

# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## **Draft 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**

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**CHAPTER 1 – BACKGROUND**

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## 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 <sup>1</sup> (mg/kg-d) <sup>-1</sup>	Multipathway <sup>2</sup> (Residential Cancer)	REL <sup>1</sup> (Chronic) (µg/m <sup>3</sup> ) <sup>-1</sup>	Multipathway <sup>2</sup> (Residential Non-cancer Chronic)	REL <sup>1</sup> (Acute) (µg/m <sup>3</sup> ) <sup>-1</sup>
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<sup>3</sup> 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<sup>4</sup> 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.

<sup>1</sup> 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>

<sup>2</sup> 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](https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/attachmentn_080717.pdf).

<sup>3</sup> 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>.

<sup>4</sup> 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<sup>5</sup> 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<sup>6</sup> 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<sup>7</sup> 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

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<sup>5</sup> Office of Environmental Health and Hazard Assessment. *Cadmium*. Retrieved January 14, 2021 from <https://oehha.ca.gov/chemicals/cadmium>.

<sup>6</sup> 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>.

<sup>7</sup> 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<sup>8</sup>. 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

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<sup>8</sup> 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

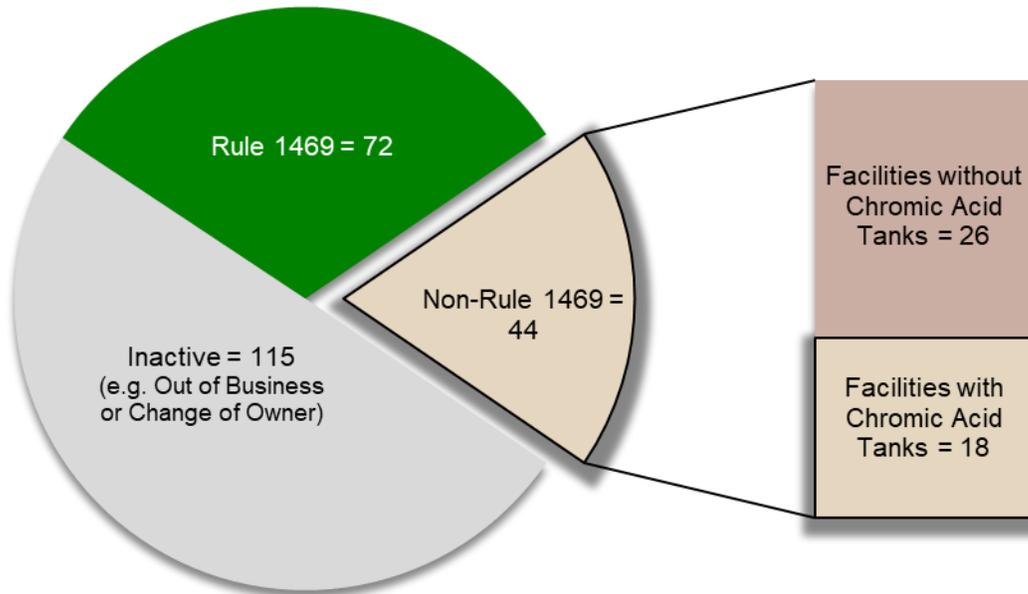
On June 12, 2008, the U.S. EPA issued 40 CFR Part 63 Subpart WWWW (6W)<sup>9</sup>, the Plating and Polishing NESHAP for area sources. It addressed national air toxics standards for smaller-emitting sources, known as area sources, in the plating and polishing industry. The requirements apply to existing 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.

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<sup>9</sup> United States Environmental Protection Agency. *Subpart WWWW—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-subpartWWWWW.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**

	<b>Facility Type</b>	<b>Number of Facilities</b>
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

	<b>Facility Type</b>	<b>Number of Facilities</b>
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

	<b>Facility Type</b>	<b>Number of Facilities</b>
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*<sup>10,18</sup>  
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*<sup>11</sup>  
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*<sup>12</sup>  
Electroforming is the process of electroplating onto a mandrel or template that is subsequently separated from the electrodeposit formed part.
- *Electroless Plating Tanks*<sup>13,18</sup>  
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*<sup>14,18</sup>  
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*<sup>15</sup>  
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.

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<sup>10</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 465)

<sup>11</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 112, 142, 395, 479)

<sup>12</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 343)

<sup>13</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 454)

<sup>14</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 293, 313, 334)

<sup>15</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 89, 153)

- *Etch Tanks*<sup>16,17,18</sup>  
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*<sup>18</sup>  
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*<sup>17,19</sup>  
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*<sup>18,20</sup>  
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*<sup>21</sup>  
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<sup>22</sup>

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

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<sup>16</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 153)

<sup>17</sup> 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](https://www.epa.gov/sites/production/files/2013-12/documents/pwb_surface_finishes_guide.pdf)

<sup>18</sup> U.S. EPA. (1984, February). Guidance Manual for Electroplating and Metal Finishing Pretreatment Standards. <https://www3.epa.gov/npdes/pubs/owm0022.pdf>

<sup>19</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 352)

<sup>20</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 372)

<sup>21</sup> Metal Finishing - Universal Metal Finishing Guidebook (2012/2013 ed.). (2012). Elsevier (pg 60, 81)

<sup>22</sup> 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**

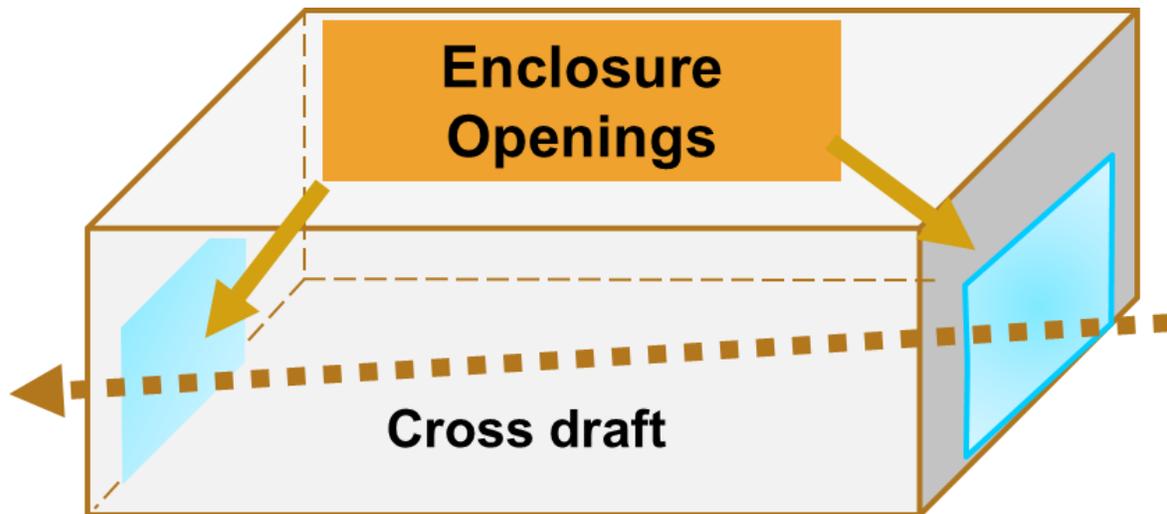
Fugitive emissions generally originate from four key areas as summarized in Figure 2.

**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 through 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 through 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.

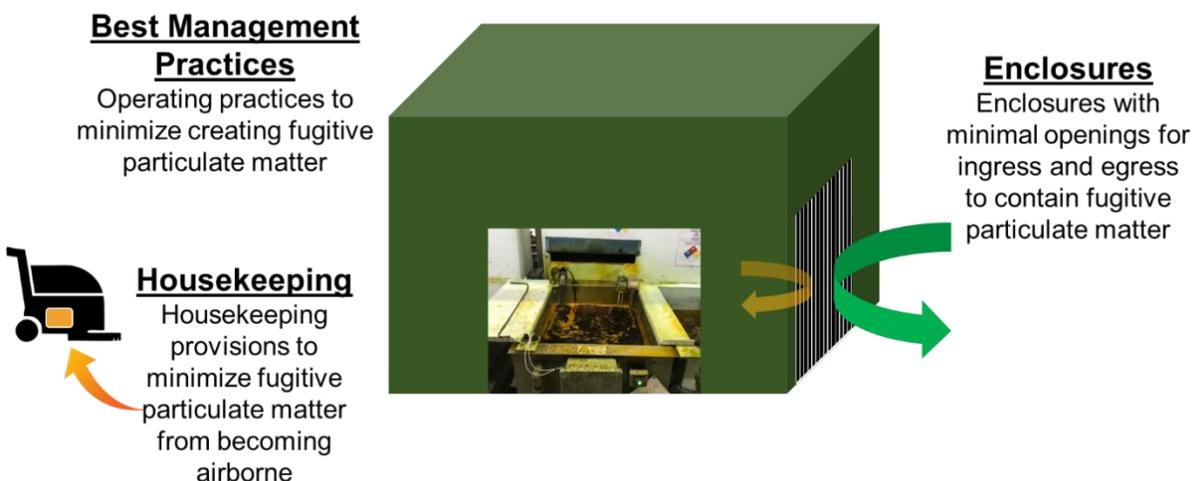
Staff received 38 responses from the survey sent out to the potentially affected facilities. No facility reported operating tanks outside a building enclosure. 33 of the 38 facilities reported conducting housekeeping in the tank process area at least weekly. 18 of the 38 facilities reported that the 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 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 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. 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 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)
- TENSIMETER (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**

<b>Rule 1426 Location</b>	<b>PAR 1426 – Interim Requirements for Facilities</b>	<b>PAR 1426 – Permanent Subdivision Location</b>	<b>PAR 1426 – Rule Reference</b>
(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.

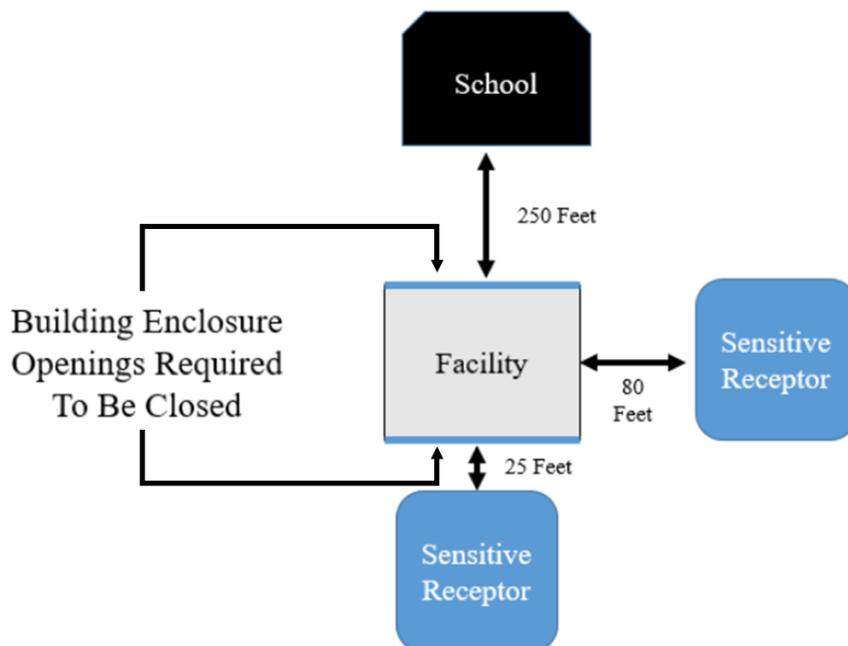
***Prevention of Cross Drafts (d)(1)***

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 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<sup>1</sup> 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

<sup>1</sup> 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](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.

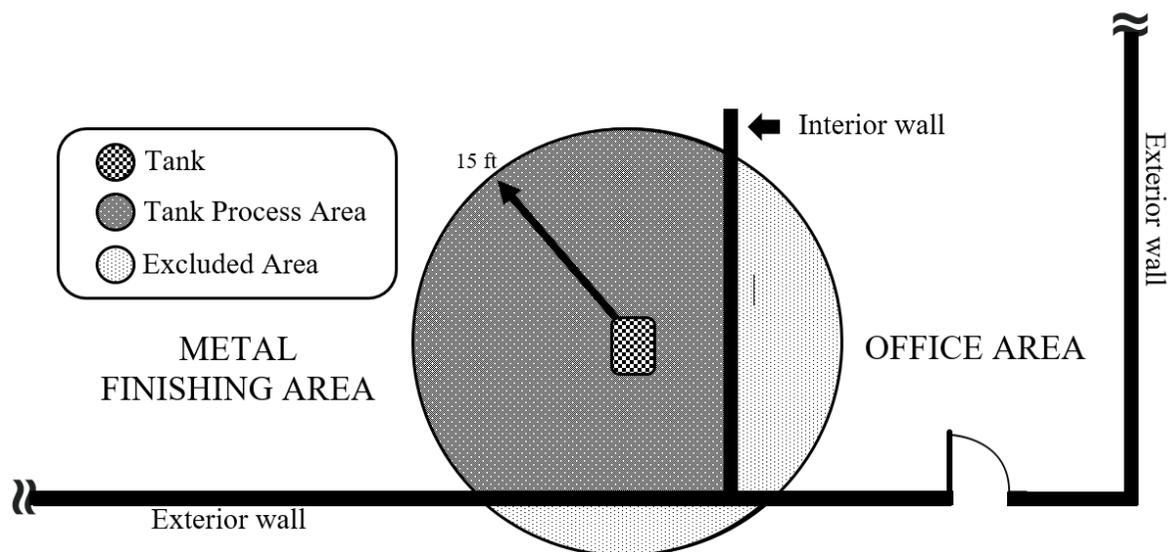
#### ***Cleaning of Spills and Regular Cleaning (e)(3)***

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 pthalate was included in the Rule 1469 2018 amendment to specify the type of HEPA filters that could be used<sup>1</sup>. However, dicotyl phthalate has been determined to be a carcinogen<sup>2</sup> 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.

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<sup>1</sup> U.S. EPA. (n.d.). Air Pollution Cocntrol Technology Fact Sheet. <https://www3.epa.gov/ttnecat1/dir1/ff-hepa.pdf>. Retrieved February 12, 2021, from <https://www3.epa.gov/ttnecat1/dir1/ff-hepa.pdf>

<sup>2</sup> Rowdhwai, 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**

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## **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 prepared pursuant to CEQA Guidelines Section 15062 and if the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties. In addition, 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>.

## 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
<b>Total</b>	<b>232</b>	<b>107</b>

## 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).<sup>26</sup> 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.

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<sup>26</sup> 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**

<b>Average Facility Subject to both PAR 1426 and PAR 1469</b>			
	Quantity	Per unit cost	Subtotal
<b>One-Time Costs (annualized over 10 yrs)</b>			
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
<b>Recurring Costs (annual cost)</b>			
Routine Cleaning	0*	\$ 2,500.00	\$ -
Recordkeeping (additional man-hours)	0*	\$ 313.00	\$ -
<b>TOTAL</b>			<b>\$971.48</b>

\*Already compliant with Rule 1469

**Table 8 - Estimated Annual Compliance Cost of PAR 1426 for a Facility Only Subject to PAR 1426**

<b>Average Facility Only Subject to PAR 1426</b>			
	Quantity	Per unit Cost	Subtotal
<b>One-Time Costs (annualized over 10 yrs)</b>			
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
<b>Recurring Costs (annual cost)</b>			
Routine Cleaning	0.28	\$2,500.00	\$ 700.00
Recordkeeping (additional man-hours)	1	\$ 313.00	\$ 313.00
<b>TOTAL</b>			<b>\$2,735.13</b>

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**

<b>2-,3-, or 4-digit NAICS</b>	<b>Industry Name</b>	<b>% of Total Cost</b>	<b>Annualized PAR 1426 and PAR 1469 Cost</b>
<b>23</b>	Construction	0.74%	\$ 5,470.26
<b>42</b>	Wholesale trade	1.74%	\$ 12,883.46
<b>31-33</b>	Manufacturing	88.16%	\$ 651,048.55
<b>44-45</b>	Retail trade	0.87%	\$ 6,441.73
<b>493</b>	Warehousing and storage	0.37%	\$ 2,735.13
<b>531</b>	Real estate	0.50%	\$ 3,706.60
<b>5111</b>	Newspaper, periodical, book, and directory publishers	0.37%	\$ 2,735.13
<b>5413</b>	Architectural, engineering, and related services	1.61%	\$ 11,911.99
<b>5417</b>	Scientific research and development services	0.74%	\$ 5,470.26
<b>5419</b>	Other professional, scientific, and technical services	0.87%	\$ 6,441.73
<b>5614, 5616, 5619</b>	Business support services; Investigation and security services; Other support services	1.40%	\$ 10,327.64
<b>6214, 6215, 6219</b>	Outpatient, laboratory, and other ambulatory care services	0.37%	\$ 2,735.13
<b>81</b>	Other Services	2.25%	\$ 16,590.07
<b>Total</b>			<b>\$ 738,497.67</b>

### 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 WWWW – 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 not 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.

<b>Rule Element</b>	<b>PAR 1426</b>	<b>PAR 1469</b>	<b>NESHAP Subpart 6W</b>
<b>Applicability</b>	Facilities that conduct Metal Finishing using hexavalent chromium, nickel, cadmium, or lead	Facilities that conduct chromium electroplating or chromic acid anodizing	Plating and polishing facility that is an area source of hazardous air pollutant emissions
<b>Processes</b>	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
<b>Building Enclosure Requirements:</b> Enclosure Openings	Process Tanks and Rinse Tanks must be operated inside a building enclosure meeting the following requirements: <ul style="list-style-type: none"> <li>• Close or limit openings that are on opposite ends of the building</li> <li>• Close any enclosure opening that directly faces and opens towards up to two sensitive receptors</li> </ul>	Tier I Hexavalent Chromium Tanks <sup>27</sup> must be operated within a building enclosure meeting the following requirements: <ul style="list-style-type: none"> <li>• Close or limit openings that are on opposite ends of the building</li> <li>• Close any enclosure opening that directly faces and opens towards up to two sensitive receptors</li> </ul>	None Specified
<b>Building Enclosure Requirements:</b> Buffing, grinding, and polishing	Conduct all buffing, grinding, and polishing operations within a building enclosure	No additional amendments proposed	None Specified

<sup>27</sup> Existing requirement for Tier II and Tier III Hexavalent Chromium Tanks, no amendments proposed

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
<b>Housekeeping:</b> Storage of Chemicals	Store chemicals containing a Metal in a closed container in an enclosed storage space	No additional amendments proposed	None Specified
<b>Housekeeping:</b> 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) <sup>28</sup>	None Specified
<b>Housekeeping:</b> Cleaning	<ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> <li>• Clean splashguards, drip trays, collection devices, or containment devices weekly</li> <li>• 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,</li> </ul>	<ul style="list-style-type: none"> <li>• No additional amendments proposed</li> <li>• 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)<sup>28</sup></li> <li>• No additional amendments proposed</li> <li>• No additional amendments proposed</li> </ul>	<p>As practicable:</p> <ul style="list-style-type: none"> <li>• Perform general good housekeeping, such as regular sweeping or vacuuming</li> </ul>

<sup>28</sup> Existing requirement for Chromium Electroplating and Chromic Acid Anodizing Tanks, no additional amendments proposed.

<b>Rule Element</b>	<b>PAR 1426</b>	<b>PAR 1469</b>	<b>NESHAP Subpart 6W</b>
<b>Housekeeping:</b> 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
<b>Housekeeping:</b> 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
<b>Housekeeping:</b> Reusable Equipment	<ul style="list-style-type: none"> <li>• Store reusable cleaning equipment and supplies when not in use in a closed container or enclosed storage area</li> <li>• Store reusable tank covers, hangers, anodes, and cathodes when they are not in place at tanks in a closed container or enclosed storage area</li> </ul>	<ul style="list-style-type: none"> <li>• Store reusable cleaning equipment and supplies when not in use in a closed container or enclosed storage area</li> <li>• Store reusable tank covers, hangers, anodes, and cathodes when they are not in place at tanks in a closed container or enclosed storage area</li> </ul>	None Specified
<b>Housekeeping:</b> 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
<p><b>Best Management Practices:</b> Dragout</p>	<ul style="list-style-type: none"> <li>• 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</li>   <li>• 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</li> </ul>	<ul style="list-style-type: none"> <li>• 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<sup>28</sup> does not fall through the space between tanks</li>   <li>• 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)<sup>28</sup>, unless the liquid is captured by a drip tray or other containment device</li> </ul>	<p>As practicable:</p> <ul style="list-style-type: none"> <li>• Maximize the draining of bath solution back to the tank by extending drip time when removing parts, drain boards, or withdrawing parts slowly</li>   <li>• Minimize dragout of bath solution to allow tank solution to drip back into the tank (e.g., use of slotted barrels and tilted racks)</li> </ul>

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
<b>Best Management Practices:</b> Spray Rinsing	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Alternatively the owner or operator may:               <ul style="list-style-type: none"> <li>○ Install a splash guard that is free of holes, tears, or openings</li> <li>○ 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</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Do not spray rinse parts or equipment that have chromium containing liquid from Tier I Hexavalent Chromium Tanks<sup>27</sup> unless the parts or equipment are fully lowered inside a tank where the overspray and all liquid is captured inside the tank.</li> <li>• Alternatively the owner or operator may:               <ul style="list-style-type: none"> <li>○ Install a splash guard that is free of holes, tears, or openings</li> <li>○ 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</li> </ul> </li> </ul>	None Specified
<b>Best Management Practices:</b> 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
<b>Best Management Practices:</b> 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) <sup>28</sup>	None Specified

Rule Element	PAR 1426	PAR 1469	NESHAP Subpart 6W
<b>Recordkeeping</b>	<ul style="list-style-type: none"> <li>• Record Ampere-hour meter equipped at a Process Tank for each calendar month and the total for each calendar year</li> <li>• Prior to replacement of an Ampere-hour meter photograph the actual Ampere-hour reading</li> <li>• Following the installation of a new Ampere-hour meter photograph the actual Ampere-hour reading</li> <li>• Maintain records to demonstrate compliance with other requirements</li> </ul>	<ul style="list-style-type: none"> <li>• No additional amendments proposed</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain records of:               <ul style="list-style-type: none"> <li>○ Startup of tank pH</li> <li>○ Additions of fume suppressant</li> <li>○ Inspections of add-on air pollution control devices</li> <li>○ Operating hours of a tank</li> <li>○ Times when tank is covered</li> </ul> </li> <li>• Maintain records onsite for two years</li> <li>• Retain records for at least five years</li> </ul>
<b>Reporting</b>	<ul style="list-style-type: none"> <li>• Maintain Tank Inventory Report for Process Tanks and Rinse Tanks</li> <li>• Submit Tank Inventory Report</li> <li>• Update Tank Inventory Report upon request from Executive Officer</li> </ul>	<ul style="list-style-type: none"> <li>• No additional amendments proposed</li> <li>• No additional amendments proposed</li> <li>• No additional amendments proposed</li> </ul>	<ul style="list-style-type: none"> <li>• Submit an Initial Notification of Compliance Status               <ul style="list-style-type: none"> <li>○ List of sources</li> <li>○ Metals used</li> <li>○ Methods used to comply with the applicable management practices</li> </ul> </li> <li>• Submit an amended Notification of Compliance Status within 30 day of changes</li> </ul>
<b>Interim Requirements</b>	Existing requirements (not new rule language)	None Specified	None Specified

**APPENDIX A: RESPONSE TO COMMENTS**

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1. Metal Finishing Association of Southern California (MFASC) Comment Letter (04/09/20)
2. Metal Finishing Association of Southern California (MFASC) Comment Letter (10/02/20)
3. Bob Schneider Comment Letter (11/24/20)
4. Bob Schneider Comment Letter (02/02/21)

**Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 04/09/2020**

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

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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**



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

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 booth 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*

Justin Guzman  
 President

*Wesley Turnbow*

Wesley Turnbow  
 Past President, Committee Chair

*Bryan Leiker*

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  
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Chino Hills, CA 91709  
Email [trsvcs@hotmail.com](mailto: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.

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.

3-1

PROPOSED AMENDED RULE 1426  
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**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 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, they 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) 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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<p>Summary</p> <p>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 tanks would also reduce the potential of dragout.</p>	3-4 cont.
<p><b>Item 5 – Paragraph (h) Reporting</b></p> <p>(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:</p> <p>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.</p>	3-5
<p><b>Item 6 – Paragraph (g) Recordkeeping (1)</b></p> <p>(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.</p> <p>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.</p>	3-6
<p><b>Item 7, Paragraph (i) Exemptions – Add section (3)</b></p> <p>(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).</p> <p>Summary</p> <p>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, ultrasonic 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.</p>	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 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

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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

<b>A1.</b> Facility ID		<b>A2.</b> Facility Name			
<b>A3.</b> Facility Contact		<b>A4.</b> Title			
<b>A5.</b> Phone #		<b>A6.</b> Email			
<b>A7.</b> Street Address		<b>A8.</b> City		<b>A9.</b> Zip Code	
<b>A10.</b> Mailing Address	<input type="checkbox"/> Same as above else specify:	<b>A11.</b> City		<b>A12.</b> Zip Code	
<b>A13.</b> Operating Schedule (e.g., 8 hr/day; 5 days/week)	__ hrs/day at __ days/week				
<b>A14.</b> Do you claim confidentiality of data? (If Yes, see instructions below)					<input type="checkbox"/> YES <input type="checkbox"/> NO
<i>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.</i>					

## **Instructions for Process Tank and Rinse Tank Information**

Please complete the tank information for tanks

**Process Tank Type<sup>1</sup>** – 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<sup>3</sup>** – 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<sup>3</sup>** – 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<sup>4</sup>**– 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 <sup>1</sup>	Bath Contents <sup>2</sup>	Tank Bath Temp (°F)	Agitation Method <sup>3</sup>
	<input type="checkbox"/> Anodizing <input type="checkbox"/> Conversion Coating <input type="checkbox"/> Electroforming <input type="checkbox"/> Electroless Plating <input type="checkbox"/> Electroplating <input type="checkbox"/> Electropolishing <input type="checkbox"/> Etch <input type="checkbox"/> Passivation <input type="checkbox"/> Pre-dip <input type="checkbox"/> Sealing <input type="checkbox"/> Stripping (chemical) <input type="checkbox"/> Stripping (electrolytic) <input type="checkbox"/> Rinse <input type="checkbox"/> Rinse using counterflow or with metal treatment <input type="checkbox"/> Other (Specify below): _____	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Maximum Metal Concentration</div>  <input type="checkbox"/> Cr <sup>+6</sup> _____ppm <input type="checkbox"/> Ni _____ppm <input type="checkbox"/> Cd _____ppm <input type="checkbox"/> Pb _____ppm  <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Not heated (i.e., ambient)  Minimum:  Maximum:  <div style="background-color: #cccccc; text-align: center; padding: 2px;"><b>Rectifier</b></div> <input type="checkbox"/> Not rectified  Capacity: _____ amps	<input type="checkbox"/> None <input type="checkbox"/> Air sparged <input type="checkbox"/> Eductor <input type="checkbox"/> Mechanical  <div style="background-color: #cccccc; text-align: center; padding: 2px;"><b>When Agitation Occurs<sup>4</sup></b></div> <input type="checkbox"/> Pre Process <input type="checkbox"/> During Process <input type="checkbox"/> Other: _____
<b><i>Is this tank exempt from Rule 1426?</i></b> <input type="checkbox"/> No <input type="checkbox"/> Yes based on 1426(j)_____				
<div style="background-color: #cccccc; text-align: center; padding: 2px;"><b>South Coast AQMD: Permit Number and Tank ID</b></div> <input type="checkbox"/> None Permit Number: _____				

Tank Name	Process Tank Type <sup>1</sup>	Bath Contents <sup>2</sup>	Tank Bath Temp (°F)	Agitation Method <sup>3</sup>
	<input type="checkbox"/> Anodizing <input type="checkbox"/> Conversion Coating <input type="checkbox"/> Electroforming <input type="checkbox"/> Electroless Plating <input type="checkbox"/> Electroplating <input type="checkbox"/> Electropolishing <input type="checkbox"/> Etch <input type="checkbox"/> Passivation <input type="checkbox"/> Pre-dip <input type="checkbox"/> Sealing <input type="checkbox"/> Stripping (chemical) <input type="checkbox"/> Stripping (electrolytic) <input type="checkbox"/> Rinse <input type="checkbox"/> Rinse using counterflow or with metal treatment <input type="checkbox"/> Other (Specify below): _____	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Maximum Metal Concentration</div>  <input type="checkbox"/> Cr <sup>+6</sup> _____ppm <input type="checkbox"/> Ni _____ppm <input type="checkbox"/> Cd _____ppm <input type="checkbox"/> Pb _____ppm  <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Not heated (i.e., ambient)  Minimum:  Maximum:  <div style="background-color: #cccccc; text-align: center; padding: 2px;"><b>Rectifier</b></div> <input type="checkbox"/> Not rectified  Capacity: _____ amps	<input type="checkbox"/> None <input type="checkbox"/> Air sparged <input type="checkbox"/> Eductor <input type="checkbox"/> Mechanical  <div style="background-color: #cccccc; text-align: center; padding: 2px;"><b>When Agitation Occurs<sup>4</sup></b></div> <input type="checkbox"/> Pre Process <input type="checkbox"/> During Process <input type="checkbox"/> Other: _____
<b><i>Is this tank exempt from Rule 1426?</i></b> <input type="checkbox"/> No <input type="checkbox"/> Yes based on 1426(j)_____				
<div style="background-color: #cccccc; text-align: center; padding: 2px;"><b>South Coast AQMD: Permit Number and Tank ID</b></div> <input type="checkbox"/> None Permit Number: _____				