC] desires to communicate to the Governing Board the serious challenges the COVID-19 pandemic continues to present to our workers and families, as well as the operations of our member facilities and industry.

We remain in continual dialogue with the District staff regarding these issues.

The pandemic has necessitated a redirection of our attention, efforts, and resources to protect the health of our workers and their families with numerous critical measures including personal accommodations, safe distancing, heightened cleaning, temperature checks, and other actions. Productivity is of course impacted, and new worker protection laws have been enacted with unknown impacts on our businesses.

The pandemic has caused a downturn in the economy, impacting our customers in the aerospace and airline industries, as well as our customers desiring decorative plating. The effects vary from company to company, we estimate that business has been reduced between 30% and 40% and could very well decline further. 2-1

This unfortunate confluence of events is occurring while many of our members endeavor to comply with the significant new requirements associated with the implementation of Rule 1469 [Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations] that was revised in November of 2018 with MFASC's active involvement. We continue to project that this rule will lead to a significant reduction in the number of facilities that are performing chromium electroplating and chromic acid anodizing.

MFASC is involved in additional proceedings that would impose additional costs and obligations during this period of time. The California Air Resources Board is developing an updated chrome air toxic control measure that could impose requirements and restrictions that exceed those contained in Rule 1469. The State Water Resources Control Board has issued orders to facilities state-wide, requiring sampling to determine any presence of PFAS [*Per- and Polyfluoroalkyl Substances*] which were previously required by the state for years. 2-2

PO Box 6547, Burbank, CA 91510-6547 877-238-9490

Dr. William A. Burke
South Coast Air Quality Management District
October 2, 2020

MFASC urges the District to take these developments and context into consideration as we move forward with additional rulemakings that will impact metal finishing facilities, specifically PAR 1426 [*Emissions from Metal Finishing Operations*] and PAR 1469.1 [*Spraying Operations Using Coatings Containing Chromium*], plus additional rulemakings that could commence next year with associated new mandates and costs. 2-2 cont.

Several new housekeeping requirements and best management practices requirements are being considered that are appropriate additions to these rulemakings. Other concepts, such as measuring air velocity at both the entrance of a spray both and the air filter face, are not necessary – but quite costly - to confirm collection efficiency. 2-3

MFASC will continue to be engaged as these rulemakings continue. We remain optimistic that at some point in the future we will overcome the pandemic and its impacts. Unfortunately, that time is not yet upon us.

Sincerely,

Justin Guzman
President

Wesley Turnbow
Past President, Committee Chair

Bryan Leiker
Executive Director

C: Members, Governing Board
Wayne Nastri, Executive Officer

Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 10/02/20

2-1 Response: Balancing the need for emissions reductions with the financial burdens that the COVID-19 pandemic has had on industry, PAR 1426 and PAR 1469 allow for a longer lead time for compliance such that proposed requirements for building enclosure, housekeeping, and best management practices are not effective until January 1, 2023. PAR 1426 builds upon the requirements in Rule 1469. Based on an analysis of the affected facilities, almost all Rule 1469 facilities already meet the PAR 1426 requirements for building enclosure, housekeeping, and best management practices, unlike facilities only subject to Rule 1426. Based on the Socioeconomic Impact Assessment contained in the Chapter 4 of this Staff Report, is it not expected that PAR 1426 and PAR 1469 will lead to a significant reduction in the number of facilities.

2-2 Response: South Coast AQMD staff has been following the CARB Chrome Plating ATCM update process and is aware of the Water Board's recent order to require testing at Rule 1469 facilities. As explained in Response to Comment 2-1, recognizing the challenges faced by facilities as a result of the pandemic, the requirements for building enclosure, housekeeping, and best management practices are not effective until January 1, 2023.

2-3 Response: PAR 1426 and PAR 1469 do not have requirements to measure air velocities nor confirm collection efficiency. Future, separate rulemaking would address point source emissions from metal finishing where verifying the operation of an add-on air pollution control device is appropriate.

Bob Schneider Comment Letter, submitted 11/24/20

PROPOSED AMENDED RULE 1426
EMISSIONS FROM METAL FINISHING OPERATIONS
Version November 24, 2020

Bob Schneider
15011 Turtle Pond Ct.
Chino Hills, CA 91709
Email trsvcs@hotmail.com
Phone: (909 263-1459

Subject: Comments or Corrections to be considered for PAR Rule 1426.

Item 1 - Paragraph (c) Definitions, (7) ENCLOSED STORAGE AREA

Remove the word Enclosed from the definition Enclosed Storage Area and removed the part of the definition "to prevent metals from being emitted into the atmosphere."

Summary

The word Enclosed implies that the storage area must be surrounded with a wall or barrier and have a roof of some type just as in the definition of "Building Enclosure." Storage areas are regulated by the CUPA, Fire Code, Building Code, OSHA Regulations, DTSC Hazardous Waste Regulations and to some degree the facility Storm Water Permit. These storage regulations require containers to be properly labeled, cleaned and containers closed unless materials are being added or removed. Hazardous materials must be properly segregated from non-compatible materials dissimilar materials. These requirements are intended to prevent spills and contact with rain so that there will be no releases to the environment.

A Storage Enclosure as described in this definition will not by its-self-prevent emissions as described as the purpose for the "Storage Enclosure." Emissions are prevented by proper handling and storage of containers that are clean, properly labeled and inside of containment. The agencies that are responsible for ensuring that businesses properly store and handle hazardous materials and waste conduct regular, typically annual inspections. 3-1

Later in this regulation there is a requirement at (e) Housekeeping (2) which I propose changing the word spill proof to "closes" which would also apply to the storage of chemicals that contain metal. (4) Clean, using an approved cleaning method, weekly: (A) Surfaces within an ~~enclosed~~ storage area; These paragraphs add a new level of protection if one of the existing storage requirements is not properly followed.

The storage requirements imposed by the regulations listed above plus the added housekeeping requirement accomplish the intent of the Storage Enclosure.

If the Rule keeps the definition "Storage Enclosure" a better description of what an "Enclosure" means should be supplied so a facility would know if new structure will be required. That structure description would need to be consistent with the Building and Fire Codes which I have mentioned before are some of the source regulations for hazardous materials storage areas.

1

PROPOSED AMENDED RULE 1426
EMISSIONS FROM METAL FINISHING OPERATIONS
Version November 24, 2020

Item 2 - Paragraph (e) Housekeeping Requirements

Replace the words "spill proof" throughout with the word "closed."

Beginning [90 Days After Date of Rule Adoption], an operator of a facility performing metal finishing shall:
(1) Store chemicals that may contain a metal in a ~~spill proof~~ closed container in an enclosed storage area when not in use;
(2) Use a ~~spill proof~~ closed container when transporting substances listed in paragraph (e)(1) between an enclosed storage area and tank process area;
(5) Store waste materials that may contain a metal in a ~~spill proof~~ container that is kept closed ~~at~~ all times except during filling or emptying unless materials are being added or removed.

3-2

Summary

The term spill proof is not specific or a reasonable term unless the rule can define what a spill proof container is. Containers used to store chemicals must be compatible with the materials they hold, and best management practices would require that they are closed to prevent spills or releases unless materials are being added or removed.

Item 3 - (f) Best Management Practices

(2) "liquid that is collected shall be returned back to the tank(s)"

Add "or disposed of as hazardous waste or moved to a treatment or recycling system."

3-3

Summary

Many metal finishing systems are required to be meet quality standards required for aerospace or military use. These standards do not allow materials that are not new materials or have been potential contaminated to be placed into a plating baths or rinse tanks. If not covered under these specifications, the have a potential of causing quality problems during the metal finish process.

Item 4 – Paragraph (f) Best Management Practices

(7) Not conduct compressed air cleaning or drying operations within 15 feet of any process tank unless:

Add (C) Compressed air cleaning or drying operations are directed away from the process tanks or in a manner that does not increase emissions.

3-4

Add (D) or over a rinse tank to ensure that water removed from on the parts is directed back into the rinse tank as long as there is a barrier between the rinse tank and the next none rinse process tank.

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Summary

Using air in this manner would not cause vapors that are released from a tank to be directed away from any hood or other collection device. Blowing the parts off over the rinse thanks would also reduce the potential of dragout.

3-4 cont.

Item 5 – Paragraph (h) Reporting

(1) An owner or operator of a facility performing metal finishing shall submit a Tank Inventory Report to the Executive Officer by the following deadline:

Summary - This paragraph is not needed, if any of the changes listed in this section are made to a metal finishing line a Permit Modification is required.

3-5

Item 6 – Paragraph (g) Recordkeeping (1)

(1) An owner or operator of a metal finishing process that has a PTC or PTO that requires a limit of annual ampere-hours must install an ampere meter equipped to record the actual cumulative rectifier usage for each calendar month and the total for each calendar year. The ampere hours must be recorded and maintained as stated in the permit conditions.

Summary – This change would make Rule 1426 consistent with Annual Ampere Hours Definition in Rule 1469. By providing this language the need for an ampere meter and the requirement for when it must be read and recorded is clarified. There should be no need for a facility to record ampere hours just because a meter is present. Ampere readings and ampere meters should only be required when listed on a permit condition intended to limit emissions.

3-6

Item 7, Paragraph (i) Exemptions – Add section (3)

(3) Tanks which are not metal finishing tanks or are not part of a metal finishing process line shall be exempt from the requirements of subdivisions (d), (e), and (f).

Summary

In a manufacturing facility there are many types of "tanks" that are used for a variety of purposes that have nothing to do with metal finishing. In some cases, these tanks are permitted under other SCAQMD rules although some are not. Permitted or unpermitted tanks that have nothing to do with metal finishing should not be captured by this rule. Examples of these tanks are heat treating quench tanks, parts wash and rinse tanks that are not part of the metal finishing process, lubricant dip tanks, chemical storage tanks, inspection tanks such as water burst test tanks, ultra-sonic test tanks, storm water catch tanks, tanks that are used on machines to supply materials on demand. There is a long list of other tank type containers that could fall under this rule without a better definition.

3-7

Responses to Bob Schneider Comment Letter, submitted 11/24/20

3-1 Response: The definition of Enclosed Storage Area in PAR 1426 has been restored and is the same as Rule 1426 and Rule 1469, which is:

ENCLOSED STORAGE AREA means any space or structure used to contain material that prevents its contents from being emitted into the atmosphere.

Enclosed Storage Area was an existing term in Rule 1426 and it was used in storage requirements of material to prevent its contents from being emitted into the atmosphere. The definition is retained in PAR 1426, as the purpose of PAR 1426 is to prevent fugitive emissions. The term Enclosed Storage Area allows facilities to implement a storage method that complies with PAR 1426 and other agencies storage requirements. Staff is not aware of any conflicts with the definition use in Rule 1426 or Rule ~~1426~~1469 with other agencies. Staff has observed at facilities subject to Rule 1469 the storage of chemicals often within a building enclosure itself, typically in their own dedicated room or in a chemical storage cabinet that are not subject to cross drafts.

This definition is similar to Enclosed Storage Area definition that is used in CARB's ATCM for Chromium Plating and Chromic Acid Anodizing Facilities, which is:

"Enclosed storage area" means any space or structure used to contain material that prevents its contents from being emitted into the atmosphere. This includes cabinets, closets or sheds designated for storage.

As Rule 1426 and Rule 1469 facilities are currently complying with the requirement and no additional amendments are being proposed, there are no foreseeable impacts or conflicts with regulations by other agencies.

3-2 Response: PAR 1426 was revised to require the use of a closed container, except when contents are being added or removed. The term "spill-proof" has been removed.

3-3 Response: PAR 1426 paragraph (f)(3) was added to allow an option for the facilities to treat the liquid as waste.

3-4 Response: The proposed amendments to prohibit compressed air cleaning and drying has been removed as these activities were determined to impact the collection of an add-air pollution control device. PAR 1426 is intended to address fugitive emissions from metal finishing. Future, separate rulemaking would address point source emissions, which may include a prohibition on compressed air cleaning and drying.

3-5 Response: The information requested in a Tank Inventory Report is not always found in a facility's permit to operate or permit application. The submittal of a Tank Inventory Report is a one time submittal for metal finishing facilities existing as of January 1, 2022 and serves as an inventory of the metal finishing tanks at a facility.

3-6 Response: This is an existing requirement and PAR 1426 removes the limitation that this requirement is only for tanks with a "dedicated" ampere-hour meter. There are some ampere-hour meters that are shared between multiple tanks, but the intent of the existing requirement was to record the rectifier usage for all tanks.

3-7 Response: PAR 1426 applicability has been revised to be Metal Finishing facilities using Metals. The definition of Metal Finishing has been revised to specify the type of operations that would be considered Metal Finishing. This includes Anodizing, Conversion Coating, Electroforming, Electroless Plating, Electroplating, Electropolishing, Etch, Passivation, Pre-Dip, Sealing, or Stripping. By specifying the type of processes that are considered Metal Finishing, PAR 1426 avoids including tanks that are not for metal finishing even if they are located at a Metal Finishing facility.

Bob Schneider Comment Letter (02/02/21)

PROPOSED AMENDED RULE 1426
EMISSIONS FROM METAL FINISHING OPERATIONS

February 2, 2021

Bob Schneider
15011 Turtle Pond Ct.
Chino Hills, CA 91709
Email trsvcs@hotmail.com
Phone: (909 263-1459

Subject: Comments or Corrections to be considered for PAR 1426.

Paragraph (c) Definition, (9) ENCLOSED STORAGE AREA

ENCLOSED STORAGE AREA means any space within a structure used to contain material or equipment to prevent Metals from being emitted into the atmosphere.

This definition is referenced in Section (e) Housekeeping Requirements (1) Store chemicals that may contain a Metal in a closed Container with a Fitted Lid in an Enclosed Storage Area when not in use.

Summary

During the January 21 workshop several comments were made regarding this definition. The word "Within" in the definition as I understand it requires storage to be inside a facility or building.

It is my observation that most companies use outdoor storage for their chemicals, and there are many good reasons for this having to do with health, safety and compliance. Outdoor hazardous materials storage is often in detached storage units, bermed and covered storage areas, or free-standing storage units that hold one or more drums. The smaller storage units are typically covered with tarps, integrated lids or clam shells so that the outdoor storage meets stormwater regulations. These outdoor storage units are regulated by the Fire Code just as is indoor storage.

The types of materials used on a plating line are either solids or liquids. They are often acids or alkalis (corrosives) or possibly toxics or oxidizers. Each of these materials have specific storage limits in the Fire Code inside or outside. If a facility is required to bring storage inside, and these limits are exceeded, the facility will be required to build a storage room that meets the Fire Code. A storage room inside a building must have features such as fire rated walls, high density sprinklers, and an underground tank to contain water from 20 min of sprinkler discharge and containment. Indoor storage areas would also require natural or mechanical ventilation. If there isn't sufficient natural ventilation, mechanical ventilation will be needed based on the hazard of the material stored.

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Concerns

If a regulated storage room is required it would be very costly to the facility, take up room which could be otherwise better used and may not achieve the objectives in PAR 1426. Not every facility will have this problem. It will depend on the quantity and number of materials stored, the hazard levels of the materials, if a building has a sprinkler system and other variables.

Storage of Hazardous Materials are regulated by the Fire Code and the Fire Marshall. There will likely be many situations where it will not be possible for a facility to meet the ENCLOSED STORAGE AREA definition as it is currently written and the Fire Code.

Conclusion

The purpose of the ENCLOSED STORAGE definition is "to prevent metals from being emitted into the atmosphere."

It would be better to state the standard that is to be met in the rule and have the facility develop the method they can take to best achieve it. The housekeeping standards in the rule can then be used to enforce it through regularly inspections and cleaning.

I previously mentioned the Storm Water regulations. They require a facility to minimize discharges of pollutants into the storm water. The regulation provides guidance to facilities but generally allows each facility to determine their method of meeting the standard:

"For the purposes of this General Permit, the requirement to implement (Best Management Practices) BMPs "to the extent feasible" requires Dischargers to select, design, install and implement BMPs that reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability."

Response to Bob Schneider Comment Letter (02/02/21)

The definition of Enclosed Storage Area in PAR 1426 has been restored and is the same as Rule 1426 and Rule 1469, which is:

ENCLOSED STORAGE AREA means any space or structure used to contain material that prevents its contents from being emitted into the atmosphere.

Enclosed Storage Area was an existing term in Rule 1426 and it was used in storage requirements of material to prevent its contents from being emitted into the atmosphere. The definition is retained in PAR 1426, as the purpose of PAR 1426 is to prevent fugitive emissions. The term Enclosed Storage Area allows facilities to implement a storage method that complies with PAR 1426 and other agencies storage requirements. Staff is not aware of any conflicts with the definition use in Rule 1426 or Rule 1426 with other agencies. Staff has observed at facilities subject to Rule 1469 the storage of chemicals often within a building enclosure itself, typically in their own dedicated room or in a chemical storage cabinet that are not subject to cross drafts.

This definition is similar to Enclosed Storage Area definition that is used in CARB's ATCM for Chromium Plating and Chromic Acid Anodizing Facilities, which is:

"Enclosed storage area" means any space or structure used to contain material that prevents its contents from being emitted into the atmosphere. This includes cabinets, closets or sheds designated for storage.

As Rule 1426 and Rule 1469 facilities are currently complying with the requirement and no additional amendments are being proposed, there are no foreseeable impacts or conflicts with regulations by other agencies. PAR 1426 does not require a dedicated room within a building enclosure. A chemical storage cabinet may be used. A designated storage area with the building enclosure would also meet the requirements.

APPENDIX B: SAMPLE TANK INVENTORY REPORT

Sample Tank Inventory Report for Rule 1426

A. Facility Information

A1. Facility ID		**A2.** Facility Name				
A3. Facility Contact		**A4.** Title				
A5. Phone #		**A6.** Email				
A7. Street Address			**A8.** City		**A9.** Zip Code	
A10. Mailing Address	☐ Same as above else specify:		**A11.** City		**A12.** Zip Code	
A13. Operating Schedule (e.g., 8 hr/day; 5 days/week)	__ hrs/day at __days/week					
A14. Do you claim confidentiality of data? (If Yes, see instructions below) *Pursuant to the California Public Records Act, any documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District. Check "Yes" if you claim that this form or its attachments contain confidential information.*					☐ YES ☐ NO	

Instructions for Process Tank and Rinse Tank Information

Please complete the tank information for tanks

Process Tank Type[1] – Indicate the operation occurring in the tank. Examples include:

- *Anodizing***:** electrolytic process by which an oxide layer is produced on the surface of a part.
- *Conversion Coating***:** process of converting the surface of a part into a coating using a chemical or electro-chemical process. An example would be chromate conversion coating.
- *Electroforming***:** process of electroplating onto a mandrel or template that is subsequently separated from the electrodeposit formed part.
- *Electroless Plating***:** process of autocatalytic or chemical reduction of aqueous metal ions plated onto a part.
- *Electroplating***:** process by which a layer of metal is electrodeposited onto a part.
- *Electropolishing***:** process to smooth, polish, deburr, or clean a part using an electrolytic bath solution.
- *Etch***:** process to remove material from the surface of a part.
- *Passivation:* process of forming an oxide layer onto a part.
- *Pre-dip***:** process to prepare or activate a part's surface immediately prior to introduction into another metal finishing tank.
- *Sealing***:** process of hydrating to fill or plug the pores of a coating by immersing an anodized part in a tank solution.
- *Stripping (Electrolytic)***:** process of removing an existing metal layer from a part using an electrical current.
- *Stripping (Chemical)***:** process of removing an existing metal layer from a part using either an acidic or caustic bath to remove a metal layer without the use of an electrical current.
- *Rinse***:** tank where a part is partially or fully submerged into a liquid to remove any residual solution from a Process Tank.
- *Rinse using counterflow or with metal treatment: tanks where metal concentrations are actively being diluted or removed them from solution.*

Bath Contents [32] – Indicate the metals and their concentration.

- Metals concentrations: value(s) should be for the concentration as the metal such as "hexavalent chromium (Cr+6)" and not as a compound such as sodium dichromate. Provide the maximum concentration that the tank is operated or permitted to operate at, whichever is higher.
- Units: metal concentration must be presented in parts-per-million (ppm). Note: 10,000 ppm = 1.0 WT%

Agitation Method[3] – Indicate the method that agitates the tank. Examples include:

- Air Sparged (air injection into bath solution)
- Mechanical (manually or automatic mixer or paddle)
- Eductors: (water jet pumps, utilize kinetic energy to cause the flow of fluid)

When Agitation Occurs[4]– Indicate when agitation occurs (e.g., before, during, after, etc.

B. Process or Rinse Tank Information (make copies of this page as necessary)

Tank Name	Process Tank Type[1]	Bath Contents[2]	Tank Bath Temp (°F)	Agitation Method[3]
	☐ Anodizing ☐ Conversion Coating ☐ Electroforming ☐ Electroless Plating ☐ Electroplating ☐ Electropolishing ☐ Etch ☐ Passivation ☐ Pre-dip ☐ Sealing ☐ Stripping (chemical) ☐ Stripping (electrolytic) ☐ Rinse ☐ Rinse using counterflow or with metal treatment ☐ Other (Specify below): _____	Maximum Metal Concentration ☐ Cr^{+6} ____ppm ☐ Ni ____ppm ☐ Cd ____ppm ☐ Pb ____ppm ☐Other (Specify)	☐ Not heated (i.e., ambient) *Minimum:* *Maximum:*	☐ None ☐ Air sparged ☐ Eductor ☐ Mechanical
Is this tank exempt from Rule 1426? ☐ No ☐ Yes based on 1426(j)_____			**Rectifier**	**When Agitation Occurs[4]**
South Coast AQMD: Permit Number and Tank ID			☐ Not rectified *Capacity:* _____ *amps*	☐ Pre Process ☐ During Process ☐ Other: _____
☐ None *Permit Number:* _____				

Tank Name	Process Tank Type[1]	Bath Contents[2]	Tank Bath Temp (°F)	Agitation Method[3]
	☐ Anodizing ☐ Conversion Coating ☐ Electroforming ☐ Electroless Plating ☐ Electroplating ☐ Electropolishing ☐ Etch ☐ Passivation ☐ Pre-dip ☐ Sealing ☐ Stripping (chemical) ☐ Stripping (electrolytic) ☐ Rinse ☐ Rinse using counterflow or with metal treatment ☐ Other (Specify below): _____	Maximum Metal Concentration ☐ Cr^{+6} ____ppm ☐ Ni ____ppm ☐ Cd ____ppm ☐ Pb ____ppm ☐Other (Specify)	☐ Not heated (i.e., ambient) *Minimum:* *Maximum:*	☐ None ☐ Air sparged ☐ Eductor ☐ Mechanical
Is this tank exempt from Rule 1426? ☐ No ☐ Yes based on 1426(j)_____			**Rectifier**	**When Agitation Occurs[4]**
South Coast AQMD: Permit Number and Tank ID			☐ Not rectified *Capacity:* _____ *amps*	☐ Pre Process ☐ During Process ☐ Other: _____
☐ None *Permit Number:* _____				

ATTACHMENT H

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SUBJECT: **NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

PROJECT TITLE: **PROPOSED AMENDED RULE 1426 – EMISSIONS FROM METAL FINISHING OPERATIONS AND PROPOSED AMENDED RULE 1469 – HEXAVALENT CHROMIUM EMISSIONS FROM CHROMIUM ELECTROPLATING AND CHROMIC ACID ANODIZING OPERATIONS**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (South Coast AQMD), as Lead Agency, has prepared a Notice of Exemption pursuant to CEQA Guidelines Section 15062 – Notice of Exemption for the project identified above.

If the proposed project is approved, the Notice of Exemption will be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research to be posted on their CEQAnet Web Portal which, upon posting, may be accessed via the following weblink: https://ceqanet.opr.ca.gov/search/recent. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2021.The electronic filing and posting of the Notice of Exemption is being implemented in accordance with Governor Newsom's Executive Orders N-54-20 and N-80-20 issued on April 22,2020 and September 23, 2020, respectively, for the State of Emergency in California as a result of the threat of COVID-19.

NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

To: Governor's Office of Planning and Research - State Clearinghouse
1400 Tenth St, Suite 222
Sacramento, CA 95814-5502

From: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Project Title: Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations, and Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Project Location: The proposed project is located within the South Coast Air Quality Management District's (South Coast AQMD) jurisdiction, which includes the four-county South Coast Air Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project: South Coast AQMD is proposing amendments to Rule 1426 to reduce fugitive emissions of hexavalent chromium, nickel, cadmium, and lead from metal finishing facilities that have tanks containing one or more of these metals by establishing building enclosure requirements to prevent emissions due to cross drafts; and housekeeping requirements and best management practices to minimize or prevent the accumulation of metal toxic air contaminants from tank solutions on surfaces as a result of spills, splashes, drips and dragout. Due to the relatively low health risks, copper is proposed to be removed from Rule 1426 requirements. In order to prevent duplicative requirements as well as streamline implementation, Rule 1426 amendments which are applicable to facilities with hexavalent chromium tanks subject to Rule 1469 have been incorporated into Proposed Amended Rule 1469. Other amendments to Rule 1469 are proposed to remove a reference to a chemical that is no longer used for testing high efficiency particulate arrestor (HEPA) filters and to update a table reference. Clarifying updates to definitions, recordkeeping, reporting, and exemptions in both Rules 1426 and 1469 are also proposed.

Public Agency Approving Project:	**Agency Carrying Out Project:**
South Coast Air Quality Management District	South Coast Air Quality Management District

Exempt Status: CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption

Reasons why project is exempt: South Coast AQMD, as Lead Agency, has reviewed the proposed project pursuant to: 1) CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. The only physical modifications that may occur as a result of the proposed project are associated with implementing the building enclosure requirements, which may be achieved without involving construction or via minimal construction activities, depending on the affected facility. Further, the removal of copper metal finishing tanks and operations from Rule 1426 is expected to have no adverse effect on the environment. Compared to hexavalent chromium, nickel, cadmium or lead, copper has only acute non-cancer health effects at a higher relative concentration and the fugitive emissions of copper from these operations are not anticipated to cause acute health effects. For these reasons, it can be seen with certainty that implementing the proposed project would not cause a significant adverse effect on the environment. Therefore, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption.

Date When Project Will Be Considered for Approval (subject to change):
South Coast AQMD Governing Board Hearing: April 2, 2021

CEQA Contact Person:	**Phone Number:**	**Email:**	**Fax:**
Kevin Ni	(909) 396-2462	kni@aqmd.gov	(909) 396-3982
Rule Contact Person:	**Phone Number:**	**Email:**	**Fax:**
Min Sue	(909) 396-3241	msue@aqmd.gov	(909) 396-3982

Date Received for Filing: _____ **Signature:** *(Signed Upon Board Approval)*

Barbara Radlein
Program Supervisor, CEQA
Planning, Rule Development, and Area Sources

Proposed Amended Rule 1426

Emissions from Metal Finishing Operations

Proposed Amended Rule 1469

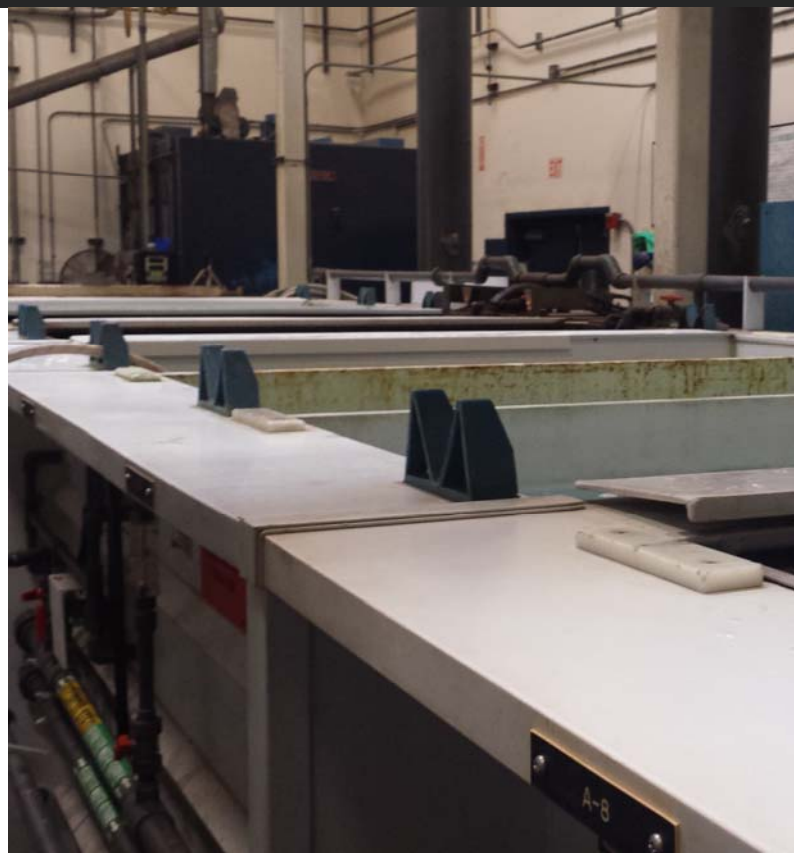
Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Board Meeting

April 2, 2021

Background – Metal Finishing Operations

- Metal finishing is the surface treatment of a metal piece to give it desired characteristics and supports many industries such as aerospace, automotive, industrial equipment, and household fixtures
- Currently two rules cover metal finishing facilities
  - Rule 1469 – Chromium electroplating and anodizing operations
  - Rule 1426 – Other metal finishing operations not covered under Rule 1469



Proposed Amended Rule 1426 (PAR 1426)

- PAR 1426 will address fugitive emissions of hexavalent chromium, nickel, cadmium, and lead from metal finishing operations through requirements for:
  - Building enclosures
  - Housekeeping
  - Best management practices
- PAR 1426 balances the need for fugitive emission reductions with economic challenges faced by facilities due to COVID-19 by allowing longer implementation lead times
- Rulemaking included six Working Group Meetings

Key Requirements for PAR 1426 and PAR 1469*

Building Enclosures

- Address cross draft where metal finishing operations occur at a facility
- Provide additional protection for sensitive receptors and schools

Enhanced Housekeeping

- Use approved cleaning methods
- Clean up spills within an hour
- Conduct routine cleaning of specific areas outside the tank where tank solutions can accumulate

Best Management Practices

- Minimize dragout using drip trays or other collection devices
- Minimize overspray while spray rinsing parts
- Prohibit air sparging of tanks when metal finishing is not occurring

Effective January 1, 2023

* To avoid duplicate requirements and streamline implementation, PAR 1426 requirements for applicable hexavalent chromium tanks are incorporated into PAR 1469 with the same implementation date

Implementation Costs for PAR 1426 and PAR 1469

- Approximately 340 facilities would be covered by PAR 1426 and PAR 1469
- On average, costs to facilities would range from $1,000 to $3,000 per year
- Facilities subject to Rule 1469 already complying with many of key requirements
- Key requirements with cost of implementing PAR 1426 and PAR 1469 include:

Building Enclosures	Housekeeping Requirements	Best Management Practices

• Closing of building openings (e.g. installation of plastic strip curtains)
  • Prevent cross draft
  • Facing the nearest sensitive receptor and school within 1,000 feet
	• Use approved cleaning methods (e.g. HEPA vacuum or wet mop)
	• Conduct housekeeping activities (e.g. cleaning areas within 15 feet of tanks) on a regular schedule
		• Install drip trays
		• Use splashguards or spray rinse containment
		• Use barriers to separate buffing, grinding, and polishing areas from tanks
		• Add tank labels

Recommended Actions

- Staff is not aware of any key issues
- Recommend:
  - Determine that Proposed Amended Rule 1426 and Proposed Amended Rule 1469 are exempt from California Environmental Quality Act; and
  - Amend Rule 1426 and Rule 1469