Draft Staff Report
Proposed Amended Rule 1469 — Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

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EXECUTIVE SUMMARY

South Coast Air Quality Management (SCAQMD) Rule 1169 – Hexavalent Chromium – Chrome Plating and Chromic Acid Anodizing was adopted on June 3, 1988 and applies to chromium electroplating (hard and decorative) and chromic acid anodizing processes. On October 9, 1998, Rule 1169 was repealed and provisions were incorporated in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations as Regulation XIV. This regulation includes rules regulating toxics and non-criteria pollutants.

Based on sampling, emissions testing, and ambient monitoring conducted near several facilities subject to Rule 1469 it was determined that increased concentrations of hexavalent chromium in a tank and application of heat and/or air sparging can result in significant emissions from a hexavalent chromium containing tank depending on the hexavalent chromium concentration and temperature. Proposed Amended Rule 1469 (PAR 1469) addresses hexavalent chromium containing tanks not previously known to be sources of hexavalent chromium emissions and includes requirements such as building enclosures, best management practices, and housekeeping provisions that minimize the release of fugitive emissions from chromium electroplating and chromic acid anodizing operations. PAR 1469 also has provisions to ensure continuous proper operation of point source pollution controls and contingency provisions to add pollution controls for a building enclosure for any facility that repeatedly fails to comply with the point source emission requirements or fails to shut down a tank after not passing a test to evaluate the collection efficiency of a tank with pollution controls.

PAR 1469 also incorporates the changes made to the United States Environmental Protection Agency’s (U.S. EPA) Chrome Plating National Emission Standards for Hazardous Air Pollutants (NESHAP) amended in September 2012. The NESHAP achieves further hexavalent chromium emission reductions by requiring more stringent emission limits for all facilities. For facilities that utilize chemical fume suppressants, surface tension limits have been lowered. Under Title 42 of the United States Code (U.S.C.) Section 7416, SCAQMD has the authority to adopt and enforce either equally effective or more stringent regulations than the NESHAP. Under California Health and Safety Code (H&SC) Section 39666(d), SCAQMD has the authority to adopt and enforce either equally effective or more stringent regulations than the NESHAP or the state Airborne Toxic Control Measure (ATCM).

This Draft Staff Report is organized into three chapters. Chapter 1 provides background information regarding PAR 1469 and provides a general description of electroplating and chromic acid anodizing operations and associated hexavalent chromium generating tanks. Chapter 1 also provides the results of ambient monitoring and emissions testing that SCAQMD staff has conducted at and near Rule 1469 facilities. Chapter 2 provides a summary and explanation of provisions in PAR1469. Chapter 3 provides a summary of the impact assessments which includes the environmental analysis and socioeconomic impact assessment, draft findings, and the comparative analysis of PAR 1469.
CHAPTER 1: BACKGROUND

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INTRODUCTION

SCAQMD Rule 1469 establishes emission limits for hard and decorative electroplating and chromic acid anodizing operations based on throughputs and proximity to sensitive receptors and requires ongoing monitoring, initial performance testing of add-on control devices, housekeeping, reporting, and recordkeeping. The most recent amendment in 2008 incorporated the most stringent requirements of the amended state ATCM for Chrome Plating and Chromic Acid Anodizing Operations. The state ATCM had additional provisions to minimize hexavalent chromium emissions from compressed air cleaning, requirements for new facilities and record retention, and requirements for increased monitoring of air pollution controls.

PAR 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations is designed to reduce emissions from point sources that previously were not known to be significant sources of hexavalent chromium and to establish additional provisions to minimize the release of fugitive hexavalent chromium emissions from electroplating and chromic acid anodizing operations and associated processes. Off-site ambient monitoring and source testing near three chromic acid anodizing facilities identified process tanks, which are not currently regulated under Rule 1469, to be the source of substantial hexavalent chromium emissions. These tanks need additional emission controls. Based on results from ambient monitoring and additional emissions testing and sampling, PAR 1469 establishes new requirements for certain hexavalent chromium process tanks associated with electroplating and chromic acid anodizing operations, incorporates additional requirements for building enclosures, provides comprehensive housekeeping requirements, and includes periodic source testing, and updates monitoring and reporting requirements to better control point and fugitive hexavalent chromium emissions. PAR 1469 is also designed to harmonize Rule 1469 with the 2012 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (Chrome Plating NESHAP).

BACKGROUND

Rule 1169 – Hexavalent Chromium – Chrome Plating and Chromic Acid Anodizing was adopted on June 3, 1988 and applies to chromium electroplating (hard and decorative) and chromic acid anodizing processes. On October 9, 1998, Rule 1169 was repealed and provisions were incorporated in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations as part of Regulation XIV. This regulation includes rules regulating toxics and non-criteria pollutants.

Rulemaking for PAR 1469 was initiated by SCAQMD staff in 2015 as a result of findings from ambient air monitoring and sampling near a chromic acid anodizing facility in Newport Beach. SCAQMD staff had been conducting ambient air monitoring near the Newport Beach facility since 2009. In 2012 and 2013, levels of hexavalent chromium increased substantially. These increases triggered a series of further evaluations by SCAQMD staff, including additional monitoring, sampling, and engineering evaluations, which identified several conditions that contributed to the elevated hexavalent chromium levels. For example, cross-drafts in the building that housed the chromic acid anodizing process allowed emissions to escape out of the building and also interfered with the collection efficiency of pollution controls. High hexavalent chromium emissions from a heated sodium dichromate seal tank that was not regulated under Rule 1469 also contributed to the elevated levels. SCAQMD and the Newport Beach facility entered into a stipulated Order for
Abatement requiring the facility to shut down when ambient monitors detect an average ambient concentration exceeding a specified threshold level. As a result, the Newport Beach facility implemented significant changes to address hexavalent chromium emissions such as additional pollution controls for its chromic acid anodizing process line (including the heated sodium dichromate seal tank), and construction of a building enclosure under negative air vented to pollution controls. Average levels of hexavalent chromium near the Newport Beach facility have greatly declined since the facility implemented these changes and modified their operations.

In 2015, SCAQMD rules staff began site visits at other Rule 1469 facilities to get a better understanding of current operating conditions, such as types of building enclosures, and housekeeping practices, and to also evaluate other process tanks that could also be sources of hexavalent chromium emissions similar to a heated sodium dichromate seal tank. During this initial phase of the rule development process, SCAQMD staff, in a separate program was conducting air monitoring in the city of Paramount to investigate potential sources of hexavalent chromium near a metal forging facility. In October 2016, SCAQMD expanded its monitoring network in Paramount and began monitoring near a chromic acid anodizing facility. Initial monitored concentrations of hexavalent chromium were 26 nanograms per cubic meter (ng/m$^3$) near a Paramount facility. For comparison, the background levels of hexavalent chromium, based on the nearest MATES IV monitor data (Compton), was 0.1 ng/m$^3$. Further evaluation of the source of emissions again pointed to a heated sodium dichromate seal tank, combined with cross-drafts near a chromic acid anodizing tank and heated sodium dichromate seal tank that allowed emissions to flow directly out of the facility’s building as the main contributor.

Based on ambient monitoring data, sampling, and emissions testing, the application of heat and/or air sparging can result in substantial hexavalent chromium emissions from tanks. These emissions increase proportionately with the temperature and concentration of hexavalent chromium in the tank. PAR 1469 addresses tanks that were not previously known to be sources of hexavalent chromium emissions. It requires building enclosures, best management practices, and housekeeping provisions to minimize the release of fugitive emissions from these operations. PAR 1469 also has provisions to ensure the continuous proper operation of point source pollution controls.

PAR 1469 also incorporates the changes made to the U.S. EPA’s Chrome Plating NESHAP amended in September 2012. The NESHAP achieves further hexavalent chromium emission reductions by requiring more stringent emission limits for all facilities. In addition to emission limit reductions, housekeeping measures have also been made more stringent. For facilities that utilize chemical fume suppressants, surface tension limits have been lowered. Under Title 42 of the U.S.C. Section 7416, SCAQMD has the authority to adopt and enforce either equally effective or more stringent regulations than the NESHAP. Under H&SC Section 39666(d), SCAQMD has the authority to adopt and enforce either equally effective or more stringent regulations than the NESHAP or the state ATCM.

**Public Process**

PAR 1469 is being developed through an extensive public process. A working group was formed to provide the public and stakeholders an opportunity to discuss important details about the proposed amendments to the rule and provide SCAQMD staff with input during the rule
development process. The working group is comprised of a variety of stakeholders including representatives from industry, consultants, environmental groups, community groups, and public agency representatives. SCAQMD has held 13 working group meetings on March 23, 2017, May 18, 2017, June 29, 2017, August 2, 2017, August 31, 2017, September 20, 2017, October 26, 2017, November 29, 2017, January 4, 2018, February 6, 2018, February 27, 2018, April 4, 2018, and July 17, 2018. Working group meetings for this rulemaking were well attended with approximately 100 people in attendance per meeting and another 35 people on the phone. On average, working group meetings were 3 to 4 hours long. In addition, SCAQMD held three Public Workshops on November 1, 2017, December 7, 2017, and February 8, 2018. Two additional public outreach meetings will be held in August 2018 at the request of Supervisor Solis to better inform the public about Proposed Amended Rule 1469.

HEXAVALENT CHROMIUM

A “toxic air contaminant” 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” (H&SC Section 39655(a)). In 1986, CARB identified hexavalent chromium as a carcinogenic toxic air contaminant based on a review of available scientific evidence.

Hexavalent chromium was measured in each of SCAQMD’s Multiple Air Toxics Exposure Studies (MATES). These studies measured levels of air toxics in mostly residential or commercial areas. While MATES showed that hexavalent chromium levels have decreased over the past couple decades, this air pollutant was still the seventh largest contributor to air toxics cancer risk in the South Coast Air Basin (Basin) in the most recent MATES (MATES IV).

Hexavalent chromium may occur as aerosols or particulate matter in the air, which can be inhaled directly or deposited on soil or water, which can then be ingested. Contact with soil containing hexavalent chromium may transfer to the hands and then to the mouth. Young children may put their hands in their mouths more frequently than adults and therefore are more likely to consume contaminated soil. Chromic acid, a form of hexavalent chromium, is created as a mist during electroplating, which can be inhaled. Chromic acid can be absorbed through skin and ingested if deposited on the skin. Exposure to hexavalent chromium can increase the risk of developing certain types of cancer or result in other adverse health effects.

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 (for example, at very high air levels in workplaces).

CalEPA’s Office of Environmental Health Hazard Assessment (OEHHA) has developed cancer potency factors which can be used to estimate the cancer risk associated with exposure to hexavalent chromium if a person were to be exposed continuously for 30 years. Based on OEHHA’s methodology to estimate health risk, the continual exposure to 0.045 ng/m³ of hexavalent chromium for 30 years would increase the cancer risk by 25 in a million for a residential
or sensitive receptor. Exposure over shorter periods of time would be associated with smaller increases in cancer risk. In MATES IV, the average levels of hexavalent chromium in mostly residential and commercial areas across the South Coast Basin was 0.06 ng/m$^3$. SCAQMD staff has taken measurements very close to facilities emitting hexavalent chromium and has found that hexavalent chromium levels near such facilities can be substantially higher than the background levels measured in MATES IV.

**REGULATORY HISTORY**

Chrome plating and chromic acid anodizing facilities are subject to local, state, and federal requirements. Rule 1469 incorporates provisions that are equal to or more stringent than the Chrome Plating state ATCM and federal NESHAP.

**U.S. EPA NESHAP: Plating and Polishing Industry**

In January 1995, the U.S. EPA promulgated the NESHAP for Chromium Emissions from Hard and Decorative Chromium Plating and Chromic Anodizing Tanks.

On June 12, 2008, the U.S. EPA issued 40 CFR Part 63 Subpart WWWWWW, 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 plating and polishing tanks, 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. 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.

In September 2012, U.S. EPA amended the NESHAP for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. The federal regulation reduced emission limits, decreasing a facility’s mass emissions. Chromium electroplating and chromic acid anodizing which utilize chemical fume suppressants must maintain their electroplating bath to 40 dynes/cm or less. The addition of perfluorooctane sulfonic acid (PFOS) based fume suppressants would be prohibited (see Chemical Fume Suppressants section under Control Technologies below).

The 2012 NESHAP for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (Chrome Plating NESHAP) reduced emission limits for total chromium as shown in Table 1-1.
Table 1-1: 2012 NESHAP Revised Emission Limits

<table>
<thead>
<tr>
<th>Operation</th>
<th>Previous Total Chromium Limits</th>
<th>2012 Total Chromium Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Hard Chromium Electroplating</td>
<td>0.015 mg/dscm</td>
<td>0.011 mg/dscm</td>
</tr>
<tr>
<td>Small Hard Chromium Electroplating</td>
<td>0.030 mg/dscm</td>
<td>0.015 mg/dscm</td>
</tr>
<tr>
<td>Decorative Chromium Electroplating</td>
<td>0.010 mg/dscm</td>
<td>0.007 mg/dscm</td>
</tr>
<tr>
<td>Chromium Anodizing</td>
<td>0.010 mg/dscm</td>
<td>0.007 mg/dscm</td>
</tr>
</tbody>
</table>

Housekeeping practices were added in Table 2 under 40 CFR 63.342, which applies to all source categories and are summarized below:

- Store any substance used in an affected chromium or chromium anodizing tank that contains hexavalent chromium in a closed container in an enclosed storage area and use a closed container when transporting use a closed container.
- Install technology and implement practices to minimize spills of bath solution and reduce drag out when parts are being moved or rinsed from the tank.
- Clean-up spills from an affected chromium electroplating or chromium anodizing tank within 1 hour.
- Clean surfaces regularly.
- Prohibit buffing, grinding, or polishing operations in the same room as anodizing or electroplating unless a physical barrier is in place.
- Store chromium containing wastes generated from housekeeping activities in a manner that does not generate fugitive dust.

**Chromium Plating ATCM**

In February 1988, the California Air Resources Board (CARB) adopted the Chromium Plating ATCM to reduce emissions of hexavalent chromium from hard and decorative chromium electroplating and chromic acid anodizing operations. The ATCM required that all hard plating tanks and anodizing tanks be vented to emission collection systems and established best available control technology (BACT) for the equipment. It also established control efficiency limits for add-on air pollution control devices and alternative emission limits based on the annual hexavalent chromium emissions of plating and anodizing shops. More stringent limits were required of larger facilities than those of smaller facilities, with the goal of reducing emissions from plating and anodizing tanks by at least 95 percent.

On May 21, 1998, CARB amended the Chrome Plating ATCM to consolidate the requirements from both the state and federal chrome plating regulations. Emission limits for decorative chrome and chromic acid anodizing were replaced with emissions limits from the federal chrome plating regulation. The amendment also expanded the rule’s applicability to trivalent chrome operations the rule continued to regulate hexavalent chrome operations. It added performance test requirements, inspection and maintenance requirements, monitoring provisions, recordkeeping and reporting requirements, and provisions for requesting alternative requirement.

On October 24, 2007, CARB amended the ATCM a second time. The amended ATCM provided further hexavalent chromium emission reductions by requiring more stringent emission limits for some facilities and ensured that construction of new facilities are not sited near sensitive receptors.
Generally, except for small facilities, the limits required the installation or upgrade of add-on air pollution control devices at plating tanks. The amendment required the use of HEPA filters, which were found to reduce emissions by over 99.9 percent or the use of controls that resulted in equivalent emissions reductions, at many facilities. In addition to emission limit changes, the ATCM also added housekeeping measures.

**SCAQMD Rules**

Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations is the primary air toxics rule that affects chromium electroplating and chromic acid anodizing operations. In addition to Rule 1469, Rule 1402 - Control of Toxic Air Contaminants from Existing Sources also applies to Rule 1469 facilities as discussed below.

**Rule 1469 – Hexavalent Chromium**

In January 1986, CARB identified hexavalent chromium as a toxic air contaminant in accordance with H&SC Sections 39650, *et seq.* Rule 1169 – Hexavalent Chromium – Chrome Plating and Chromic Acid Anodizing was one of the first source-specific toxic rules and was adopted on June 3, 1988 to reduce hexavalent chromium emissions from chromium electroplating (hard and decorative) and chromic acid anodizing processes. SCAQMD amended Rule 1169 in September 1989 and December 1990.

On October 9, 1998, SCAQMD adopted Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations and repealed Rule 1169. The 1998 adoption of Rule 1469 combined the requirements of Rule 1169, the Chrome Plating state ATCM, and federal NESHAP. Under H&SC Section 39666, air districts have the option of either directly enforcing the ATCM without adopting a regulation, or adopting an equally effective or more stringent regulation. Rule 1469 also included additional monitoring, recordkeeping and reporting requirements, and additional emission standards that in some cases are more stringent than existing requirements for hard and decorative chrome plating operations, and additional requirements for trivalent chrome plating operations, which were already widely practiced by the chrome plating industry.

On May 2, 2003, Rule 1469 was amended. The public rulemaking process included industry representatives, environmental and community groups, staff from SCAQMD and other agencies, technical experts, representatives from the Small Business Alliance and the Ethnic Community Advisory Group, a facilitator, and an independent observer. The proposed amendments set general requirements for all facilities and more stringent requirements for facilities for which the nearest residence or sensitive receptor is within 25 meters or for which the nearest school is within 100 meters. Facilities were required to meet an ampere-hour threshold that is based on a calculated cancer risk of 10 in a million or install controls. In general, facilities were required to meet an emission limit based on ampere-hour thresholds or estimate their cancer risk directly through an emissions inventory and health risk assessment. The 2003 amendments required installation of ampere-hour meters on plating and anodizing tanks, use of certified chemical fume suppressants, housekeeping practices, operating training and certification, and emission limits based on the distance to the nearest residence or sensitive receptor.
On December 5, 2008, Rule 1469 was amended to be consistent with the recently amended Chrome Plating state ATCM. The amendment further reduced hexavalent chromium emissions by setting lower emission limits for some operators and establishing more stringent housekeeping requirements. Additional provisions beyond the ATCM were also incorporated such as more detailed housekeeping requirements, enhanced monitoring, recordkeeping for waste materials, and testing of add-on air pollution control devices. These requirements were intended to ensure compliance and minimize drag-out emissions during chromium electroplating and chromic acid anodizing operations.

**Rule 1402 – Control of Toxic Air Contaminants from Existing Sources**

Rule 1402 – Control of Toxic Air Contaminants from Existing Sources was adopted by the SCAQMD Governing Board in 1994 and last amended in 2016. The objective of Rule 1402 is to minimize health risks from air toxics. This rule applies to existing facilities within SCAQMD’s jurisdiction whose facility-wide toxic air contaminant emissions exceed specific risk levels. Rule 1402 is designed to implement the Air Toxics Hot Spots Program (AB 2588) and requires risk reduction measures if applicable. It is a statewide program that collects emissions data of air toxics, identifies facilities having localized impacts, determines health risks, and notifies affected individuals. Individual facilities found to emit high levels of air toxics must submit a Health Risk Assessment to estimate the health risks to the surrounding communities. AB 2588 also allows for air districts to designate “industry-wide source” facilities, where compliance may be handled collectively, rather than individual compliance that would impose severe economic hardships. SCAQMD has identified metal plating and finishing facilities as an industry-wide source category.

Although Rule 1469 facilities are in general identified as industry-wide sources under AB 2588, there are approximately 24 Rule 1469 facilities that are in the core AB 2588 program. Facilities in the core AB 2588 program are generally larger chromium plating or anodizing facilities and are required to report air toxic emissions annually and provide a more detailed air toxics emissions inventory every fourth year (i.e. quadrennial reporting). The AB 2588 emissions reporting covers Rule 1469 equipment as well as other air toxics emitting sources that are not covered under Rule 1469 such as chromium spraying operations, nickel and cadmium plating operations, and any other air toxics emitting processes or equipment. During this quadrennial toxics emissions reporting, SCAQMD staff calculates the facility’s priority score. If the priority score is over 10, the facility is required to submit an Air Toxics Inventory Report and Health Risk Assessment if applicable. Under Rule 1402, if the cancer health risk is above the action risk level (25 in a million), the facility must submit and implement a Risk Reduction Plan. The Health Risk Assessment is based upon emissions from all processes at the facility, in addition to Rule 1469 sources.

In October 2016, Rule 1402 was amended to add provisions for Potentially High Risk Level Facilities where SCAQMD has evidence that the facility is contributing to a significant health risk – cancer risk greater than 100 in-a-million. Rule 1402 sets the hexavalent chromium reporting thresholds at 0.002 lb/yr; which once exceeded, requires a facility to submit a total facility air toxics emissions inventory to SCAQMD. In addition, state law (H&SC Section 44391) requires any facility with significant risk (100 in a million cancer risk or a chronic hazard index of 5.0 for Rule 1402) to reduce risk.
Other SCAQMD Toxics Rules Regulating Metal Particulates

PAR 1469 includes requirements that are generally based on provisions in other SCAQMD toxics rules, such as, building enclosures, housekeeping measures, best management practices and compliance plans. Examples of rules that include these types of provisions include Rule 1420.2 – Emission Standards for Lead from Metal Melting Facilities and Rule 1430 – Control of Emissions from Metal Grinding Operations at Metal Forging Facilities.

Rule 1420.2 addressed fugitive lead emissions through housekeeping and maintenance requirements, and total enclosures of areas where metal melting operations and associated operations are conducted. Additional requirements included a permanent total enclosure with negative air. Rule 1430 required the installation and implementation of point source controls for grinding operations, enclosures, and housekeeping measures at metal forging facilities. Both rules included parameter monitoring to provide greater assurance of continued compliance with point source add-on pollution control equipment.

2015 OEHHA Guidelines

On March 6, 2015, OEHHA approved revisions to their Risk Assessment Guidelines (2015 OEHHA Guidelines). The 2015 OEHHA Guidelines were triggered by the passage of the Children’s Health Protection Act of 1999 (SB 25, Escutia) requiring OEHHA to ensure infants and children are explicitly addressed in assessing risk. Over the past decade, advances in science have shown that early-life exposures to air toxics contribute to an increased estimated lifetime risk of developing cancer, or other adverse health effects, compared to exposures that occur in adulthood. The revised risk assessment methodology incorporates the most recent data on infants and childhood and adult exposure to air toxics. The 2015 OEHHA Guidelines incorporate age sensitivity factors and other methodology changes increases the estimated cancer risk for residential and sensitive receptors by more than three times for air toxics such as hexavalent chromium which have multiple pathways of exposure in addition to inhalation. Health risks for off-site worker receptors are similar between the previous and 2015 OEHHA Guidance because the methodology for adulthood exposures remains relatively unchanged. Even though there may be no increase in air toxics emissions at a facility, the estimated cancer risk using the 2015 OEHHA Guidelines is expected to increase.

European Union’s European Chemicals Agency

On April 17, 2013, the European Union’s (EU’s) regulatory authority that implements legislation on chemical safety—the European Chemicals Agency (ECHA)—placed several of the most common forms of hexavalent chromium on its “Authorisation List,” citing them as carcinogenic and mutagenic, and classifying them as “substances of very high concern.” The compounds that ECHA singled out are chromium trioxide, acids generated from chromium trioxide, sodium dichromate, potassium dichromate, ammonium dichromate, potassium chromate, and sodium chromate. Several of these compounds are used extensively in the chrome electroplating and anodizing processes.

After an established sunset date, chemicals that are placed on the Authorisation List are prohibited from use in, and importation into the EU, unless companies that produce or use them submit applications to exempt them for specific uses. If an application is approved by ECHA, the chemical will continue to be permitted for those uses and in some cases for both upstream
producers and downstream users. The sunset date for the hexavalent chromium compounds was September 21, 2017.

The European Unions Committees for Risk Assessment and Socio-economic Analysis have approved a number of authorisations or exemptions with specific conditions for use of hexavalent chromium applied to the surface of products. These authorisations cover a broad range of industry sectors such as car manufacturing, aerospace, aeronautics but also the manufacture of metals and construction equipment and is made on behalf of a number of downstream users. For more information on the EU’s program and authorisations, please refer to their website at https://echa.europa.eu.

AMBIENT MONITORING AND SAMPLING NEAR AND AT CHROMIC ACID ANODIZING FACILITIES

SCAQMD staff conducted ambient monitoring of hexavalent chromium near five chromic acid anodizing facilities located in various cities in the Basin. One facility was in Newport Beach, a facility in Paramount, a facility in Long Beach, and two facilities in Compton. Hexavalent chromium levels were elevated near the Newport Beach, Paramount, and Long Beach facilities. Based on the 10 monitoring sites in SCAQMD’s MATES IV study, average hexavalent chromium levels in the Basin are approximately 0.06 ng/m$^3$. None of the MATES IV monitors are near Rule 1469 facilities and are generally sited in both residential and light commercial areas throughout the Basin. The MATES IV study can be found here: http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv.

Levels near the Newport Beach facility, as measured by monitors north and south of the facility, were averaging 0.4 ng/m$^3$ in 2009 (as measured by the north monitor), and rose to over 3.5 ng/m$^3$ in 2013. The facility began implementing changes to their operational procedures and by the end of 2016 installed and operated control equipment to minimize emissions; the average annual concentration dropped steadily from 2013 to 2016. Average concentration levels were below 0.2 ng/m$^3$ in 2016. Average emissions in 2017 saw a slight rise to below 0.4 ng/m$^3$. The increase in emissions in the year, including the more dramatic increase seen in July of 2017, may be attributed to construction work where concrete was being broken up, and the rubble was being removed from the facility.
On April 4, 2014 and April 16, 2014, SCAQMD staff conducted source testing at the Newport Beach facility. The purpose of the testing was to identify potential causes of elevated ambient hexavalent chromium levels measured. Previously at this facility, high air monitoring results had been reduced by upgrading the filtration system and implementing various control methods to reduce emissions from chromate coating operations. The monitor locations were chosen based on the highest hexavalent chromium ambient monitoring results detected at Building #2 monitors, and previous highest glass plate results taken by SCAQMD inspectors from Building #2 and #3 locations. Table 1-2 summarizes the results of the first round of emissions testing.

### Table 1-2: Newport Beach Facility

<table>
<thead>
<tr>
<th>Summary of Emissions</th>
<th>Measured Concentration (ng/m³)</th>
<th>Mass Emission Rate (lb/hr)</th>
<th>Emission Rate (mg/A-hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions from Anodizing Tank</td>
<td>222,000</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>Emissions from Sodium Dichromate Seal Tank</td>
<td>217,000</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>Building #2 Roof Vent</td>
<td>6,520</td>
<td>6.82E-04</td>
<td>No Data</td>
</tr>
<tr>
<td>Anodizing Tank Control System Exhaust</td>
<td>66.3</td>
<td>7.19E-07</td>
<td>0.0068</td>
</tr>
<tr>
<td>Building #3 Roof Vent</td>
<td>18.6</td>
<td>No Data</td>
<td>No Data</td>
</tr>
</tbody>
</table>

SCAQMD staff determined that the fugitive emissions from the chromic acid anodizing process resulted from air agitation, lack of mist suppressant, incomplete emissions capture, and cross-draft conditions in the room. During the April 4, 2014 test, the anodizing tank was in operation. A second set of tests were conducted when the anodizing tank was not in operation and Table 1-3 provides a summary of the results to better understand the contribution of other sources.
Table 1-3: Newport Beach Facility
Hexavalent Chromium Emissions Test Results from April 16, 2014

<table>
<thead>
<tr>
<th>Summary of Emissions</th>
<th>Measured Concentration (ng/m³)</th>
<th>Mass Emissions Rate (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions from Sodium Dichromate Seal Tank</td>
<td>97,200</td>
<td>No Data</td>
</tr>
<tr>
<td>Building #2 Roof Vent</td>
<td>2,510</td>
<td>1.64E-04</td>
</tr>
<tr>
<td>Spray Booth #1 Control System Exhaust</td>
<td>36.0</td>
<td>1.43E-06</td>
</tr>
<tr>
<td>Interior of Building #3 Above Tap Water Rinse Tank</td>
<td>14.0</td>
<td>No Data</td>
</tr>
<tr>
<td>Spray Booth #2 Control System Exhaust</td>
<td>10.8</td>
<td>4.58E-07</td>
</tr>
</tbody>
</table>

The measured concentration from the sodium dichromate seal tank were less than half of the first test results. As noted above, during this emissions test the nearby anodizing tank was not in operation indicating that previous emissions test results from the sodium dichromate seal tank may have been elevated due to cross draft conditions that transported emissions from the anodizing tank. Since the sodium dichromate tank is an electro-less tank process, it is not regulated under Rule 1469. The elevated levels of hexavalent chromium emissions coming from the sodium dichromate seal tank was more than 13 times the NESHAP’s 7,000 ng/m³ concentration limit for a controlled chromic acid anodizing tank. The elevated levels indicated a need to control these tanks.

Ambient monitoring levels near the Paramount facility were initially near 11 ng/m³ when monitoring began in the latter part of 2016, and they currently averaged below 0.25 ng/m³. In addition, ambient monitoring levels near the Long Beach facility were initially near 0.9 ng/m³ when monitoring began in May 2017, and they currently average below 0.4 ng/m³. These facilities had various types of equipment subject to SCAQMD rules and regulations and permit requirements. Some of the potential on-site sources of emissions include the chrome anodizing line, nickel and cadmium plating, curing and drying ovens, paint spray booths, abrasive blasting equipment, waste water treatment system, and miscellaneous natural gas combustion sources. In addition, equipment such as tanks, racks, and drums, and operations such as packaging, product transfer, and maintenance and cleaning activities may have the potential to contribute to fugitive emissions. Information on ambient air monitoring in the communities can be found here: http://www.aqmd.gov/home/library/clean-air-plans/air-toxics-action-plan.

Ambient monitoring can provide information about sources that were not known and verification of compliance with an existing rule or regulation. Ambient monitoring near Rule 1469 facilities in Newport Beach, Paramount, and Long Beach provided information about previously unknown sources of hexavalent chromium emissions. Ambient monitoring was also used to monitor the emission trends from facilities after they implemented control measures and installed add-on controls. There are limitations with ambient monitoring, particularly if the monitor cannot be sited in a location that will capture the maximum ground-level concentration for a specific site or if there are multiple sources that are contributing to the same ambient air monitor. Through the rulemaking for PAR 1469, it was determined that there is sufficient evidence based on ambient monitoring, emissions testing, and other investigative activities that there are tanks that were not previously known that have significant hexavalent chromium emissions that need pollution control measures.
controls. As it a result, the focus of PAR 1469 is require pollution controls on these tanks. The SCAQMD staff will address ambient air monitoring in separate rulemaking process under Proposed Rule 1480 – Air Toxics Metals Monitoring which will include a variety of industry sources that have toxic metal particulate emissions.

**AFFECTED RULE 1469 FACILITIES**

PAR 1469 will affect chromium electroplating or chromic acid anodizing facilities. Based on SCAQMD permitted data and internet searches, industry representatives provided lists of potential Rule 1469 facilities. SCAQMD staff followed up with phone calls to the facility operators inquiring about their operations and if there was sufficient information indicating the facility could potentially be a Rule 1469 facility, SCAQMD staff visited the facility. SCAQMD staff identified 115 facilities that either conduct decorative or hard chromium electroplating or chromic acid anodizing operations within SCAQMD’s jurisdiction. Of the 115 affected facilities, 47 facilities conduct decorative hexavalent chromium plating, 31 facilities conduct hard hexavalent chromium plating, 31 facilities conduct chromic acid anodizing, four facilities conduct trivalent chromium plating only, and two facilities that conduct both chromic acid anodizing and hard hexavalent chromium plating. All 115 facilities are categorized using North American Industry Classification System (NAICS) code listed below in Table 1-1.3. This universe of facilities and tanks were obtained via SCAQMD’s equipment permitting database and staff-conducted surveys of facilities.

The majority of chromium electroplating and chromic acid anodizing facilities are considered job shops, which typically perform a wide range of metal finishing services in addition to chromium electroplating (i.e. nickel plating, copper plating) and offer these services for contract. Job shops are independent operators that serve a variety of industries. The most common electroplating processes in job shops include nickel, copper, zinc and chromium. The automotive, computer/electronics, machinery/industrial equipment and defense/government are the four largest segments of industry served by all electroplaters and anodizers. In addition, fasteners are a large industry segment for job shops.

Different from job shops are captive shops used in industries where chromium electroplating is used as a secondary process to aid in production. Captive shops are found within companies that manufacture products rather than specialize in metal plating. In captive shops, the most common processes include nickel, chromium and zinc electroplating and anodizing. Captive shops typically have a higher degree of automation, due to their more predictable finishing requirements.
## Table 1-4 NAICS Codes for PAR 1469 Affected Facilities

<table>
<thead>
<tr>
<th>Industry</th>
<th>NAICS Code</th>
<th># of Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fabricated Metal Manufacturing</strong></td>
<td>332</td>
<td>93</td>
</tr>
<tr>
<td>Metal Crown, Closure, and Other Metal Stamping (except Automotive)</td>
<td>332119</td>
<td>1</td>
</tr>
<tr>
<td>Saw Blade and Handtool Manufacturing</td>
<td>332216</td>
<td>1</td>
</tr>
<tr>
<td>Machine Shops</td>
<td>332710</td>
<td>3</td>
</tr>
<tr>
<td>Bolt, Nut, Screw, Rivet, and Washer Manufacturing</td>
<td>332722</td>
<td>2</td>
</tr>
<tr>
<td>Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers</td>
<td>332812</td>
<td>2</td>
</tr>
<tr>
<td>Electroplating, Plating, Polishing, Anodizing, and Coloring</td>
<td>332813</td>
<td>82</td>
</tr>
<tr>
<td>Plumbing Fixture Fitting and Trim Manufacturing</td>
<td>332913</td>
<td>2</td>
</tr>
<tr>
<td><strong>Other Manufacturing</strong></td>
<td>333-337</td>
<td>12</td>
</tr>
<tr>
<td>Other Industrial Machinery Manufacturing</td>
<td>333249</td>
<td>1</td>
</tr>
<tr>
<td>Special Die and Tool, Die Set, Jig, and Fixture Manufacturing</td>
<td>333514</td>
<td>1</td>
</tr>
<tr>
<td>Cutting Tool and Machine Tool Accessory Manufacturing</td>
<td>333515</td>
<td>1</td>
</tr>
<tr>
<td>Other Measuring and Controlling Device Manufacturing</td>
<td>334519</td>
<td>2</td>
</tr>
<tr>
<td>Motor and Generator Manufacturing</td>
<td>335312</td>
<td>1</td>
</tr>
<tr>
<td>Motor Vehicle Gasoline Engine and Engine Parts Manufacturing</td>
<td>336310</td>
<td>1</td>
</tr>
<tr>
<td>Other Motor Vehicle Parts Manufacturing</td>
<td>336390</td>
<td>1</td>
</tr>
<tr>
<td>Aircraft Manufacturing</td>
<td>336411</td>
<td>1</td>
</tr>
<tr>
<td>Other Aircraft Parts and Auxiliary Equipment Manufacturing</td>
<td>336413</td>
<td>2</td>
</tr>
<tr>
<td>Showcase, Partition, Shelving, and Locker Manufacturing</td>
<td>337215</td>
<td>1</td>
</tr>
<tr>
<td><strong>Wholesale and Retail Trade</strong></td>
<td>42, 44</td>
<td>2</td>
</tr>
<tr>
<td>Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers</td>
<td>423860</td>
<td>1</td>
</tr>
<tr>
<td>Motorcycle, ATV, and All Other Motor Vehicle Dealers</td>
<td>441228</td>
<td>1</td>
</tr>
<tr>
<td><strong>Professional, Scientific, and Technical and Other Services</strong></td>
<td>54, 56</td>
<td>5</td>
</tr>
<tr>
<td>All Other Professional, Scientific, and Technical Services</td>
<td>541990</td>
<td>1</td>
</tr>
<tr>
<td>All Other Support Services</td>
<td>561990</td>
<td>4</td>
</tr>
<tr>
<td><strong>Repair and Maintenance</strong></td>
<td>811</td>
<td>3</td>
</tr>
<tr>
<td>Automotive Body, Paint, and Interior Repair and Maintenance</td>
<td>811121</td>
<td>1</td>
</tr>
<tr>
<td>Other Electronic and Precision Equipment Repair and Maintenance</td>
<td>811219</td>
<td>1</td>
</tr>
<tr>
<td>Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance</td>
<td>811310</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>115</td>
</tr>
</tbody>
</table>
PROCESS DESCRIPTION
Chromium electroplating and chromic acid anodizing are electrolytic processes, where parts and substrates are submerged in a bath containing chromic anhydride (CrO₃), commonly called chromic acid. Many of the Rule 1469 facilities have other plating tanks using metals such as nickel and cadmium. Those tanks are covered under a separate rule, Rule 1426.

**Hard Chromium Electroplating**
Hard chromium electroplating involves depositing a “thick” layer of chromium (measured in thousandths of an inch) on a part, imparting corrosion protection, wear resistance, lubricity and oil retention among other properties. Examples of parts, which are hard chromium electroplated, include engine parts, industrial machinery and tools. It is nearly always applied to parts made of steel. Because of the thickness of the electroplating layer, electroplating duration is measured in hours or days.

**Decorative Chromium Electroplating**
Decorative chromium electroplating involves depositing a thin layer of chromium (measured in millionths of an inch), which gives a decorative and protective finish. Examples of parts which are decorative chromium electroplated include furniture components, bathroom fixtures, car bumpers and wheels. Electroplating duration is measured in seconds or minutes.

**Chromic Acid Anodizing**
Chromic acid anodizing involves electrolytic oxidation of a surface to produce a wear and corrosion resistant surface, without depositing a metallic chromium layer. Anodizing is an electrochemical process during which aluminum is the anode. When an electric current passes through the electrolyte, it converts the metal surface to a durable aluminum oxide. The difference between electroplating and anodizing is that the oxide coating is integral to the metal substrate as opposed to being a metallic coating deposition. The oxidized surface is hard and abrasion resistant, and it provides some degree of corrosion resistance.

**Electrolytic Tanks**
During the electroplating process hydrogen gas forms very small bubbles, which have high misting potential. The gas bubbles entrain chromic acid and form chromic acid mist at the surface of the electroplating bath. A similar process occurs as oxygen bubbles break the surface of the electroplating bath. The magnitude of emissions depends on several electroplating variables, including the concentration of chromic acid in the bath, ampere-hours used during electroplating, bath temperature, bath purity, and surface tension. Bubble formation due to electrolysis is the primary mechanism by which hexavalent chromium emissions are generated (chemical fume suppressants, discussed at greater length in the Control Technologies Section below, are added to electrolytic tanks to prevent and control bubble formation).

**Non-Electroplating or Non-Anodizing Tanks**
Chromium electroplating and chromic acid anodizing facilities may have multiple tanks that are in the process line. The tanks either prepare or finish parts that will be anodized or electroplated, but are not considered anodizing or electroplating tanks themselves. Some of these have been identified to contain hexavalent chromium. The tanks contain hexavalent chromium as a by-product of the operation, intentional or unintentional contamination from the previous tank, or...
hexavalent chromium is a constituent of the material in the tank. Hexavalent chromium-containing tanks may be heated, air sparged, or rectified. Heated tanks can cause the tanks to reach temperatures that generate bubbles. The gas bubbles contain hexavalent chromium and rupture at the surface generating hexavalent chromium emissions. Air sparging is the process of agitating the tank bath to create an even mixture. The tank is aerated and bubbles are generated and as a result release hexavalent chromium emissions when it reaches the surface. SCAQMD staff identified several tank operations that can be sources of hexavalent chromium emissions, which are discussed below:

- **Drag-Out/Rinse Tanks**
  Following the anodizing or electroplating of a part, the part can be placed in a drag-out/rinse tank. This tank collects liquid from the previous tank and rinses the part. The drag-out tank is a rinse tank initially filled with pure 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 plating line is operated, no additional water is added to the tank and the chemical concentration and the amount of metals in the tank increases as more work is processed. The liquid can remain in the tank or be processed.

- **Seal Tanks**
  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 dichromate seal. The seal tanks are heated to near boiling temperatures.

- **Passivation Tanks**
  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. A hard non-reactive surface film that inhibits further corrosion forms on the surface. Sodium dichromate can be a constituent in the tank.

- **Stripping Tanks**
  Parts may have an existing layer of chrome 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 hexavalent chromium in stripping tanks can vary by facility. These tanks are often electrolytic as well.

- **Chromate Conversion Tanks**
  Chromate conversion tanks are also referred to as “chem film” tanks. The conversion process converts the surface properties of the substrate by applying a thin protective coating utilizing bath chemistry rather than an electrolytic process.

**Rinse Process**

*Counter-flow Rinsing*

Counter-flow 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 counter-flow rinsing because the work piece and the rinse water move in opposite directions. Over time, the first rinse becomes contaminated with drag-out. The second rinse tank has an even lower concentration of hexavalent
chromium 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 over process tanks or in a tank. Spray rinsing can significantly decrease drag-out, however, too high a water pressure can cause water that is laden with hexavalent chromium to ricochet off the parts. Hexavalent chromium laden water that dries on surfaces has the potential to become fugitive emissions. Some facilities use a variety of techniques to contain the hexavalent chromium laden water spray such as spray rinsing in a tank or using barriers to contain spraying operation.

Waste Processing
During hexavalent chromium electroplating or chromic acid anodizing, some portion of the materials used in production is not totally captured as product and can exit the process in wastewater and solid waste. Solids in the plating solution are precipitated out with the addition of chemicals. Further, a multi-stage clarifying system can be used so that a large portion can settle to the bottom as sludge. The sludge is a very wet metal hydroxide mixture that is removed from the treatment tank and can be “dewatered” in filter presses, leaving a wet mud that is generally 25 percent solids by weight. The sludge can be further dried to further reduce moisture content and weight by using a heated dryer. The sludge is stored in containers, such as “super sacks” or larger “roll off boxes,” and sent to facilities that are permitted to process hazardous waste.

A difference between hexavalent chromium facilities and other metal plating facilities is the practice to reduce hexavalent chromium to trivalent chromium if the facility processes wastewater on-site. This process is conducted prior to precipitation of solids. A reducing agent, such as sodium bisulfite, is added and reduces hexavalent chromium to trivalent chromium. The hexavalent chromium to trivalent chromium reduction reaction is not 100%. Hexavalent chromium electroplating and chromic acid anodizing facilities identify the sludge as regulated solid waste F006 and F007 under 40 CFR 261.31.

SCAQMD SAMPLING OF HEXAVALENT CHROMIUM IN TANKS
To better identify the potential sources of elevated concentrations of hexavalent chromium, SCAQMD staff conducted hexavalent chromium emission sampling at various tanks that could potentially be sources of hexavalent chromium emissions. Tables 1-5 through 1-9 summarize the results.
## Table 1-5: Results of Sealing Tanks Sampling

<table>
<thead>
<tr>
<th>Tank Type</th>
<th>Facility</th>
<th>Hexavalent Chromium Content (ppm)</th>
<th>Tank Operating Temperature (°F)</th>
<th>Air Sparging</th>
<th>Surface Area (ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Dichromate¹</td>
<td>Facility B</td>
<td>80,400</td>
<td>200</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>Sodium Dichromate</td>
<td>Facility C³</td>
<td>Not Recorded</td>
<td>Not Measured</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>Sodium Dichromate</td>
<td>Facility E³</td>
<td>53,000²</td>
<td>203</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>Sodium Dichromate</td>
<td>Facility D</td>
<td>32,000</td>
<td>194-212</td>
<td>No</td>
<td>32</td>
</tr>
<tr>
<td>Sodium Dichromate</td>
<td>Facility B</td>
<td>24,200</td>
<td>200</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>Sodium Dichromate</td>
<td>Facility A</td>
<td>17,000</td>
<td>196</td>
<td>Yes</td>
<td>30</td>
</tr>
<tr>
<td>Dilute Chromate</td>
<td>Facility A</td>
<td>100</td>
<td>203</td>
<td>Not Recorded</td>
<td>30</td>
</tr>
<tr>
<td>Teflon</td>
<td>Facility C</td>
<td>5</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>4.5</td>
</tr>
<tr>
<td>Hot Deionized (DI) Water</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Heated (assumed)</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Nickel Acetate</td>
<td>Facility B</td>
<td>&lt;1</td>
<td>Heated</td>
<td>Not Recorded</td>
<td>12</td>
</tr>
<tr>
<td>Nickel Acetate</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>11</td>
</tr>
<tr>
<td>Nickel Acetate</td>
<td>Facility A</td>
<td>&lt;1</td>
<td>170</td>
<td>Not Recorded</td>
<td>30</td>
</tr>
<tr>
<td>Nickel Acetate</td>
<td>Facility F</td>
<td>ND⁴</td>
<td>Heated</td>
<td>Not Recorded</td>
<td>8</td>
</tr>
</tbody>
</table>

1 Dow #7 (Type III) – used in magnesium anodizing process lines
2 Highest value taken of a triplicate run
3 Hexavalent chromium air concentration measurement
4 Not Detectable

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---
### Table 1-6: Results of Chromate Conversion and Dye Tanks Sampling

<table>
<thead>
<tr>
<th>Tank Type</th>
<th>Facility</th>
<th>Hexavalent Chromium Content (ppm)</th>
<th>Tank Operating Temperature (°F)</th>
<th>Air Sparging</th>
<th>Surface Area (ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem Film</td>
<td>Facility G</td>
<td>2880</td>
<td>Ambient</td>
<td>No</td>
<td>3.75</td>
</tr>
<tr>
<td>Chem Film</td>
<td>Facility C</td>
<td>4</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Chromate Film</td>
<td>Facility D¹</td>
<td>Not Measured</td>
<td>Ambient</td>
<td>Yes</td>
<td>32</td>
</tr>
<tr>
<td>Alodine Clear</td>
<td>Facility F</td>
<td>300</td>
<td>Ambient</td>
<td>Not Recorded</td>
<td>8</td>
</tr>
<tr>
<td>Gold Dye</td>
<td>Facility C</td>
<td>8</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Blue Dye</td>
<td>Facility C</td>
<td>2</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Black Dye</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Red Dye</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Green Dye</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Heated Dye</td>
<td>Facility F</td>
<td>ND²</td>
<td>Heated</td>
<td>Not Recorded</td>
<td>8</td>
</tr>
</tbody>
</table>

¹ Hexavalent chromium air concentration measurement
² Not Detectable
## Table 1-7: Results of Rinse, Cleaner, and Desmutt Tanks Sampling

<table>
<thead>
<tr>
<th>Tank Type</th>
<th>Facility</th>
<th>Hexavalent Chromium Content (ppm)</th>
<th>Tank Operating Temperature (°F)</th>
<th>Air Sparging</th>
<th>Electrolytic</th>
<th>Surface Area (ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rinse</td>
<td>Facility G</td>
<td>23,200</td>
<td>Heated</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Rinse</td>
<td>Facility C</td>
<td>4</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Rinse</td>
<td>Facility D</td>
<td>2</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Rinse</td>
<td>Facility F</td>
<td>&lt;1</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Rinse</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>DI Rinse</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Heated</td>
<td>Not Recorded</td>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td>DI Rinse</td>
<td>Facility C</td>
<td>2,300</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>DI Rinse</td>
<td>Facility C</td>
<td>19</td>
<td>Not Measured</td>
<td>Yes</td>
<td>No</td>
<td>9</td>
</tr>
<tr>
<td>Cleaner</td>
<td>Facility C</td>
<td>10</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>29</td>
</tr>
<tr>
<td>Cleaner</td>
<td>Facility H</td>
<td>6</td>
<td>Heated</td>
<td>Not Specified</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>Desmutt</td>
<td>Facility C</td>
<td>0</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 1-8: Results of Passivation, Etch, Neutralizer, and Stripping Tanks Sampling

<table>
<thead>
<tr>
<th>Tank Type</th>
<th>Facility</th>
<th>Hexavalent Chromium Content (ppm)</th>
<th>Tank Operating Temperature (°F)</th>
<th>Air Sparging</th>
<th>Electrolytic</th>
<th>Surface Area (ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chrome Stripping</td>
<td>Facility I</td>
<td>47,400</td>
<td>Not Measured</td>
<td>No</td>
<td>Yes</td>
<td>64</td>
</tr>
<tr>
<td>Chrome Stripping</td>
<td>Facility I</td>
<td>37,000</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Yes</td>
<td>42</td>
</tr>
<tr>
<td>Chrome Stripping</td>
<td>Facility M</td>
<td>2,300</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Yes</td>
<td>7.5</td>
</tr>
<tr>
<td>Passivate</td>
<td>Facility F</td>
<td>10,100</td>
<td>Heated</td>
<td>No</td>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td>Passivate</td>
<td>Facility L</td>
<td>7,200</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>Not Recorded</td>
</tr>
<tr>
<td>Passivate</td>
<td>Facility L</td>
<td>ND¹</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>No</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Passivate Rinse</td>
<td>Facility G</td>
<td>210</td>
<td>Not Measured</td>
<td>Yes</td>
<td>No</td>
<td>9</td>
</tr>
<tr>
<td>Etch Tank</td>
<td>Facility C</td>
<td>9</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
<td>29</td>
</tr>
<tr>
<td>Acid Neutralizer</td>
<td>Facility C</td>
<td>&lt;1</td>
<td>Not Measured</td>
<td>Not Recorded</td>
<td>Not Recorded</td>
<td>6</td>
</tr>
</tbody>
</table>

¹ Not Detectable

Table 1-9: Results for Electrolytic Tier III Tank

<table>
<thead>
<tr>
<th>Facility</th>
<th>Electrolytic Tank Type</th>
<th>Hexavalent Chromium Results (ppm)</th>
<th>Solution Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decorative 1</td>
<td>Stripping</td>
<td>100</td>
<td>Acidic</td>
</tr>
<tr>
<td>Hard 1</td>
<td>Stripping</td>
<td>64,000</td>
<td>Caustic</td>
</tr>
<tr>
<td>Decorative 2</td>
<td>Stripping</td>
<td>7,000</td>
<td>Caustic</td>
</tr>
<tr>
<td>Decorative 3</td>
<td>Stripping</td>
<td>1</td>
<td>Acidic</td>
</tr>
<tr>
<td>Decorative 4</td>
<td>Stripping</td>
<td>110</td>
<td>Caustic</td>
</tr>
<tr>
<td>Hard 2</td>
<td>Stripping</td>
<td>33,000</td>
<td>Caustic</td>
</tr>
<tr>
<td>Decorative 5</td>
<td>Electropolishing</td>
<td>3,000</td>
<td>Caustic</td>
</tr>
<tr>
<td>Decorative 6</td>
<td>Electropolishing</td>
<td>860</td>
<td>Caustic</td>
</tr>
<tr>
<td>Hard 3</td>
<td>Stripping</td>
<td>37,000/76,000</td>
<td>Caustic</td>
</tr>
<tr>
<td>Decorative 7</td>
<td>Electropolishing</td>
<td>3,200</td>
<td>Caustic</td>
</tr>
</tbody>
</table>

Emissions are a greater concern for those tanks that are heated, air sparged or electrolytic as explained earlier in this chapter. High concentrations of hexavalent chromium were found in sodium dichromate seal tanks, electrolytic chrome stripping tanks, electropolishing, passivation tanks, and some rinse tanks. Depending on the design of the facility, rinse waters can have a large variability of hexavalent chromium concentrations. Another factor that contributes to the
hexavalent chromium concentration is the frequency of rinse water change out for the respective tank. Chem film tanks, dye tanks, and most tanks used in the cleaning process (i.e. several rinse tanks, and cleaner and desmutt tanks) were generally found to have low hexavalent chromium concentrations. Chromate conversion and dye operations are chemical processes that have specific concentrations of hexavalent chromium that are dependent on the required specifications of the bath. Sampling results showed a large variation of hexavalent chromium between various “chem films”, but typically a low concentration of hexavalent chromium in dye operations.

Additional sampling was conducted to define the relationship between temperature and tank concentration of hexavalent chromium to the level of hexavalent chromium emissions. SCAQMD staff conducted sampling at different temperature ranges with similar concentrations of hexavalent chromium and the results are shown in Table 1-9.

<table>
<thead>
<tr>
<th>Tank Type</th>
<th>Tank Hexavalent Chromium Content (ppm)</th>
<th>Tank Operating Temperature (°F)</th>
<th>Run</th>
<th>Tank Hexavalent Chromium Emission Concentration (ng/m³)</th>
<th>Tank Hexavalent Chromium Emission Rate (mg/hr)</th>
<th>Tank Hexavalent Chromium Emission Rate per Ft² (mg/hr-ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alodine Tank</td>
<td>347</td>
<td>150</td>
<td>1</td>
<td>37.9</td>
<td>0.037</td>
<td>3.75E-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>25.7</td>
<td>0.025</td>
<td>2.53E-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>58.8</td>
<td>0.054</td>
<td>5.40E-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AVG</td>
<td>40.8</td>
<td>0.039</td>
<td>3.89E-4</td>
</tr>
<tr>
<td>Alodine Tank</td>
<td>333</td>
<td>160</td>
<td>1</td>
<td>72.7</td>
<td>0.083</td>
<td>8.33E-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>51.3</td>
<td>0.058</td>
<td>5.80E-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>134.9</td>
<td>0.156</td>
<td>1.56E-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AVG</td>
<td>86.3</td>
<td>0.099</td>
<td>9.92E-3</td>
</tr>
</tbody>
</table>

SCAQMD staff utilized emission factors to determine what tank concentrations would exceed 0.20 mg/hr. At 150° F, 0.20 mg/hr would be exceeded when tank hexavalent chromium concentrations exceed 1,780 ppm. At 160° F, 0.20 mg/hr would be exceeded when tank hexavalent chromium concentrations exceed 673 ppm. Tanks that operate below 140° F that are not electrolytic nor utilize air sparging would likely not be a source of hexavalent chromium emissions, regardless of the hexavalent chromium concentration in the tank. SCAQMD staff developed a temperature range with corresponding maximum hexavalent chromium concentration for operation of tanks, so that when it was operated it would emit less than 0.20 mg/hr. Figure 1-2 shows steam rising from a heated tank.
Industry stakeholders requested a more comprehensive chart by using a curve or formula that would fill in the gaps between specific data points to more finely define operating conditions. Industry stakeholders also commented that add-on controls are expensive for tanks that narrowly meet the definition of a Tier II Hexavalent Chromium Tank and emit at a low uncontrolled emission rate.

SCAQMD staff revised the approach for the tiered tanks by adding an intermediate tier. The uncontrolled emission rate for the intermediate tier is 0.20-0.40 mg/hr. The intermediate tier would not require the use of add-on air pollution controls, but would require the use of other low-cost air pollution control techniques, such as mechanical fume suppressants and tank covers, that would reduce hexavalent chromium emissions to below 0.20 mg/hr. During the permitting process, SCAQMD staff currently uses an emission reduction factor of 0.50 for tank covers and 0.70 for mechanical fume suppressants.

SCAQMD staff used emissions data from source testing of multiple tanks at various hexavalent chromium concentrations and bath temperatures to generate a formula that was then used to develop a table that identified concentration and operating temperature ranges that would result in an uncontrolled emission rate of 0.20-0.40 mg/hr. Staff developed the following two equations based on an uncontrolled emission rate range of 0.20-0.40 mg/hr to define Tier II and Tier III Tanks when considering specific operating temperatures.
Lower Concentration Limit (ppm) = $1.92 \times 10^{42} \times [\text{Operating Temp} \, \degree F]^{-17.92} - 105.9$

Upper Concentration Limit (ppm) = $2 \times (1.92 \times 10^{42} \times [\text{Operating Temp} \, \degree F]^{-17.92} - 105.9)$

Temperature and hexavalent chromium concentrations were developed for temperatures between 140-170° F in increments that would define Tier II and Tier III Tanks.

**Table 1-12: Tier II and Tier III Tank Concentration and Temperature Thresholds**

<table>
<thead>
<tr>
<th>Temperature (°F)</th>
<th>Tier II Tank Concentration (ppm)</th>
<th>Tier III Tank Concentration (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>140 to &lt;145° F</td>
<td>5,200 to &lt;10,400</td>
<td>≥10,400</td>
</tr>
<tr>
<td>145 to &lt;150° F</td>
<td>2,700 to &lt;5,500</td>
<td>≥5,500</td>
</tr>
<tr>
<td>150 to &lt;155° F</td>
<td>1,400 to &lt;2,900</td>
<td>≥2,900</td>
</tr>
<tr>
<td>155 to &lt;160° F</td>
<td>700 to &lt;1,600</td>
<td>≥1,600</td>
</tr>
<tr>
<td>160 to &lt;165° F</td>
<td>400 to &lt;800</td>
<td>≥800</td>
</tr>
<tr>
<td>165 to &lt;170° F</td>
<td>180 to &lt;400</td>
<td>≥400</td>
</tr>
<tr>
<td>≥170° F</td>
<td>≥100 to &lt;200</td>
<td>≥200</td>
</tr>
</tbody>
</table>

Tier I, Tier II, and Tier III Tanks were divided into the corresponding categories as shown in Figure 1-3.

**Figure 1-3: Categorization of Tier I, Tier II, and Tier III Hexavalent Chromium Tanks**

- **Tier I**
  - Not air sparged
  - Not electrolytic
  - Tank bath < 140°F
  - > 1,000 ppm Cr<sup>6+</sup>
  - No Controls

- **Tier II**
  - Not air sparged
  - Not electrolytic
  - 140°-169° F
    - > Lower Limit ppm Cr<sup>6+</sup>
    - < Upper Limit ppm Cr<sup>6+</sup>
    - ≥170° F
    - 100-200 ppm Cr<sup>6+</sup>
  - Tank Covers and/or Mechanical Fume Suppressants

- **Tier III**
  - Air sparged or electrolytic
    - and
    - > 1,000 ppm Cr<sup>6+</sup>
    - OR
  - 140°-169° F
    - > Upper Limit ppm Cr<sup>6+</sup>
    - ≥170° F
    - > 200 ppm Cr<sup>6+</sup>
  - Add-on Air Pollution Control Devices
SUMMARY OF SOURCE TEST RESULTS FOR PLATING AND ANODIZING TANKS

Rule 1469 requires owners or operators to comply with emission rate standards that are demonstrated to be achieved through either in-tank controls, add-on controls, or a combination of methods. Facilities required to achieve the 0.01 mg/amp-hr emission rate may use a certified chemical fume suppressant which has been certified to meet the emission rate at specific surface tension. Facilities required to achieve a more stringent emission rate must verify the performance of control methods or add-on controls through a source test. Rule 1469 currently does not require periodic source testing.
A majority of facilities conducted a source test more than eight years ago. Only four facilities conducted a source test within the last three years and no source tests were conducted in 2014. Periodic source tests are necessary to confirm that the facility’s control method or add-on controls are providing sufficient capture and control of hexavalent chromium emissions at a specific emission rate. The source tested emission rate is used to determine an appropriate ampere-hour limit during the permitting process. If a facility operates at a higher emission rate than what was permitted, the hexavalent chromium emissions that would be emitted by the facility would be higher than what was expected.

**Slot Velocity Measurements**

Under Rule 1469, add-on air pollution control devices are one method of capturing and controlling hexavalent chromium emissions from electrolytic tanks. Hexavalent chromium emissions are captured via a ventilation system that is dependent on a specified velocity of air to ensure sufficient capture efficiency. Rule 1469 requires a periodic qualitative assessment of the performance of add-on air pollution control devices by conducting a smoke test. The smoke test verifies that emissions are moving directly towards the collection device and are not meandering around or moving away from the collection device. However, there is currently no requirement to quantify the slot velocities of the capture system. Recent source tests of add-on air pollution control devices specifies each individual slot velocity at the time of the source test. However, many older tests do not have a listed capture slot velocity. SCAQMD staff was concerned the slot velocity degrades over time due to lack of maintenance of the ventilation system and build-up of material in and around the slots leading to the ventilation system. Then the captured amount of hexavalent chromium would be significantly less than 100%. If the capture efficiency is not sufficient, hexavalent chromium emissions will not be directed to the pollution control device and will be fugitive.

SCAQMD staff conducted site visits at eight metal finishing facilities and measured the slot velocity of add-on controls using a hot wire anemometer. Generally a minimum slot velocity of 2,000 feet per minute for open tanks and 200 feet per minute for covered tanks is recommended per the Industrial Ventilation Manual 28th Edition. The measured slot velocities were generally lower than either the source tests (if available) or the corresponding recommended minimum slot velocities.
Facility E was found to be conducting monthly inspections of the control equipment by performing periodic cleaning of slots of the collection systems, replacing equipment parts of air pollution systems to optimize operation, and utilizing third-party contractors to conduct periodic smoke tests. Owner or operators at facilities with deficient slot velocities conducted infrequent measurement of slot velocities or no measurement of the slot velocities. Requirements to have an owner or operator of facilities periodically measure slot velocities would serve as an additional method to ensure that hexavalent chromium emissions are being collected and directed to the pollution controls.

SITE VISITS
As part of PAR 1469 development, SCAQMD staff conducted site visits at 47 facilities that either conduct chromic acid anodizing or hexavalent chromium electroplating. Beginning in 2015 and continuing into 2018, SCAQMD rules staff performed pre-arranged site visits at these facilities. The site visits focused on housekeeping, emission control methods at electroplating and anodizing tanks, conditions of buildings containing process tanks, grinding operations, and potential facility response to the prohibition of fume suppressants that facilities were utilizing as in-tank controls to prevent hexavalent chromium emissions.

Housekeeping Observations
Rule 1469 has specific conditions intended to prevent the generation of fugitive emissions of hexavalent chromium. These fugitive emissions may be generated due to atomization of chromium laden liquid, contamination, or uncontained chromium laden liquid being dried. SCAQMD staff observed the following practices that can lead to fugitive emissions of hexavalent chromium.
**Rinsing of Parts**

Prior to proceeding to the next tank in the process line, chrome laden liquid that is adhering to a part or equipment is removed. The owner or operator may utilize a water spray rinse to remove the chrome laden liquid. SCAQMD staff observed facilities spraying parts above a tank with the rinse water being uncontained. In certain circumstances, a splash guard was utilized to prevent overspray and the splash guard had holes or could be influenced by cross-draft. Also, facilities used high pressure sprays that had water ricocheting off parts potentially spreading hexavalent chromium laden liquid beyond the confines of the splash guard and tank.

**Drag-Out**

When parts are removed from the tank, chrome laden liquid adheres to the part. More liquid can adhere to the part if the part is pulled up quickly creating a situation where liquid is dragged out from the tank. In some situations, the drag-out liquid is not caught nor contained and lands on the floor. In other situations, owners or operators were observed to utilize drip trays between tanks or other methods to prevent chrome laden liquid from landing on the floor.

**Location of Roof Vents**

Roof vents of the building were located above the tank process area. The roof vents function as exhaust fans for the building that pulls air from the building into the atmosphere. Depending on the proximity of the tank and the contents and other parameters of the tank such as temperature and mixing technique, emissions from the tank can escape, uncontrolled, through the roof vents out to the atmosphere.

**Flooring Materials That are Difficult to Maintain**

Most facilities used either a metal grate or wood planks around tank processing areas. SCAQMD staff observed at one facility, however, that the flooring was constructed out of carpet that could trap chrome laden liquid. This carpet material would be difficult to clean and would be a potential source of fugitive hexavalent chromium emissions if disturbed and could be tracked out of the building.
Waste Processing Area
Some chromium electroplating or anodizing facilities process waste generated from the tank process. This involves treating wastewater such as reducing hexavalent chromium into trivalent chromium. Suspended solids get separated out from solutions and can be processed in a filter press. The processed solids are known as sludge and treated as waste. SCAQMD staff observed some facilities with process sludge in open containers and dust was observed in the waste processing area.

NEED FOR PROPOSED AMENDMENTS TO RULE 1469
As previously discussed, ambient monitoring and sampling at metal finishing facilities in Newport Beach, Paramount, and Long Beach have shown elevated levels of hexavalent chromium, these levels were attributed to cross-drafts that allowed hexavalent chromium emissions to escape outside of the building enclosure and hexavalent chromium emitting tanks that are currently not regulated under Rule 1469. Based on ambient monitoring data in Paramount, hexavalent chromium emissions were reduced by more than 75 percent after operators closed a door near the chromic acid anodizing and heated sodium dichromate tank that eliminated a cross-draft in the building opening that allowed emissions to exit the building. This demonstrated the need for certain operating parameters for building enclosures. In addition, emissions testing has shown that certain tanks, such as heated sodium dichromate seal tanks as well as other tanks with specific operating temperatures and hexavalent chromium concentrations that are currently not regulated under Rule 1469 can be a significant source of hexavalent chromium emissions potentially impacting off-site receptors. This demonstrated the need for pollution controls for these tanks and other tanks with similar operating characteristics.

PAR 1469 is needed to address issues found during ambient monitoring and emissions sampling and testing at Rule 1469 facilities in Newport Beach, Paramount, and Long Beach. Based on staff’s observations during site visits, the emissions issues identified at these facilities are not unique to their operations and occur at other Rule 1469 facilities that have similar tanks with similar operating characteristics such as, tanks with high concentrations of hexavalent chromium, elevated temperatures, air sparging, or that are rectified.

PAR 1469 is also needed to establish requirements that minimize the release of fugitive hexavalent chromium emissions from buildings. Sources of fugitive hexavalent chromium emissions from Rule 1469 facilities include building cross-drafts, and fans and vents that are open to the outside air located above uncontrolled hexavalent chromium emitting tanks. Sampling in roof vents at a facility in Newport Beach and Paramount showed that hexavalent chromium emissions do escape from roof vents. As a result provisions, to minimize roof openings within a specified distance of a Tier II or III Tank are included in PAR 1469. During the rulemaking process, staff took into consideration the affected sources and their concerns. One overarching concern expressed from the Metal Finishing Association was that a number of PAR 1469 facilities are small businesses and their ability to comply with more rigorous requirements such as a permanent total enclosure under negative air vented to air pollution controls. PAR 1469 provides a balance to provide public health protection, but has triggers for additional provisions such as a permanent total enclosure for facilities that have consistently shown they cannot meet the point source emission requirement or
fail to adhere to requirements to shut down a tank that fails specific parameter monitoring provisions.

In addition to issues identified through monitoring and sampling, staff identified other Rule 1469 amendments that are needed to minimize fugitive hexavalent chromium emissions. Provisions are needed to ensure ongoing compliance with emission limitation requirements. Currently, Rule 1469 requires a one-time source test of pollution control equipment to confirm compliance with the emission limit. Amended source testing provisions ensure that the pollution controls are operating properly and identify any degradation of the efficacy of the pollution controls that may occur over time. Provisions are also needed to ensure that pollution controls are operating on a continuous basis. PAR 1469 will incorporate provisions to conduct parameter monitoring such as slot velocities measurements on an ongoing basis to ensure ventilation to the pollution controls is operating properly on a continual basis. Figure 1-7 provides a summary of the approach used in the development of PAR 1469.

**Figure 1-7: PAR 1469 Approach**

![Figure 1-7: PAR 1469 Approach](image)

PAR 1469 is needed to establish basic best management practices. These relatively low-cost practices will help minimize fugitive hexavalent chromium emissions through the reduction of overspray of hexavalent chromium laden liquid and reduction of drag-out from parts. Amendments to Rule 1469 are also needed to ensure Rule 1469 is equally as stringent as the recent changes to the federal NESHAP.

**Overview of PAR 1469**

PAR 1469 seeks to regulate all tanks in hexavalent chromium electroplating and anodizing operations with hexavalent chromium concentrations of 1,000 ppm or greater. The proposed amendments will create three tiers of tanks:
A Tier I Hexavalent Chromium Tank means a tank permitted to contain a hexavalent chromium concentration of 1,000 ppm or greater and is not a Tier II or Tier III Hexavalent Chromium Tank.

A Tier II Hexavalent Chromium Tank means a tank permitted or operated above 140° that operates within the corresponding hexavalent concentration.

A Tier III Hexavalent Chromium Tank means a tank that is permitted to contain a hexavalent chromium concentration greater than 1,000 ppm, and uses air sparging as an agitation method or is electrolytic. Also, a tank is considered a Tier III Tank if the tank is permitted or operated above 140° and above a corresponding hexavalent chromium concentration.

Tier I, Tier II, and Tier III Tanks will be required to be operated in a building enclosure, and comply with housekeeping requirements and best management practices to minimize fugitive chrome emissions. Tier II and III Tanks will be required to operate with specific building enclosure requirements to minimize fugitive emissions released. Additionally, Tier III Tanks, which have been found to have higher emissions, will be required to be vented to add-on air pollution control devices. Hexavalent chromium tanks that are air sparged or are electrolytic are well-known to generate hexavalent chromium emissions, as discussed in the Process Description section, above. Additionally, staff’s emissions sampling found that hexavalent chromium tanks that operate at and above 170°F have significantly higher emissions than tanks operating at or below 140°F. Additional testing demonstrated that there are significant hexavalent chromium emissions when the tank bath temperature became elevated even at concentrations below a Tier I Tank.

Other proposed rule changes include:

- More stringent housekeeping practices for all facilities;
- Revisions to existing housekeeping requirements;
- Increased monitoring and recordkeeping;
- Prescriptive requirements to reduce cross-draft in plating areas; and
- Removal of interim Rule 1469 conditions that are no longer applicable.

Amendments to Rule 1469 are also needed to address recent revisions to the federal NESHAP. The NESHAP incorporates a lower surface tension limit for chemical fume suppressants limit of 40 dynes/cm when using a stalagmometer, or 33 dynes/cm when using a tensiometer and bans the use of PFOS in chemical fume suppressants. Most of the other provisions of the NESHAP are already incorporated into existing Rule 1469. SCAQMD staff has determined that several elements of current Rule 1469 as it stands are equivalent or more stringent than the newly amended NESHAP. Therefore, PAR 1469 proposes incorporating elements of the newly amended federal NESHAP into Rule 1469, along with the addition of several new or more stringent requirements that address fugitive emissions and control recently identified point sources. Rule 1469 is also being amended to provide clarity.

**CONTROL TECHNOLOGIES**

Several types of controls are available for metal electroplating processes and are currently used for reducing emissions from electroplating operations. They are described below.
High-Efficiency Particulate Arrestors (HEPA)
Used in conjunction with a pre-filter, HEPA filters can trap toxic particles as small as 0.3 µm at an efficiency of 99.97 percent or greater. Like cartridge filters, HEPA filter elements are of pleated construction. HEPA filters are generally limited to ambient temperature (up to 100° F), though special applications for higher temperatures are available. Unlike bags or cartridge filters, HEPA filters are not automatically cleaned. When a HEPA filter element becomes loaded with particulate matter, the filter is replaced and disposed of as hazardous waste.

Emission Elimination Device (EED)
An EED encloses a process tank while chrome plating is being conducted. The EED incorporates a membrane that allows for free passage of gasses, while effectively blocking the escape of water vapor and chemical mist. The EED is a stand-alone, self-contained unit requiring no supplementary equipment or exhaust outside the facility. Control efficiency is reported to be 100 percent.

Gases generated during the chromium electroplating process escape through the membrane on the EED. Water vapor condenses on the inside walls and top of the enclosure. The condensate runs back into the plating solution. Chromium mist, being heaviest of all by-products and because of the absence of any significant air movement, rises to a limited height and then also falls back into the plating solution. The denser mist, caused by the presence of water vapor mist, further reduces upward mobility of the chromium mist particles. In addition, the water vapor mist and droplets of condensed water provide scrubbing of the air inside the EED.

An adapter is affixed to the top of the plating tank walls with appropriately placed and properly sealed openings for buss bar, plumbing, and electrical conduits, etc. A hinged hood, with counter weights or other mechanical means of openings, is then placed on top of the adapter. A deformable sealing gasket material (compatible with process chemicals) is placed between the tank wall and adapter as well as between the hood and the adapter. An evacuation process is also incorporated into the system as a means of removing any mists or fumes that remain under the hood after the plating process is completed.

Parts to be plated are placed on the buss bars. The contacts must be cleaned and secured to avoid any sparking during plating. After the cover is closed and secured, the rectifier is turned on and the interlocks automatically engage to secure the access door. Interlocks ensure that the door is not opened while plating is being conducted in the tank. When the rectifier is turned off, the evacuation unit automatically turns on and must be run for a specified period.

Mist Suppression at Tank Surface
Applicable to electroplating and anodizing, mist suppression at the surface of the electroplating or anodizing tank is a low-cost, zero-energy, first-step method of mitigating heavy metal (including hexavalent chromium) bearing aerosols before they become entrained in ventilation air and put an unnecessary load on downstream control. Mist suppression is accomplished by floating polyethylene balls covering the wet surface of an electroplating or anodizing tank. Tanks remain fully functional with respect to work piece submergence and removal, and the aerosol generation
is reduced by 50 to 80 percent. Since aerosols are prevented from leaving the tank surface, there is no waste stream associated with this technology.

**Wet Packed-Bed Scrubber**

Wet packed-bed scrubbers consist of a vertical column made of fiberglass or other non-corrosive material loosely filled with specially shaped plastic packing material which maximizes gas-to-liquid contact and minimizes pressure drop across the column. Exhaust air from an electroplating or anodizing tank line enters at the bottom of the scrubber and exits at the top. The scrubbing solution is pumped from a reservoir at the base of the scrubber and sprayed down into the packing from the top. This flow scheme is called counter-current scrubbing and is the dominant method in use today due to its high pollutant removal efficiency, ranging from 90 to 98 percent, depending on residence (contact) time and solution freshness.

**Chevron Mist Eliminators**

This air pollution control device is available in different functional designs, the most common being a chevron-shaped baffle pattern which forces mist-laden air to make several abrupt changes in direction between the entry and exit points of the baffle material. Since mist droplets are much heavier than air molecules, they have too much linear momentum to make sharp turns without impacting the baffles. Since many mist droplets strike the baffles, a liquid film forms causing large droplets to coalesce and drop back down into the piece of equipment being controlled. Mist eliminators are used at the exhaust points of tank vents and wet packed scrubbers to reduce emissions of aerosols and to conserve process and scrubbing solutions, respectively. Since the liquid droplets formed by mist eliminators return to the controlled device, there are no waste streams resulting from their application.

**Mesh Pad Mist Eliminators**

Mesh pad mist eliminators are used to recover electroplating chemicals of chromium electroplating and chromic acid anodizing. For caustic baths, mesh pads are used to prevent corrosion of the ventilation system. They are also used in scrubber systems for primary removal of particles. However, in this application, multiple exhaust streams are typically combined in a single mist eliminator, thus removing the possibility of chemical recovery.

Mesh pads are considered more efficient than liquid scrubbers. They use smaller amounts of water, making chemical recovery feasible. In a typical arrangement, a mesh pad mist eliminator serves a single electroplating tank and is installed in the ventilation system. The cross sectional area of the exhaust duct is increased by the unit, reducing the velocity of the exhaust stream and allowing electroplating solution to adhere to the mesh pads. Removal efficiency is increased by adding mesh pads. The pads are periodically washed down and the collected electroplating solution is returned to the electroplating bath.
Chemical Fume Suppressants in the Electroplating Industry

**Background**
Chromium electroplating and chromic acid anodizing generates a large amount of hydrogen and oxygen gas bubbles due to electrolysis. A mist is formed by the bubbles created during electrolysis rising up through the plating solution and bursting through the surface of the plating bath. High speed droplets are ejected from the surface of the solution. The resulting speed of a droplet can be up to 10 m/sec. Collectively, these droplets form a fume or mist. The mist contains chromic acid and provides a transport mechanism for potential emissions of hexavalent chromium.

There are several proven preventive measures that can be implemented to reduce emissions and exposure to hexavalent chromium emissions from plating and anodizing baths. One of these measures is to use a chemical fume suppressant. The most common chemical fume suppressants are surfactant in nature and work by reducing the surface tension of the solution. This has a two-fold effect on the generation of mist. First, reducing surface tension reduces the size of the gas bubbles generated during electrolysis. These smaller bubbles travel slower through the solution and contain less energy than bubbles generated in solutions without a surfactant. Second, the lower surface tension reduces the energy with which the resulting droplets are ejected above the surface of the plating solution. Together, these effects can reduce emissions from the droplets, and therefore mist generation by a large percentage; estimates range from 90% to over 99%. The resultant exposure to emissions of hexavalent chromium is reduced in proportion.

Due to the aggressive chemical and electrochemical environment of chromium plating solutions, most mist suppressants are made from highly stable substances. Early chemical fume suppressants were of two types: wetting agent fume suppressants that reduce surface tension, and mist suppressants that formed foam blankets. Examples of wetting agent-type mist suppressants include Fumetrol 140, Benchbrite CR-1700 and CR-1800, DisMist NP, Clepo Chrome Mist Control and Macoplex STR.

**Development of Wetting Agent Chemical Fume Suppressants**
The intent of a wetting agent fume suppressant (WA/FS) is to reduce the surface tension of a liquid. When the surface tension is low, gases escape with reduced resistance leading to a diminished “bursting” effect, leading to less formation of mist. The most common types of WA/FS are fluorinated since fluorine adds stability throughout a wide range of operating conditions including temperature, electric current, chromic acid concentrations, and various chemical reactions.

The first generation WA/FS were hydrocarbon based. While they acted as surfactants, oils layered on the surface and carried over to rinse tanks making it not as beneficial. Health, safety, and production issues associated with these WA/FS required the plating bath to be dumped more often.

The second generation WA/FS were fluorinated or perfluorinated carbon chains. These compounds were found to be stable in boiling temperatures, high concentrations of chromic acid, and near the highest oxidizing conditions existing at the anodes. However, the low solubility of the WA/FS caused production issues: roughness, porosity, and cracking on the chromium plate during hard chrome plating.
The third generation WA/FS were also perfluorinated, but with higher solubility and lower foaming. There appeared to be no adverse production impacts on the chromium plate during hard chrome plating.

**Effectiveness of Third Generation Wetting Agent Fume Suppressants**

In 2002, SCAQMD staff conducted a study to establish the performance of third generation WA/FS on the control of emissions of chromium with results published in Nickel and Chromium Emissions from Electroplating Tanks. In particular, staff correlated emissions with reduced surface tensions of the plating bath.

From the data and conclusions in the 2003 SCAQMD Staff Report for Proposed Amended Rule 1469, it is evident that third-generation WA/FS are highly effective in reducing emissions from plating tanks. Data presented in the staff report showed that the observed emission reduction efficiencies ranged from 99.7% to 99.9% when compared with tanks operating without the use of chemical surfactants. These high levels of emission reduction efficiencies are achievable when the surface tension is reduced. WA/FS are one of the means of emissions control for many chromium plating tanks. For decorative and hard chrome plating tanks above a low production threshold, add-on controls, typically involving a scrubber, mesh pads and HEPA filters are also used as secondary controls. It is important to note that for tanks with add-on controls, use of WA/FS reduces inlet loading to the add-on control system by factor of up to 100 times.

**PFOS Fume Suppressants**

As described in the U.S. EPA’s publication Hard Chrome Fume Suppressants and Control Technologies, prior to 2015, PFOS was commonly used as a surfactant in widely-used mist suppressant products. PFOS is highly resistant to chemical attack and is well suited for use in harsh environments like hot chromic acid plating baths. However, the extremely robust nature of PFOS also means that it is not easily biodegraded or waste-treated and can be released into the environment where it can persist.

The U.S. EPA has expressed concerns about per- and polyfluoroalkyl substances (PFAS) due to toxicity and bioaccumulation. PFAS are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. PFOA and PFOS have been the most extensively produced and studied of these chemicals. There is evidence that exposure to PFAS can lead to adverse human health effects. PFOS has been classified as persistent, bioaccumulative and toxic.

In response to these concerns, the U.S. EPA has taken a number of regulatory actions to address PFAS substances in manufacturing and consumer products. One of these actions included amending the Chrome Plating NESHAP. On September 19, 2012, the U.S. EPA published final amendments to the Chrome Plating NESHAP. As part of those amendments, effective September 21, 2015, U.S. EPA phased out the use of PFOS in fume suppressants.

On September 21, 2015, CARB granted California chrome plating facilities a one-year extension from the PFOS ban, due to the lack of alternatives in the marketplace. The additional year allowed for a smooth transition toward the use of non-PFOS fume suppressants while maintaining public health protection from hexavalent chromium emissions. On September 21, 2016, all chromium
plating facilities that used a WA/FS were required to use a product certified by the CARB that does not contain PFOS.

**Development of Fourth Generation non-PFOS Fume Suppressants**

As the phase-out of PFOS fume suppressants approached in 2015 and 2016, chemical fume suppressant manufacturers began development and testing of fourth generation, non-PFOS fume suppressants. These products were tested for certification by manufacturers, with assistance from CARB and SCAQMD at chrome plating facilities in several locations within California. Since September 2016, five non-PFOS fume suppressants were approved for specified chrome plate operations (three products for decorative operations and chromic acid anodizing, and two products for hard chrome plating). These currently certified non-PFOS fume suppressants, along with the surface tension certified for use are included in Table 1-7: Chemical Fume Suppressants Approved for Use at Specific Surface Tensions:

**Table 1-12: Chemical Fume Suppressants Approved for Use at Specific Surface Tensions**

<table>
<thead>
<tr>
<th>Chemical Fume Suppressant and Manufacturer</th>
<th>Chrome Plating Applications</th>
<th>Stalagmometer Measured Surface Tension (dynes/centimeter)</th>
<th>Tensiometer Measured Surface Tension (dynes/centimeter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fumetrol 21 LF2 Atotech, U.S.A2</td>
<td>Hard plating</td>
<td>&lt; 30</td>
<td>&lt; 27</td>
</tr>
<tr>
<td>Dicolloy CRPF ProCom LLC2</td>
<td>Decorative plating and chromic acid anodizing</td>
<td>&lt; 32</td>
<td>&lt; 29</td>
</tr>
<tr>
<td>HCA - 8.4 Hunter Chemical LLC2</td>
<td>Decorative plating and chromic acid anodizing</td>
<td>&lt; 25</td>
<td>&lt; 22</td>
</tr>
<tr>
<td>HCA - 8.4 Hunter Chemical LLC2</td>
<td>Hard plating</td>
<td>&lt; 33</td>
<td>&lt; 30</td>
</tr>
<tr>
<td>Macuplex STR NPFX MacDermid Enthone Industrial Solutions2</td>
<td>Decorative plating and chromic acid anodizing</td>
<td>&lt; 32</td>
<td>&lt; 30</td>
</tr>
</tbody>
</table>

**Toxicity Reviews by the California Office of Environmental Health Hazard Assessment (OEHHA)**

OEHHA conducted toxicity literature reviews of the ingredients in the currently certified non-PFOS fume suppressants, as follows:


Reference Exposure Levels (RELs) are concentrations at or below which adverse health effects are not likely to occur in the general human population. Before RELs are officially adopted by OEHHA under the Hot Spots Program, they undergo internal peer review, one public comment period, two public workshops, and external peer review by the Scientific Review Panel on Toxic Air Contaminants. Interim RELs (iRELs) do not undergo the same comprehensive review process as OEHHA Hot Spots RELs.

Below is a brief summary of the toxicity reviews conducted by OEHHA.

**Perfluorohexane Sulfonate (PFHxS)**
There was some evidence of reproductive toxicity, but insufficient evidence to be conclusive. The review was not exhaustive and more studies are needed to understand the effects. This was, in part, due to the fact that there was limited literature on toxicity available. OEHHA was not able to develop an iREL.

**6:2 Fluorotelomer Sulfonate (FTS/FTSA) and Perfluorohexanoic Acid (PFHxA)**
The exposure occurs via inhalation or ingestion. FTSA is biopersistent and does not degrade rapidly in soil or water. The evidence suggests relatively lower risk compared to PFOS and PFHxS. There is some evidence of reproductive toxicity, but insufficient evidence to be conclusive. OEHHA was not able to develop an iREL.

**6:2 Fluorotelomer Alcohol (FTOH)**
The exposure occurs via inhalation and exhibited rapid degradation with a half-life of less than two days in soil. The compound is capable of long distance atmospheric transport and surface contamination, producing potentially toxic responses based on animal studies. OEHHA was able to develop an iREL for Acute: 20 ppb; 8-Hour: 2 ppb; and Chronic 1 ppb exposures.

**Sodium Diamyl Sulfosuccinate**
There was insufficient information to make conclusions due to the limited literature on toxicity available. OEHHA was not able to develop an iREL.

Additional details regarding the specific studies used for the toxic literature review, exposure pathways, and the approach can be found in OEHHA’s literature review.

**Toxicity Concerns of Certified non-PFOS Chemical Fume Suppressants**
Over the past several years there has been an increasing concern about PFAS, PFOA, and PFHxS chemicals. There have been numerous articles regarding the toxicity and the bio-accumulative
health effects of these chemicals. Although most of the discussions have focused on ground water contamination and its use near manufacturing facilities and as a fire retardant, there is a growing concern about the health effects of the use of these materials in chemical fume suppressants used at metal finishing facilities. In May of 2018, the USEPA held a National Leadership Summit in Washington D.C. to share information on the ongoing efforts to characterize the risks from PFAS and develop monitoring and treatment cleanup techniques. Although the SCAQMD was not invited to participate in the Leadership Summit, staff will monitor the efforts on the national level and will be conducting additional emissions testing for chemical fume suppressants to better understand the amount of these chemicals that are released during the metal finishing process.

Chemical fume suppressants are able to reduce the surface tension and hexavalent chromium emissions from plating and anodizing tanks. Their effect reduces both inlet loading to air pollution control equipment and protects workers within plating and anodizing facilities from breathing mist containing hexavalent chromium, a known human carcinogen.

However, based on the conclusions from the toxicity reviews conducted by OEHHA, SCAQMD staff is looking further into additional measures to address the potential toxicity of these products while acknowledging the preliminary nature of the reviews. Other alternatives include using reformulated chemical fume suppressants that do not contain toxic compounds of concern, however, this is mainly dependent on the interest and willingness from manufacturers to develop and make these products available. Another option for facilities would be the installation of add-on air pollution control devices to reduce hexavalent chromium emissions. Staff recognizes that this may be a costly option for some smaller Rule 1469 facilities and is working with stakeholders to look at possible funding that can help sources to accelerate and incentivize the installation of add-on air pollution control devices and/or phase out hexavalent chromium from affected tanks.
Trivalent Chromium in Decorative Electroplating
An alternative to hexavalent chromium decorative electroplating that has existed since the 1970s is trivalent decorative electroplating. In the 2003 amendment to Rule 1469, staff discussed trivalent chromium decorative electroplating as a potential alternative to hexavalent chromium electroplating with the advantages and disadvantages summarized in the table below.

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Disadvantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower metal concentrations</td>
<td>Differences in color</td>
</tr>
<tr>
<td>No reduction step</td>
<td>Higher cost</td>
</tr>
<tr>
<td>Higher rack densities</td>
<td>More careful control of plating conditions required</td>
</tr>
<tr>
<td>Lower current density</td>
<td>End product is darker and not as shiny</td>
</tr>
<tr>
<td>Fewer rejects</td>
<td></td>
</tr>
<tr>
<td>Reduced dragout</td>
<td></td>
</tr>
<tr>
<td>No fumes</td>
<td></td>
</tr>
</tbody>
</table>

Staff visited two PAR 1469 facilities that do not conduct hexavalent chromium electroplating and utilize trivalent chromium electroplating. One facility electroplated clothing racks and the other facility electroplated furniture. Both facilities utilized a third-party company to periodically conduct an analysis of various bath constituents and advise them of necessary modifications to the bath. The third-party company measured concentrations of proprietary chemicals in the bath that included a chemical called a brightener and whitener. The facility representatives indicated that the brightener and whitener allowed the finish to be closer to that of hexavalent chromium. However, both facility representatives expressed concern about the durability and resistance of the finish to outdoor elements. One facility representative indicated that trivalent chromium would develop pitting within six months and that previous chemistry produced a part that had a yellowish tinge compared to the blue tinge produced by hexavalent chromium. PAR 1469 has significantly less requirements for trivalent chromium electroplating compared to hexavalent chromium electroplating making the path to compliance more affordable. During, the development of PAR 1469, various stakeholders expressed a preference requiring facilities to use trivalent chromium instead of hexavalent chromium. To avoid a conflict with a federal requirement that requires the use of hexavalent chromium, a ban of the use of hexavalent chromium would need to occur at the federal level.

Figure 1-8: Photographs of Trivalent Chromium Electroplated Products
Staff contacted PAVCO, a distributor of a trivalent chromium that provided the following information:

There are two chemistries available for trivalent chromium electroplating: chloride electrolyte and sulfate electrolyte. The color scale for the sulfate electrolyte is closer to pure white and is used by most clients within SCAQMD’s jurisdiction. While the color scale for sulfate electrolyte is the closest to hexavalent chromium, it is more sensitive to metallic contamination such as iron and nickel.

Table 1-14: PAVCO’s Comparison of Trivalent Chromium and Hexavalent Chromium Electroplating

<table>
<thead>
<tr>
<th>Advantages for Trivalent Chromium Electroplating</th>
<th>Advantages for Hexavalent Chromium Electroplating</th>
<th>Comparable Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lower current density needed</td>
<td>• Plates faster</td>
<td>• Equivalent corrosion protection of plated surface based on Copper Activated Salt Spray (CASS)</td>
</tr>
<tr>
<td>• Can fit more parts on rack</td>
<td>• Better activation inside parts; passivate hard to reach areas</td>
<td>• Comparable cost when accounting for higher cost of trivalent chemistry vs. higher cost of control requirements and treatment of wastewater for hexavalent chromium</td>
</tr>
<tr>
<td>• Less treatment of wastewater needed</td>
<td>• Color is more stable over time</td>
<td></td>
</tr>
<tr>
<td>• Lower scrap factor</td>
<td>• Less expensive chemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Less attention to detail required</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1469

PROPOSED AMENDMENTS TO RULE 1469
PROPOSED AMENDMENTS TO RULE 1469

Proposed amendments to Rule 1469 establishes additional requirements for facilities that conduct chromium electroplating or chromic acid anodizing. The intent of the rule is to further reduce hexavalent chromium emissions by addressing both fugitive emissions and point-source emissions. Fugitive hexavalent chromium emissions are addressed through additional housekeeping and maintenance activity requirements, and building enclosures of areas that may lead to hexavalent chromium emissions. New point-source controls are required for hexavalent chromium-containing tanks that have been identified based on certain operating parameters to be sources of hexavalent chromium emissions. Facilities will also be required to conduct periodic source tests to verify that add-on air pollution control devices are performing as intended. This chapter outlines changes and additions made to the current version of Rule 1469 and is divided into sections as they appear in PAR 1469.

Purpose – Subdivision (a)
Consistent with other SCAQMD rules, a purpose provision was added to PAR 1469. The purpose of PAR 1469 is to reduce hexavalent chromium emissions from facilities that perform chromium electroplating or chromic acid anodizing operations, and other activities that are generally associated with chromium electroplating and chromic acid anodizing operations.

Applicability – Subdivision (b)
PAR 1469 applies to facilities that conduct chromium electroplating or chromic acid anodizing operations. PAR 1469 expands the applicability to other hexavalent chromium emitting process tanks that are associated with electroplating or chromic acid anodizing tanks.

PAR 1469 removes the language in this subdivision requiring compliance with SCAQMD Rule 1401 and Rule 1401.1. This language was deleted since PAR 1469 does not preclude compliance with SCAQMD Rule 1401 and Rule 1401.1. Similarly, the existing language transferred from the state’s Chrome Plating ATCM regarding prohibitions on chromium electroplating and chromic acid anodizing kits have also been removed since Rule 1469 facilities are still subject to those requirements.

Definitions – Subdivision (c)
PAR 1469 modifies or adds the definitions of the following terms used in the proposed amendment. Please refer to PAR 1469 for actual definitions. Key changes are summarized below:

- ADD-ON AIR POLLUTION CONTROL DEVICE (modified)
- ADD-ON NON-VENTILATED AIR POLLUTION CONTROL DEVICE (added)
- AIR POLLUTION CONTROL TECHNIQUE (modified)
- APPROVED CLEANING METHOD (added)
- ASSOCIATED PROCESS TANK (added)
- BARRIER (added)
- BREAKDOWN (removed)
- BUILDING ENCLOSURE (added)
- ENCLOSURE OPENING (added)
- FUGITIVE EMISSIONS (modified)
- HIGH EFFICIENCY PARTICULATE ARRESTORS (HEPA) (modified)
• HEPA VACUUM (added)
• LOW PRESSURE SPRAY NOZZLE (added)
• MECHANICAL FUME SUPPRESSANT (modified)
• METAL REMOVAL FLUID (added)
• PERFLUROOCTANE SULFONIC ACID (PFOS) BASED FUME SUPPRESSANT (added)
• PERMANENT TOTAL ENCLOSURE (added)
• SCHOOL (modified)
• STALAGMOMETER (modified)
• TANK PROCESS AREA (added)
• TENSIOMETER (modified)
• TIER I HEXAVALENT CHROMIUM TANK (added)
• TIER II HEXAVALENT CHROMIUM TANK (added)
• TIER III HEXAVALENT CHROMIUM TANK (added)
• WEEKLY (modified)

The definition for enclosure opening was added and is any permanent, designed opening in a building enclosure or permanent total enclosure, such as passages, doorways, bay doors, and windows in a building enclosure. Stacks, ducts, openings to accommodate stacks and ducts are not considered enclosure openings. These openings are specifically designed to accommodate a stack or duct and do not function as a general opening. Ducts where there is a gap between the duct and the roof opening should generally conform to the duct opening, but does not need to be the same shape. Figure 2-1: Roof View of Stack Opening and Enclosure Opening demonstrates the differences between the two.

![Figure 2-1: Roof View of Stack Opening](image)

The added definitions for Tier I, Tier II, and Tier III Hexavalent Chromium Tanks are noteworthy as many of the proposed amendments to Rule 1469 are associated with the newly added tanks that are potential sources of hexavalent chromium emissions.
The definitions for these tanks are as follows:

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

As discussed in Chapter 1, SCAQMD staff sampled a number of tanks and the results showed that some tanks that are not currently regulated under Rule 1469 can contain high levels of hexavalent chromium. Tanks containing a hexavalent chromium concentration of 1,000 ppm or greater were included in this definition because it is consistent with the federal NESHAP for Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks that are required to meet specific housekeeping practices. PAR 1469 will require Tier I Hexavalent Chromium Tanks to be subject to both the existing and newly added requirements for housekeeping and best management practices of the rule.

There is concern about hexavalent chromium containing tanks operating under conditions that can generate hexavalent chromium emissions outside of a tank. Hexavalent chromium containing tanks that are heated, air sparged, or electrolytic can generate hexavalent chromium emissions. High concentrations of hexavalent chromium were found by SCAQMD staff in sodium dichromate seal tanks and chrome stripping tanks with similar operating characteristics. These tanks are newly defined in PAR 1469 as follows:

- **TIER II HEXAVALENT CHROMIUM TANK** means a tank that is operated or permitted to operate by the SCAQMD within the range of temperatures and corresponding hexavalent chromium concentrations specified below and is not a Tier III Hexavalent Chromium Tank.

<table>
<thead>
<tr>
<th>Temperature (° F)</th>
<th>Tier II Tank Concentration (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 140 to &lt;145</td>
<td>≥ 5,200 to &lt;10,400</td>
</tr>
<tr>
<td>≥ 145 to &lt;150</td>
<td>≥ 2,700 to &lt;5,500</td>
</tr>
<tr>
<td>≥ 150 to &lt;155</td>
<td>≥ 1,400 to &lt;2,900</td>
</tr>
<tr>
<td>≥ 155 to &lt;160</td>
<td>≥ 700 to &lt;1,600</td>
</tr>
<tr>
<td>≥ 160 to &lt;165</td>
<td>≥ 400 to &lt;800</td>
</tr>
<tr>
<td>≥ 165 to &lt;170</td>
<td>≥ 180 to &lt;400</td>
</tr>
<tr>
<td>≥170</td>
<td>≥ 100 to &lt;200</td>
</tr>
</tbody>
</table>
- TIER III HEXAVALENT CHROMIUM TANK means a tank that is operated or permitted to operate by the SCAQMD within the range of temperatures and corresponding hexavalent chromium concentrations specified below; or

<table>
<thead>
<tr>
<th>Temperature (° F)</th>
<th>Tier III Tank Concentration (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 140 to &lt;145</td>
<td>≥ 10,400</td>
</tr>
<tr>
<td>≥ 145 to &lt;150</td>
<td>≥ 5,500</td>
</tr>
<tr>
<td>≥ 150 to &lt;155</td>
<td>≥ 2,900</td>
</tr>
<tr>
<td>≥ 155 to &lt;160</td>
<td>≥ 1,600</td>
</tr>
<tr>
<td>≥ 160 to &lt;165</td>
<td>≥ 800</td>
</tr>
<tr>
<td>≥ 165 to &lt;170</td>
<td>≥ 400</td>
</tr>
<tr>
<td>≥170</td>
<td>≥ 200</td>
</tr>
</tbody>
</table>

  o Contains a hexavalent chromium concentration greater than 1,000 ppm, and uses air sparging as an agitation method or is electrolytic; or
  o Is a hexavalent chromium electroplating or chromic acid anodizing tank.

Based on sampling and testing data conducted by the SCAQMD discussed in Chapter 1, tanks containing any concentration of hexavalent chromium that are operated below 140° F have not been shown to exhibit elevated hexavalent chromium emissions. Additional sampling and testing data have demonstrated a correlation between temperature of the bath and hexavalent chromium tank concentration. Elevated temperatures correlated with hexavalent chromium emissions at low concentrations. Tier II Hexavalent Chromium Tanks have the potential to emit hexavalent chromium emissions at a rate between 0.20 mg/hr to 0.40 mg/hr. Therefore, Tier II Hexavalent Chromium Tanks are allowed to utilize other low-cost controls such as mechanical fume suppressants or tank covers to reduce hexavalent chromium emissions to below 0.20 mg/hr. Additional thresholds were added in determining a Tier III Hexavalent Chromium Tank. Tier III Hexavalent Chromium Tanks are subject to separate requirements for emission controls explained later in this chapter.

Requirements – Subdivision (d)

Subdivision (d) establishes the requirements for PAR 1469. Paragraph (d)(1) has been revised to require a separate meter to be hardwired for each hexavalent chromium electroplating or chromic acid anodizing tank instead of for each rectifier.

Paragraph (d)(2) has been revised to clarify two terms: 1) electroplating refers to chromium electroplating; and 2) anodizing tank refers to a chromic acid anodizing tank.

Paragraph (d)(4) has been added to require any Tier I, Tier II, or Tier III Hexavalent Chromium Tank to be operated within a building enclosure beginning 90 days after date of rule adoption. This provision requires that Tier I, Tier II, or Tier III Tanks be operated within a building enclosure, as defined by this rule. A building enclosure is a permanent building or physical structure, or portion of a building, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. A room within a building enclosure that is completely enclosed with a floor, walls, and a roof would also meet this definition.
Paragraph (d)(5) has been added to require any Tier II or Tier III Hexavalent Chromium Tank to be operated within a building enclosure that meets additional requirements in subdivision (e). This provision does not require that a Tier I Tank be operated within a building enclosure that meets the additional requirements under subdivision (e) such as limitations on enclosure openings.

**Requirements for Building Enclosures for Tier II and Tier III Hexavalent Chromium Tank(s) – Subdivision (e)**

PAR 1469 adds requirements to operate any Tier II or Tier III Hexavalent Chromium Tank within a building enclosure that meets specific requirements under paragraphs (e)(1) through (e)(9) beginning 180 days after date of rule adoption. As discussed above, Tier I Hexavalent Chromium Tanks are required to operate within a building enclosure, however, the building enclosure where a Tier I Tank is operated (provided there is not a Tier II or III Tank) is not required to meet the additional requirements of this subdivision. The following summarizes those requirements for building enclosures for Tier II and III Hexavalent Chromium Tanks.

Paragraph (e)(1) establishes requirements for enclosure openings for a building enclosure. Under this paragraph, the combined area of all building enclosure openings, including any roof openings for passage of equipment or vents through which fugitive hexavalent chromium emissions can escape from the building enclosure, shall not exceed 3.5% of the building enclosure envelope, which is calculated as the total surface area of the building enclosure’s exterior walls, floor and horizontal projection of the roof on the ground. This requirement is based on U.S. EPA’s Method 204 for Permanent Total Enclosures, however, unlike Method 204, building enclosures under PAR 1469 are not required to be under negative air pressure. As such, the requirement for a 5% allowance for openings in the building enclosure has been decreased to 3.5% to compensate for the absence of having a building enclosure vented to an add-on air pollution control device. Information on calculations for the building enclosure envelope, including locations and dimensions of openings counted toward the 3.5% allowance are required to be provided in the compliance status reports pursuant to paragraphs (p)(2) and (p)(3).

PAR 1469 identifies the type openings that are not counted towards the 3.5% enclosure opening allowance. As specified in paragraph (e)(1), openings that close or consist of the following shall not be counted toward the combined area of enclosure openings:

- Door that automatically closes;
- Overlapping plastic strip curtains;
- Vestibule;
- Airlock system, or
- Alternate method to minimize the release of fugitive emissions from the building enclosure that the owner or operator can demonstrate to the Executive Officer that is an equivalent or more effective method(s) to minimize the movement of air within the building enclosure. This provision allows the owner or operator to develop other low-cost methods that were not identified during the rulemaking.

Paragraph (e)(2) establishes the requirements to eliminate or minimize cross-draft that can occur when openings at opposite ends of building enclosure are open. Under this paragraph, 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, not to exceed two hours, 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 specified in subparagraph (e)(1)(A) through (e)(1)(E). Although PAR 1469 does not require the owner or operator of facility to either monitor or record the time the enclosure openings are open, if an operator is observed or information is obtained to show that an enclosure opening remains open for more than two hours, that would be a violation of the provisions. A provision was added to PAR 1469 also allows use of a barrier, 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.

Paragraph (e)(3) establishes the 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 listed under paragraph (e)(1), that directly faces and opens towards the nearest: (1) sensitive receptor, with the exception of a school, that is located within 100 feet, as measured from the property line of the sensitive receptor to the building enclosure opening; (2) School that is located within 1,000 feet, as measured from the property line of the school to the building enclosure opening. If there are multiple sensitive receptors that are located within 1,000 feet of an enclosure opening, only the nearest enclosure opening would be required to be closed. Similarly, if there are multiple schools or early educations centers that are located within 1000 feet of an enclosure opening, only the nearest enclosure opening to the school would be required to be closed. The maximum enclosure openings that would be required to be closed under this paragraph would be two. Through the rule development process, a number of comments from stakeholders were made regarding sufficient air intake and concerns that PAR 1469 would require that all enclosure openings be closed, impacting worker comfort and safety. This provision combined with other provisions for enclosure openings such as the 3.5% enclosure opening allowance and closing openings that can lead to cross-draft provide additional protections for the community and sensitive receptors, while acknowledging the need to provide air intake for workers that are located in the building enclosure.

**Figure 2-2: Building Enclosure Openings Required To Be Closed**

[Diagram showing the required enclosure openings to be closed based on the proximity to sensitive receptors and schools.]
Paragraph (e)(4) establishes requirements for enclosure openings, specifically roof openings. Under this paragraph, the owner or operator is required to ensure that all roof openings that are located within 15 feet from the edge of any Tier II or Tier III Hexavalent Chromium Tank are closed, except for roof openings that are used to allow access for equipment or parts, provide intake air for a building enclosure that does not create air velocities that impact the collection efficiency of a ventilation system for an add-on air pollution control device, or roof openings that are equipped with a HEPA filter or other air pollution control device. This provision is included in PAR 1469 because emissions testing from vents near a Tier III Tank and samples from vents and roof tops of buildings where Tier II and III Tanks were operated showed that hexavalent chromium emissions can escape through roof vents and accumulate on roof tops. These fugitive emissions leaving the building can lead to elevated levels of hexavalent chromium detected by ambient monitors. It should be noted that the definition of enclosure opening under PAR 1469 does not include stacks, ducts, and openings to accommodate stacks and ducts.

Paragraph (e)(5) establishes requirements when there is a breach in a building enclosure that is located near a Tier II or III Tank. A breach can be a break, rupture, crack, hole, large gap in the building enclosure. Under this paragraph, the owner or operator is required to repair a breach in a building enclosure that is located within 15 feet of the edge of any Tier II or III Tank within 72 hours of discovery. The provision establishes who to call and the procedures for a time extension to repair the breach, if needed.

Paragraph (e)(6) provides procedure to follow if there are specific provisions under paragraphs (e)(1) through (e)(4) that cannot be complied with due to safety or local building requirements. Regarding worker safety, stakeholders asked which agency requirement for the construction and/or operation of building enclosure took precedence: SCAQMD or Cal-OSHA/Federal OSHA. PAR 1469 acknowledges that a building enclosure should not be designed to conflict with either Cal-OSHA/Federal OSHA’s requirements, or other municipal codes or agency requirements related directly to worker safety, and instead should be constructed in a manner that is compliant with all agency requirements. This may require the owner or operator of a facility to install additional equipment or modify the existing structure. Paragraph (e)(6) provides a mechanism for an owner or operator of a facility to allege that a Cal-OSHA/Federal OSHA or other municipal codes or agency requirements directly related to worker safety conflict with PAR 1469. The owner or operator shall notify the Executive Officer and submitting a Building Enclosure Compliance Plan that explains why a provision or provisions in paragraphs (e)(1) through (e)(4) cannot be met and the alternative compliance measures that shall be implemented. During the rulemaking process, SCAQMD staff contacted Cal-OSHA staff, and based on their review of the building enclosure provisions Cal-OSHA staff commented that there are not minimum ventilation rate for plating facilities and based on their review of PAR 1469 no conflicts between Cal-OSHA requirements and PAR 1469 were found. In the event that there is a conflict, however, PAR 1469 establishes a process to ensure that requirements from the referenced agencies can be implemented in a manner that minimizes release of fugitive emissions while maintaining worker safety.

Paragraph (e)(7) establishes the provisions for approval and disapproval of the Building Enclosure Compliance Plan if an owner or operator submits one under paragraph (e)(6). Under paragraph (e)(8) the owner or operator will have 90 days upon receiving approval from the Executive Officer to implement the approved alternative compliance measures. The owner or operator of a facility
that implements and maintains the approved alternative compliance measures shall be deemed to have met the applicable requirements specified in paragraphs (e)(1) through (e)(4).

Paragraph (e)(9) incorporates a provision that allows an owner or operator to delay meeting certain building enclosure requirements if add-on pollution controls will be installed or are required for Tier II or III Hexavalent Chromium Tanks. Tier II or Tier III Hexavalent Chromium Tank(s) may introduce heat and humidity that were vented using building enclosure openings, which if closed, could cause the facility’s working environment to become excessively hot and humid. In lieu of a facility installing additional ventilation systems for the building enclosure, the add-on air pollution control device for a Tier II or Tier III Hexavalent Chromium Tank(s) would be able to control the heat and humidity. Therefore, the owner or operator of a facility that is installing an add-on air pollution control device to for either a Tier II or Tier III Hexavalent Chromium Tank(s) shall be exempt from paragraphs (e)(1) and (e)(4) until the add-on air pollution control device has been installed and commenced normal operations.

Housekeeping Requirements – Subdivision (f)
PAR 1469 moves housekeeping requirements from the requirements subdivision to its own dedicated subdivision (f). Amended provisions include the following:

- No changes to paragraph (f)(1) and (f)(2) regarding storage of chromic acid power or flakes.
- A modification to paragraph (f)(3) that requires the use of an approved cleaning method (see the definitions section for details about the types of cleaning that included in this term).
- Paragraph (f)(4) requires the use of an approved cleaning method when cleaning requires surfaces and it modifies the frequency from at least once every seven days to weekly.
- Paragraph (f)(5) was modified to require that containers that hold chromium or chromium-containing waste material shall be kept closed at all times except when filling or emptying. Based on site-visits, many facilities were already implementing this practice. Waste containers can be a source of hexavalent chromium if left open and this codifies a current practice.
- Paragraph (f)(6) requires that on each day when buffing, grinding, or polishing, the owner or operator shall clean floors within 20 feet of a buffing, grinding, or polishing workstation. The requirements of (f)(6) shall not apply to owner or operators that utilize a metal removal fluid to control buffing, grinding, or polishing operations.
- Paragraph (f)(7) 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 where hexavalent chromium materials can be trapped. Examples of acceptable flooring material are wooden floor boards and other solid material that can be cleaned and maintained as prescribed by the rule.
- Paragraph (f)(8) has been added to require owners or operators to conduct measures prior to and during the cutting of roof surfaces to prevent the generation of fugitive dust emissions:
  - Prior to being cut, affected roof surface areas shall be cleaned by using a HEPA vacuum; and
  - Minimize fugitive emissions during cutting activities, by using method(s) such as a temporary enclosure and/or HEPA vacuuming; and
o Notify the SCAQMD at least 48 hours prior to the commencement of any roof cutting activities into a building enclosure by calling 1-800-CUT-SMOG

• Paragraph (f)(9) requires that if a HEPA vacuum is used to comply with housekeeping provisions of subdivision (f), 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.

Previous requirements pertaining to establishing a physical barrier between buffing, grinding, or polishing and where chromium electroplating or chromic acid anodizing have been moved to subdivision (g) - Best Management Practices. Previous requirements pertaining to compressed air cleaning have also been moved to subdivision (g) - Best Management Practices.

For the purposes of PAR 1469, any time the roof surface of a building enclosure that is subject to subdivision (e) is intentionally broken, the action is considered to be cutting of the roof. This can include the installation of skylights, installation of vents, and construction of air pollution control devices on the roof. It should be noted that SCAQMD Rule 1403 applies to any renovation or demolition activity, and that the owner, operator, or any certified asbestos contractor for these activities will need to comply with the provisions of SCAQMD Rule 1403.

Best Management Practices – Subdivision (g)
PAR 1469 creates a new subdivision (g) for Best Management Practices. Best Management Practices prescribe how an owner or operator shall conduct electroplating or anodizing and other ancillary operations to prevent the release or generation of fugitive emissions.

Paragraph (g)(1) provides clarification for provisions for minimization of drag-out for automated and non-automated lines. For facilities with automated lines, the owner or operator can utilize methods other than drip trays such as other containment devices to prevent hexavalent chromium-containing liquid from falling between electroplating or anodizing tanks. Additional cleaning requirements include cleaning residue on the drip tray or other devices used for containing liquids. Facilities without automated lines shall handle parts in a manner that does not cause hexavalent chromium-containing liquid to drop on the floor. There are no proposed amendments to provisions regarding splash guards and cleaning splash guards.

Paragraph (g)(2) prohibits owners or operators from spray rinsing parts or equipment that were previously in a Tier II or Tier III hexavalent chromium tank, unless the part or equipment are fully lowered inside a tank where the liquid is captured inside the tank. Provisions under paragraph (g)(2) must be implemented beginning 90 days after date of adoption. If an owner or operator chooses to spray rinse above a process tank, they must ensure that any hexavalent chromium-containing liquid is captured and returned to the tank, and:

- Install a splash guard at the tank that is free of holes, tears or openings. Splash guards shall be cleaned weekly; 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 matter that water flows off of the part or equipment.
Subparagraph (g)(2)(B) which allows use of low pressure spraying was added based on input from stakeholders. During the development of PAR 1469, industry stakeholders requested consideration of the practice of using spray nozzles on the rack system that would rinse the part prior to moving onto the next finishing process. The water would be either applied in a misting manner or with a low pressure spray nozzle that does not create overspray. The low pressure spray was determined to be 35 pounds per square inch based on the definition of low pressure for residential water pressure.

Beginning 60 days after date of adoption, paragraph (g)(3) requires owners or operators to label each tank within the tank process area with a tank number or other identifier, bath contents, maximum concentration (ppm) of hexavalent chromium, operating temperature range, any agitation method used, and its status as a Tier I, Tier II, or Tier III Hexavalent Chromium Tank. Tank labeling will help operators as well as SCAQMD inspectors identify Tier I, II, and III Tanks and to ensure the appropriate operating conditions are maintained.

Beginning 90 days after date of adoption, paragraph (g)(4) requires all buffing, grinding, and polishing operations to take place within a building enclosure, while paragraph (g)(5) relocates the existing requirement to have a barrier that separates the buffing, grinding, or polishing area within a facility from the chromium electroplating or chromic acid anodizing operation. Both requirements prevent the generation of particulates that could act as a transportation medium for hexavalent chromium.

Paragraph (g)(6) prohibits compressed air cleaning or drying within 15 feet of all Tier II or Tier III Hexavalent Chromium Tank(s) unless a barrier separates those tanks from compressed air cleaning or drying operation, or the compressed air cleaning or drying is conducted in a permanent total enclosure. A tank wall may function as a barrier as long as parts are compressed air cleaned or dried below the lip of the tank as shown in Figure 2-3: Compressed Air Drying Near Tier II or Tier III Tank.
The concern is that particulates from those areas may become airborne, or the compressed air cleaning/drying may be conducted in a manner that impacts the collection efficiency of an add-on air pollution control device.

**Air Pollution Control Technique Requirements – Subdivision (h)**

PAR 1469 creates a new subdivision (h) for requirements regarding add-on air pollution control devices and emission standards. A summary of the provisions of subdivision (h) are described below.

Paragraph (h)(1) is an existing provision that prohibits the removal of pollution control equipment unless it is replaced with an air pollution control technique that meets the requirements for PAR 1469 Table 1 – Hexavalent Chromium Emission Limits for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks.

Subparagraph (h)(2)(A) consolidates the emission standards and control requirements for existing, modified, and new hexavalent hard and decorative chromium electroplating and chromic acid anodizing facilities (see definitions) into PAR 1469 Table 1. For reference, this table is provided below in Figure 2-4.
Additionally, all effective dates for notification to the Executive Officer, emission standards, permit application submittals, and control requirements were removed as these dates have passed and in full effect.

Subparagraph (h)(2)(B) retains the siting requirements for New Chromium Electroplating and Chromic Acid Anodizing Facilities.

All requirements to conduct a facility-wide screening health risk assessment have been removed in this subdivision because these assessments are currently addressed by SCAQMD’s ongoing
program for new source review of toxics (Rule 1401 and 1401.1) and implementation of AB 2588 (Rule 1402).

Paragraph (h)(3) applies to decorative chromium electroplating processes using a trivalent chromium bath. PAR 1469 revises the requirement to utilize a certified chemical fume suppressant, as certification at the state level only require this of hexavalent chromium electroplating and chromic acid anodizing operations. PAR 1469 adds that chemical fume suppressants cannot contain PFOS for consistency with the NESHAP for Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

Emission Controls and Standards for Tier III Hexavalent Chromium Tanks (h)(4)

Paragraph (h)(4) adds new requirements for Tier III Hexavalent Chromium Tanks that are not chromium electroplating or chromic acid anodizing tanks. These tanks are required to be vented to an add-on air pollution control device or an approved alternative compliance method pursuant to subdivision (i). These tanks must comply with the following specific hexavalent chromium emission limits:

- 0.0015 mg/amp-hr, for existing facilities, if any tank(s) vented to an air pollution control device are electrolytic; or
- 0.0011 mg/amp-hr, for new facilities, if any tank(s) vented to an air pollution control device are electrolytic; or
- 0.20 mg/hr, if all tanks vented to the add-on air pollution control device are not electrolytic and the ventilation system has a maximum exhaust rate of 5,000 cfm or less; or
- 0.004 mg/hr-ft², with the applicable surface area based on the surface area of all Tier III Hexavalent Chromium Tank(s) and other tanks required to be vented to an add-on air pollution control device with a SCAQMD Permit to Operate, provided all tanks are not electrolytic, if the ventilation system has a maximum exhaust rate of greater than 5,000 cfm.

Compliance with these limits must be demonstrated by a source test.

For existing and new facilities with electrolytic Tier III Hexavalent Chromium Tanks that are not chromium electroplating or chromic acid anodizing, the emission standard is consistent with the emission standard in Table 1 of PAR 1469 (Figure 2-4) for chromium electroplating and chromic acid anodizing tanks.

The emission limit for non-electrolytic Tier III Hexavalent Chromium Tanks is based on review of 80 source tests conducted on existing add-on air pollution control equipment venting chromium electroplating and chromic acid anodizing tanks. The source tests were conducted from 1999 through 2016. Of the 80 source tests, approximately 20 source tests were not used in the analysis as they either vented multiple electroplating or anodizing tanks or the source test was conducted with very high amperes that were not representative of the normal operations. The average emission rate for the remaining source tests was 0.18 mg/hr. Additionally, due to the fact that uncontrolled hexavalent chromium emissions from non-electrolytic tanks are typically much lower than that of electroplating and anodizing tanks, staff believes that these non-chromium electroplating or chromic acid anodizing Tier III Tanks can meet an emission limit of 0.20 mg/hr.
Subparagraph (h)(4)(B), establishes the compliance schedule to submit permit applications for add-on pollution controls for Tier III Tanks. A staggered implementation schedule is proposed to provide a reasonable distribution of work for consultants, SCAQMD permitting, conducting source tests, etc. For Tier III Hexavalent Chromium-Containing Tanks that are in operation prior to date of rule adoption, the owner or operator shall submit a permit application to SCAQMD for the add-on air pollution control devices based on the primary electrolytic operation conducted at the facility as specified in PAR 1469 Table 2. For reference, this table is provided below in Figure 2-5.

Figure 2-5
Table 2: Permit Submittal Schedule for Add-on Air Pollution Control Devices for Previously Existing Tier III Hexavalent Chromium Tanks

<table>
<thead>
<tr>
<th>Electrolytic Process at the Facility</th>
<th>Compliance Date for SCAQMD Permit Application Submittal for Add-on Air Pollution Control Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromic Acid Anodizing</td>
<td>[180 Days after Date of Rule Adoption]</td>
</tr>
<tr>
<td>Hard Chromium Electroplating</td>
<td>[365 Days after Date of Rule Adoption]</td>
</tr>
<tr>
<td>Decorative Chromium Electroplating</td>
<td>[545 Days after Date of Rule Adoption]</td>
</tr>
</tbody>
</table>

If a facility has multiple chromium electrolytic processes occurring, the earliest compliance date would apply to the facility.

A source test is required to be conducted prior to the issuance of a SCAQMD Permit to Operate the add-on air pollution controls. Also, beginning no later than 30 days after rule adoption until the subject add-on air pollution control device is installed, the owner or operator is required to cover the subject tank no later than 30 minutes after ceasing operation of the tank. Tank covers are to be free of holes, tears, or gaps and handled in a manner that does not lead to fugitive emissions.

Under subparagraph (h)(4)(C), an owner or operator is not subject to the requirements of venting a Tier III Hexavalent Chromium Tank to an add-on air pollution control device if the uncontrolled hexavalent chromium emission rate is less than 0.2 mg/hr, as demonstrated by a SCAQMD approved source test conducted pursuant to the Technical Guidance Document for Measurement of Hexavalent Chromium Emissions from Chromium Plating and Chromic Acid Anodizing Operations for Certification of Wetting Agent Chemical Mist Suppressant Subject to SCAQMD Rule 1469. The technical guidance document referenced uses the same process in certifying chemical fume suppressants.

**Emission Controls and Standards for Tier II Hexavalent Chromium Tanks (h)(5)**
Beginning 90 days after date or rule adoption, paragraph (h)(5) adds a provision that requires Tier II Tanks to utilize a tank cover, mechanical fume suppressant, or other method approved by the Executive Officer. Alternatively, the owner or operator may meet the emission reduction requirements of a Tier III Hexavalent Chromium Tank specified in subparagraphs (h)(4)(A) and (h)(4)(B).
Paragraph (h)(6) requires facilities to operate add-on air pollution controls at the applicable minimum hood induced capture velocity specified in the most current edition (i.e. at the time the permit application was deemed complete by SCAQMD) of the *Industrial Ventilation, A Manual of Recommended Practice for Design*.

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

Subdivision (i) retains the option to operate under an alternative compliance method as currently allowed for in Rule 1469. The alternative compliance option is available for existing, modified, and new facilities if the owner or operator can demonstrate that the alternative method(s) is enforceable, provides an equal or greater hexavalent chromium reduction, or greater risk reduction than compliance with the emission limits of specified in paragraphs (h)(2) and (h)(4). An owner or operator that elects to use an alternative method must submit an SCAQMD permit application that includes information specified in Appendix 7 of PAR 1469.

PAR 1469 removes the following paragraphs as they refer to past interim compliance options:

- Alternative Interim Compliance Options – Inventory and Health Risk Assessment
- Alternative Interim Compliance Options – Emission Reduction Plan
- Alternative Interim Compliance Options – Facility wide Mass Emission Rate
- Alternative Interim Compliance Options – Alternative Standards for Existing Hexavalent Chromium Electroplating and Chromic Acid Anodizing Facilities with Low Annual Ampere Hour Usage

The alternative interim compliance options are no longer options and facilities will be required to comply with the respective requirements specified in subdivision (h).

**Training and Certification – Subdivision (j)**

Previously the requirements for training and certification were located in paragraph (c)(7). The requirements has been moved to its own dedicated subdivision (j).

**Source Test Requirements and Test Methods – Subdivision (k)**

The subdivision has been renamed and relocated from subdivision (e) to (k). Currently, Rule 1469 only requires an initial source test either by 2009 or during installation. Periodic source tests are necessary to verify the continued performance of both the capture and control of hexavalent chromium emissions for add-on air pollution control devices specified in this rule. Although parameter monitoring can verify the operation of specific elements of the add-on air pollution control device, source tests allows for the comprehensive evaluation of the system.

Paragraph (k)(1) establishes source test requirements for the initial and subsequent source tests. Currently, Rule 1469 only requires an initial source test. Periodic source testing is needed to ensure that add-on pollution control equipment is operating properly and to that the emission limit is being achieved. As discussed in Chapter 1, staff did observe slot velocities that were below the needed air flow to ensure that emissions were being properly collected and moved towards the pollution control equipment. Throughout the rulemaking process, periodic source testing requirements were modified from once every other year to once every five or seven years depending on the facility’s
permitted annual amp-hours. Based on stakeholder input, the frequency of periodic subsequent source tests was modified based on the permitted amp-hours. Subparagraph (k)(1)(A) establishes the schedule for protocols and initial and subsequent source tests to meet the emission limits of paragraphs (h)(2) and (h)(4) in Table 3 – Source Tests Schedule in PAR 1469. In general, facilities with greater than 1,000,000 permitted annual amp-hours are required to source test no later than 60 months from the day of the most recent source test that demonstrates compliance with all applicable requirements and facilities with less than or equal to 1,000,000 permitted annual amp-hours are required to source test no later than 84 months from the day of the most recent source test that demonstrates compliance with all applicable requirements.

**Figure 2-6: Flowchart Showing Source Test Requirements**

Subparagraph (k)(1)(B) allows an owner or operator to submit a written request for additional time to conduct the initial source test. This subparagraph specifies the procedures of when the Executive Officer must be notified, the information that must be included in the notification, and the timing for approval to allow use of this provision.

Subparagraph (k)(1)(C) establishes provisions that allow an owner or operator to use an existing source test that was conducted after January 1, 2015 for compliance with provision for the initial source test provided the applicable emission limits in subdivision (h) are demonstrated, operating conditions during the source test are representative of current operating conditions, and the appropriate test methods were used. This provision reduces the impact to facilities that recently conducted a source test.

Subparagraph (k)(1)(D) establishes provisions for when a source test was conducted after January 1, 2015, however, the source test was not approved. Under this subparagraph, provided the owner or operator submits the source test to the Executive Officer for approval no later than 30 days after date of adoption, the Executive Officer will review the source test to verify if it can be used and meets the same criteria subparagraph (k)(1)(C).

Subparagraph (k)(1)(E) establishes provisions that require an owner or operator that is relying on a source test conducted after January 2015 under subparagraph (k)(1)(C) to conduct the first
subsequent source test no later than January 1, 2024 and then follow the source testing schedule
for subsequent source tests as specified in Table 3 – Source Tests Schedule of PAR 1469.

Subparagraph (k)(1)(F) clarifies that an owner or operator that elects to meet an emission limit
specified in a paragraph (h)(2) using a certified wetting agent chemical fume suppressant or a
certified alternative to a wetting agent chemical fume suppressant shall not be subject to the
requirements of subparagraph (k)(1)(A). The rule interpretation for both the regulated community
and the SCAQMD was that a facility using a certified wetting agent chemical fume suppressant is
not required to conduct a source test. A source test was performed during the certification process,
which established a corresponding surface tension limit with the emission limit of 0.01 mg/ampere-hour.

Provisions for use of an Existing Performance Test in this subdivision were removed as the dates
have passed and the provisions are no longer relevant.

Paragraph (k)(2) establishes requirements for approved test methods, test methods for add-on non-
vented air pollution control devices, and methods to measure surface tension. There were no
substantive changes to these provisions. This paragraph included clarifications that emissions
testing for add-on non-vented air pollution control devices shall be conducted in accordance
with Appendix 5 of PAR 1469.

Use of Emissions Screening Tests (k)(3)

Subparagraph (k)(3)(A) includes new provisions to PAR 1469 that allow the use of emissions
screening tests. In lieu of conducting a source test for subsequent tests, the owner or operator may
conduct an emission screening of hexavalent chromium. The emissions screening test shall:

- Consists of one run to evaluate the capture and control of hexavalent chromium emissions;
- Follow a source test protocol approved by Executive Officer; and
- Be representative of the operating conditions during the most recent source test.

The owner or operator of a facility that previously submitted source test protocols approved by the
Executive Officer may use an emissions screening test in lieu of a source test. An emissions
screening test requires only one run to evaluate the hexavalent chromium emissions from a Tier II
or Tier III Hexavalent Chromium Tank as opposed to the three runs required for a full source test.

Under subparagraph (k)(3)(B), an owner or operator with a SCAQMD approved source test
conducted after January 1, 2009 will be allowed to conduct an emission screening to satisfy the
requirements of conducting the initial source provided the subject source test met the criteria stated
above. This subparagraph includes provisions that allow an operator to submit a source test that
was conducted after January 1, 2009 for approval.

The emissions screening test of hexavalent chromium will show whether the air pollution control
technique is operating and performing as intended. While parameter monitoring may evaluate the
performance of capture periodically, the emissions screening test allows the verification of
emission limits. Owners or operators may utilize this option as a method to reduce the testing time
associated with conducting multiple runs required under a full source test. Within 30 days of
receiving the results of the emissions screen test, subparagraph (k)(3)(C) requires the owner or
operator to submit the results to the Executive Officer. Under subparagraph (k)(3)(D), the owner or operator will be required to conduct a source test using an approved method within 60 days of conducting an emission screening test that fails the capture efficiency test(s) specified in the source test protocol, exceeds an emission limit specified in the SCAQMD Permit to Operate, or exceeds an emission limit in subdivision (h).

**Source Test Protocol (k)(4)**

Paragraph (k)(4) establishes requirements for information required for source test protocols and provisions for when a previously approved source test protocol is used for subsequent source tests.

**Emission Points Test Requirements (k)(5)**

Paragraph (k)(5) establishes requirements testing emission points unless a waiver is granted by U.S. EPA or the Executive Officer. There were no changes to this provision.

**Capture Efficiency (k)(6)**

Paragraph (k)(6) establishes the requirements for capture efficiency adding more specificity: each add-on pollution control device must meet the design and ventilation velocities specified in *A Manual of Recommended Practice for Design* authored by the American Conference of Governmental Industrial Hygienists or alternative design criteria and ventilation velocities approved by the Executive Officer.

**Smoke Test (k)(7)**

Paragraph (k)(7) reference the methods that are required to be used for conducting a smoke test for add-on air pollution control devices (Appendix 5) and add-on non-ventilated air pollution control devices (Appendix 8).

**Certification of Wetting Agent Chemical Fume Suppressant – Subdivision (l)**

PAR 1469 paragraphs (l)(1), (l)(2), and (l)(3) modifies the existing requirements by prohibiting the addition of PFOS-based chemical fume suppressants and lowering the minimum surface tension of the tank to 40 dynes/cm, as measured by the stalgmometer, or below 33 dynes/cm, as measured by a tensiometer. This modification is made to be consistent with the federal NESHAP for Chromium Electroplating which bans the use of PFOS in chemical fume suppressants. The certification list will be updated periodically based on the certification process conducted by SCAQMD and CARB. Paragraph (l)(3) requires that the owner or operator shall use certified chemical fume suppressant in accordance with the certification and manufacturer’s specifications to ensure the chemical fume suppressant is optimized to reduce hexavalent chromium emissions and no unintended issues are occurring such as excessive foaming.

**Recertification Process for Wetting Agent Chemical Fume Suppressants (l)(4)**

During the rulemaking for PAR 1469 information became publicly available that the reformulated non-PFOS chemical fume suppressants contain similar long-chain chemicals as PFOS such as Per- and Polyfluoroalkyl (PFAS) substances and Perfluorooctanoic acid (PFOA). There is limited information on the health impacts of the non-PFOS chemical fume suppressants. Emissions tests have been conducted that show that non-PFOS chemical fume suppressants can significantly reduce hexavalent chromium emissions and can meet the required emission limit of 0.01 mg/amp-hour. However, there is currently no emissions data to understand the amount of non-PFOS chemical fume suppressant emissions that are released during plating and anodizing operations.
The SCAQMD staff will be conducting emissions tests to better understand the amount of non-PFOS chemical fume suppressant emissions that are released during plating and anodizing operations. The new certification process will consider toxicity reviews of compounds in the chemical fume suppressant, emissions testing for chemical fume suppressant emissions, surface tension, emissions testing for hexavalent chromium emissions, and additional data and information to evaluate the chemical fume suppressant.

Paragraph (l)(4) of PAR 1469 adds a new requirement that no later than January 1, 2020, the Executive Officer shall notify owner or operators of the availability of a chemical fume suppressant and the certification status of any potential wetting agent chemical fume suppressant going through the certification process conducted by SCAQMD and CARB.

Beginning July 1, 2021, the owners or operators of a facility shall only add a chemical fume suppressant to a Tier III Hexavalent Chromium Tank that meets the requirement of (l)(4) based on a certification process conducted by SCAQMD and CARB. The date was chosen to allow sufficient time for facilities to implement alternatives, manufacturers to potentially reformulate, and SCAQMD staff to certify the chemical fume suppressant.

If the notification indicates that a chemical fume suppressant that meets the certification requirements will not be available by July 1, 2021, the owner or operator shall implement an air pollution control technique to meet the emission limits specified in paragraph (h)(2) no later than July 1, 2021 or use an alternative to a wetting agent chemical fume suppressant. Owners or operators will be required to modify or obtain a Permit to Operate that reflects the change and conduct any required emission testing.

Paragraph (l)(7) includes provisions that in lieu of installing or modifying an air pollution control technique, the owner or operator of a facility may submit a written commitment to the Executive Officer no later than January 1, 2021 that states the facility shall phase-out the use of hexavalent chromium in the electroplating or chromic acid anodizing tank that is using a chemical fume suppressant by July 1, 2022. This commitment shall be signed by the owner or operator of the facility. The owner or operator may continue to use a chemical fume suppressant certified pursuant to paragraph (l)(1) until July 1, 2022. Figure 2-7 summarizes the re-certification timeline.
Paragraph (l)(8) of PAR 1469 adds a new requirement that in the event the Executive Officer notifies facilities by January 1, 2020 that no wetting agent chemical fume suppressants will be available by July 1, 2021, the Executive Officer may identify one or more alternatives to a wetting agent chemical fume suppressant that are certified to meet the 0.01 milligrams per ampere-hour (mg/ampere-hour) limit. During the previous rule development of Rule 1469, wetting agent chemical fume suppressants were identified as an effective and low cost air pollution control technique to reduce hexavalent chromium emissions for facilities permitted less than or equal to 50,000 ampere-hours per year. The alternative to a wetting agent chemical fume suppressant will identify air pollution control technique(s) that must be used in combination to meet an equivalent emission rate of 0.01 mg/ampere-hour.

For example, the alternative to a wetting agent chemical fume suppressant may specify a combination of chemical and mechanical fume suppressants, or some combination of in-tank controls that will be certified to control emissions to a level below 0.01 mg/ampere-hour. The certification process will include source tests by SCAQMD similar to certification of chemical fume suppressants, and no initial or recurring source testing will be required for individual facilities that are eligible to use this certified alternative. If the owner or operator used the SCAQMD approved alternative to the chemical fume suppressants, the owner or operator would be required to accept applicable permit conditions. The SCAQMD staff will work with CARB regarding approving an alternative to chemical fume suppressants.

The alternative to a wetting agent shall:
- Meet an emission limit that is less than or equal to the emission limit required for a wetting agent chemical fume suppressant;
- Be approved by the Executive Officer in consultation with CARB to meet the emission limit requirement; and
- Be used by the owner or operator in accordance with the approval

Under paragraph (h)(2), Table 1, an existing facility is allowed to meet a hexavalent chromium emission limit of up to 0.01 mg/ampere-hour, provided the maximum permitted facility-wide ampere-hour level does not exceed 50,000 ampere-hours per year (for facilities located more than or equal to 330 feet from a sensitive receptor) and 20,000 ampere-hour per year (for facilities located less than 330 feet from a sensitive receptor). Staff has conducted modeling that demonstrates that for a facility permitted at 50,000 ampere-hours/yr, with emissions of hexavalent chromium at 0.01 mg/ampere-hour, the maximum individual cancer risk (MICR) at 25 meters will not exceed 10-in-a-million (10X10^{-6}). This is a conservative analysis since facilities permitted at 50,000 ampere-hours/yr would have to be located at least 100 meters away and the emissions from facilities permitted at 20,000 ampere-hours/yr might be located closer but would have less emissions.

The proposed approach allowed under subparagraph (l)(8) is health protective and provides a lower cost option for smaller use facilities. The owner or operator can still elect not to use the approved alternative approach and can install an add-on air pollution control device that meets an emission limit of 0.0015 mg/ampere-hour. This approach will allow existing facilities that currently rely on certified chemical fume suppressants to limit their compliance costs in the event chemical fume suppressants are not certified, including reduced capital costs as well as no cost for initial or recurring source tests.

Paragraph (l)(9) requires the owner or operator of facility that elects to use an alternative to a wetting agent chemical fume suppressant to submit a permit application that includes the alternative and any conditions specified in the certification. The required conditions may include parameter monitoring, recordkeeping, or other verification to maintain a 0.01 mg/ampere-hour emission limit, which would be dependent on the air pollution control technique.

The owner or operator that fails to phase-out the use of hexavalent chromium by July 1, 2022, will be required to cease operation of the electroplating or chromic anodizing tank that contains hexavalent chromium until the facility can meet the specified emission limits.

**Parameter Monitoring – Subdivision (m)**

PAR 1469 modifies the section to require revised and additional parameter monitoring requirements for add-on air pollution control devices and add-on non-ventilated air pollution control devices.

Subparagraph (m)(1)(A) establishes requirements to continuously monitor the operation of the add-on air pollution control device. Specifics regarding installation, maintenance, and labeling are specified in Table 4 of PAR 1469. Requirements for maintaining the mechanical gauges are specified in Appendix 4 of PAR 1469.

**Figure 2-8**
As required in Table 4 of PAR 1469, the owner or operator using an add-on air pollution control device shall demonstrate that emissions are captured by measuring collection slot velocity and the push air manifold pressure. The demonstration shall be made during any source test. Beginning 60 days after the completion of the initial source test of a Tier II or Tier III Hexavalent Chromium tank, the owner or operator shall conduct additional parameter monitoring at least once every 180 days. An adequate collection slot velocity is required to ensure the collection of hexavalent chromium emissions is at the level measured during the source test.

Table 5 of PAR 1469: Add-on Air Pollution Control Device Parameter Monitoring establishes the collection slot velocities and push air manifold pressure conditions that must be met. There are three categories: Acceptable Measurement, Repairable Measurement, and Failing Measurement. Since the collection slot velocity has two options, a measurement can be in more than one category. In this situation, the more favorable measurement would be used to determine the required action.

For example, if a collection slot velocity was measured at 1900 fpm (Repairable Measurement), which was equivalent to be 75% of the most recent passing source test (Failing Measurement), the measurement would necessitate the required action for a Repairable Measurement.
A deficient measurement would indicate that the hexavalent chromium emissions are not being collected and being controlled by the add-on air pollution control device. If the measurement of a collection slot velocity is a “repairable measurement” of 90-95% of the most recent passing source test or emissions screening test or less than 2,000 feet per minute (fpm) and greater than 1,800 fpm, the owner or operator shall repair or replace and re-measure within 3 calendar days of the measurement. The tank controlled by the add-on air pollution control device in operation. If the owner or operator fails to demonstrate that the collection slot is an “acceptable measurement”, greater than 95% of the most recent source test or emission screening or greater than 2,000 fpm, the owner or operator shall shut-down any tanks associated with the add-on air pollution control devices associated with the collection slot.

For tanks with a push-pull collection system, the push air may be monitored by measuring either the push air velocity or the push air pressure. Monitoring of push air velocity may be measured with an anemometer; however, push air pressure may be measured continuously with a pressure gauge installed in the push air manifold. Although the 29th Edition of Industrial Ventilation Manual, did not include a recommended minimum nozzle manifold pressure (Pm, “w.g.”) in Table 13-72-1 “Push Nozzle Design Data,” it has recommended flow rate and velocity based on tank dimensions and push manifold design. The previous 28th Edition of Industrial Ventilation Manual included the recommended pressure. The minimum pressure may still be calculated using the recommended jet nozzle velocity (V₀) using equation 13.72.7 in the 28th Edition of the Industrial Ventilation Manual:

\[ Pm = 1.5 \left( \frac{V₀}{4005} \right)^2 \]
The values of $V_o$ have remained the same in the 28th and 29th Editions of *Industrial Ventilation Manual*.

If the measurement of the collection slot velocity is in the “failing measurement” range, the owner or operator shall immediately shut down any tanks associated with any air add-on air pollution control devices associated with the collection slot. This prevents the owner or operator from operating a tank that may be emitting hexavalent chromium since the hexavalent chromium emissions are not being sufficiently collected. The owner or operator shall demonstrate that the collection slot velocity and/or push air manifold pressure is in the “acceptable measurement” by re-measuring the collection slot velocity and/or push air manifold pressure under typical operating conditions of the tank, with the exception of the suspension of electrolytic operations, prior to resuming electrolytic operations.

**Smoke Test Requirements (m)(1)(E) and (m)(1)(F)**

PAR 1469 subparagraph (m)(1)(E) clarifies the requirements of the smoke test by stating that both add-on air pollution control devices and add-on non-ventilated air pollution control devices are to be tested. PAR 1469 maintains the frequency for conducting smoke tests of once every 180 days. Add-on air pollution control devices have emission collection systems and the smoke tests demonstrates through a qualitative evaluation that emissions coming from the tank are being collected. Add-on non-ventilated air pollution control devices typically do not have an emissions collection system and a smoke test would demonstrate the containment of hexavalent chromium emissions by devices such as tank covers and merlin hoods.

Subparagraph (m)(1)(F) establishes what is an acceptable smoke test which is referenced in Appendix 5 and 8 of PAR 1469 for add-on pollution control devices and add-on non-ventilated pollution control devices, respectively. If an acceptable smoke test is not conducted, the owner or operator is required to immediately shut down the Tier II and Tier III Hexavalent Chromium Tanks associated with the pollution control equipment until an acceptable smoke test is conducted.

**HEPA Filters (m)(1)(G)**

Subparagraph (m)(1)(G) establishes parameter monitoring for HEPA filters. Beginning 60 days after the completion of the initial source test, the owner or operator of an add-on air pollution control device equipped with HEPA filters shall ensure that the monitoring device for pressure drop:

- Is equipped with ports to allow for periodic calibration in accordance with manufacturer’s specifications;
- Is calibrated according to manufacturer’s specification at least once every calendar year; and
- Is maintained in accordance with the manufacturer’s specification.
Wetting Agent Chemical Fume Suppressants (Excluding Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath) (m)(2)

The requirement to measure surface tension weekly after 20 daily measurements with no violation has been modified to once every third operating day, but not less than once per week. The required non-PFOS chemical fume suppressants evaporate and degrade faster than a PFOS-containing products. SCAQMD staff is concerned that this faster degradation can result in faster increases to surface tension values. More frequent periodic monitoring of tank bath surface tensions will ensure that an adequate amount of chemical fume suppressants are being used to comply with the surface tension limits specified in the rule and permit conditions. Subparagraph (m)(2)(C) requires daily surface tension measurements for 20 consecutive operating days if the surface tension is not maintained. The owner or operator can resume monitoring every third operating after successfully measuring the surface tension daily for 20 consecutive operating days.

Foam Blanket, Polyballs or Similar Mechanical Fume Suppressants (m)(3) and (m)(4)

The requirement to visually inspect each operating day for coverage comparable to the coverage during the source test has been modified to include Tier II and Tier III Hexavalent Chromium Tanks.

Inspection, Operation and Maintenance Requirements (n)

The requirements for inspection and maintenance and the operation and maintenance plan apply to add-on air pollution control devices or alternative add-on air pollution control devices. The existing table previously found in Table 4 has been moved to Appendix 4: Table 4-1. Tier II Hexavalent Chromium Tanks not controlled by an add-on air pollution control device shall comply with the applicable inspection and maintenance requirements in Appendix 4: Table 4-4. The existing requirements for facilities using chemical fume suppressants or mechanical fume suppressants has also been moved to Appendix 4, Table 4-4. PAR 1469 also combines the existing requirements for the operation and maintenance plan into this subdivision.

Also, Tier II hexavalent chromium tanks not controlled by an add-on air pollution control device and Tier I, Tier II, and Tier III hexavalent chromium tanks are required to comply with new inspection and maintenance requirements 90 days after the date of rule adoption.

Beginning 90 days after the date of rule adoption, paragraph (n)(3) and paragraph (n)(4) requires the owner or operator of a facility to comply with the additional inspection and maintenance requirements in Appendix 4.

Also, beginning 90 days after date of the rule adoption, paragraph (n)(9) requires the owner or operator to revise the facility’s operation and maintenance plan to incorporate of the inspection and maintenance requirements for a device or monitoring equipment that is identified in Table 4-2 and Table 4-3 of Appendix 4.

Paragraph (n)(10) requires the owner or operator to photograph the ampere-hour reading of the ampere-hour being replaced and the new ampere-hour meter immediately after installation.
Recordkeeping and Reporting – Subdivisions (o) and (p)
Paragraph (o)(1) clarifies that the inspection records apply to facilities using either an add-on air pollution control devices or an alternative add-on air pollution control devices. Additional recordkeeping requirements have been included to reflect the proposed provisions for building enclosures, housekeeping, best management practices, periodic source tests, capture efficiency tests, emission screening, and parameter monitoring. Inspection and maintenance requirements have been moved to Appendix 4.

As part of the ongoing compliance status and emission reports (specified in Appendix 3), facilities should report the results of add-on air pollution ventilation measures conducted during the most recent source test. Information would include the velocity of each collection slot and push air manifold. Facilities must also report any pollution prevention measures that have been implemented that eliminate or reduce the use of hexavalent chromium in the chromium electroplating or chromic acid anodizing process. Also required in the compliance status reports are calculations for building enclosure envelopes, including locations and dimensions of openings counted towards the 3.5% allowance.

Paragraph (p)(4) revises “Reports of Breakdowns” to “Notification of Incident”. As background, SCAQMD Rule 430 provides breakdown coverage, where the facility may not be in violation of a permit condition or rule requirement, if the Executive Officer determines that it was a valid breakdown based on evidence provided by the owner or operator. However, the existing reference to Rule 430 in Rule 1469 is conflicting as Rule 430 does not apply to any Regulation XIV rules.

As a result, PAR 1469 replaces breakdown provisions with “Notification of Incident” which incorporates similar notification language used in Rule 430 by requiring the owner or operator to notify SCAQMD via 1-800-CUT-SMOG within four hours of the incident or within four hour of the time the owner or operator knew or reasonably should have known of the following:

- Any failed smoke test
- Any failed source test
- An exceedance of a permitted ampere-hour limit, or
- A malfunction of a non-resettable ampere-hour meter.

A supplemental report is required to be submitted no later than 30 calendar days from the date of incident.

New and Modified Sources (removed)
PAR 1469 removes previous subdivision (l) relating to New and Modified Sources as facilities are required to submit a permit prior to altering or installing equipment under existing SCAQMD rules for permitting (Regulation II) and toxic new source review (Rule 1401).

Exemptions – Subdivision (r)
Due to the new requirements for Tier I and II Hexavalent Chromium Tanks, PAR 1469 removes the exemption for process tanks associated with a chromium electroplating or chromic acid anodizing process in which neither chromium electroplating nor chromic acid anodizing is taking place. One of the objectives of PAR 1469 is to control emissions from tanks that were identified as sources of hexavalent chromium where neither electroplating nor chromic acid anodizing is taking place.
PAR 1469 also removes the exemption that would suspend requirements during periods of equipment breakdown. As discussed earlier, references to Rule 430 have been removed due to the lack of applicability to Regulations XIV.

PAR 1469 adds an exemption from the requirements of subparagraphs (f)(6), (g)(5), and (g)(6) as long as the buffing, grinding or polishing operations are conducted under a continuous flood of metal removal fluid. The application of metal removal fluid has been demonstrated to reduce emissions.

**Title V Permit Requirements (removed)**
PAR 1469 removes the subdivision (o) as SCAQMD Rule 3002 already requires a facility to obtain a Title V permit and comply with the conditions. Therefore, this subdivision is unnecessary and duplicative.

**Chromium Electroplating or Chromic Acid Anodizing Kits Requirements (removed)**
PAR 1469 removes the requirements for chromium electroplating or chromic acid anodizing kits as this existing language was from the state’s Chrome Plating ATCM regarding prohibitions on chromium electroplating and chromic acid anodizing kits. This language has been removed as Rule 1469 facilities are still subject to those requirements under state law.

**Conditional Requirements for Permanent Total Enclosure – Subdivision (t)**
Paragraph (t)(1) requires the owner or operator of a facility to install a permanent total enclosure for a Tier III Hexavalent Chromium Tank with a combined area of all enclosure opening that does not exceed 3.5% in paragraph (e)(1) if:

- More than one non-passing source test as required in paragraph (k)(1) occurred within a consecutive 48-month period; or
- The facility is greater than 1,000 feet from a sensitive receptor, and the owner or operator failed to cease operating a tank that is controlled by an add-on air pollution control device or add-on non-ventilated air pollution control device more than once within a consecutive 48-month period due to a failed measurement of the collection system or a failed smoke test as required in paragraph (k)(6); or
- The facility is 1,000 feet or less from a sensitive receptor, and the owner or operator failed to cease operating a tank controlled by an add-on air pollution control device or add-on non-ventilated air pollution control device once as required in paragraph (k)(6).

The distance of a sensitive receptor or a school to the facility shall be measured from the property line of the sensitive receptor or school to the nearest property line of the facility.

Paragraph (t)(2) allows the owner or operator to contest the requirement in paragraph (t)(1) to install a permanent total enclosure within 30 days of receiving notification from the Executive Officer that the requirement had been triggered. A written report contesting the requirement shall include evidence that installation of the permanent total enclosure is not warranted based on the following criteria:

- The incidents of non-compliances did not occur; and
- The owner or operator resolved the specified incidents of non-compliances specified in paragraph (t)(1) in a timely manner; and
• The owner or operator implemented specific measures minimize the hexavalent chromium emissions.

The Executive Officer will use the information in the written report to determine whether the permanent total enclosure is required and will notify the owner or operator within 90 days of receiving the written report.

Paragraph (t)(4) requires permanent total enclosures to vent to an add-on air pollution control device that is fitted with HEPA filters, or other filter media that is rated by the manufacturer to be equally or more effective, and designed in a manner that does not conflict with requirements or guidelines set forth by OSHA or CAL-OSHA regarding worker safety, or the National Fire Protection Association regarding safety.

Paragraph (t)(5) requires permit applications for permanent total enclosures shall be submitted to the Executive Officer as follows:

• No later than 180 days after notification by the Executive Officer if the property line of the facility is within 500 feet of the property line of any sensitive receptor, school, or early education center.
• No later than 270 days after notification by the Executive Officer for all other facilities.

Installation of the permanent total enclosure shall be completed no later than 12 months after the Permit to Construct is issued by the Executive Officer.

**Hexavalent Chromium Phase-out – Subdivision (u)**

Paragraph (u)(1) provides that owners and operators of facilities with an existing Tier III Tank that plan to eliminate or reduce hexavalent chromium concentrations within the tank shall not be subject to the requirements of paragraph (h)(4) to vent the tank to an add-on air pollution control device. In order to qualify for this exemption, facilities must submit a plan to the Executive Officer for approval that includes:

• The method by which the hexavalent chromium concentration will be eliminated or reduced and expected completion date; and
• A list of milestones necessary to occur, including their projected dates; and
• A list of all control measures that will be implemented until the concentration is eliminated or reduced.

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

Paragraph (u)(4) requires the owner or operator to submit a progress report to the Executive Officer by the first day of each calendar quarter indicating the performance to meet the increments of progress for the previous quarter or submit according to an alternative schedule as specified in the approved plan.

Paragraph (u)(5) requires owners or operators to submit complete SCAQMD permit applications to comply with subdivision (h) if:

• The owner or operator does not eliminate or reduce hexavalent chromium by the final completion date in the Hexavalent Chromium Phase-Out Plan;
• The Executive Officer denies a resubmitted Hexavalent Chromium Phase-out Plan; or
The owner or operator fails to resubmit the Hexavalent Chromium Phase-Out Plan.

- Paragraph (u)(6) requires the owner or operator to install the add-on air pollution control device no later than 180 days after a Permit to Construct is issued.

**Appendices**

All additions and amendments to the following appendices have been made in order to provide clarity and information on PAR 1469.

Appendix 1 – Content of Source Test Reports
- Items 9-11 have been added to require applicable industrial ventilation limits; collection slot velocities (if applicable); and measured static, differential, or volumetric flow rate at the push manifold; across each stage of the control device; and exhaust stack (if applicable).

Appendix 4 – Notification of Construction Reports
- Removed due to information required for future construction of equipment at new or existing facilities is submitted with a Permit to Construction.

Appendix 4 – Summary of Inspection Requirements
- Table 4-1: Summary of Inspection and Maintenance Requirements for Sources Using Add-on Air Pollution Control Device(s) or Add-On Non-Vented Air Pollution Control Device(s) previously in Table 4 has been added.
- Table 4-2: Additional Inspection and Maintenance Requirements for Tier I, II, and III Hexavalent Chromium Tank(s) has been added.
- Table 4-3: Summary of Inspection and Maintenance Requirements for Sources Not Using Add-on Air Pollution Control Device to Control Hexavalent Chromium Tank(s) has been added.
- Table 4-4: Summary of Inspection and Maintenance Requirements for Sources Not Using Add-on Air Pollution Control Device to Control Hexavalent Chromium Tank(s) has been added.

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

Appendix 7 – Distance Adjusted Ampere-Hour and Annual Emissions Limits for Facilities Located More Than 25 Meters from a Residence or Sensitive Receptor
- Removed as the tables included in the appendix were for provisions in the Rule 1469 that were removed.

Appendix 7 – Information Demonstrating an Alternative Method(s) of Compliance Pursuant to Subdivision (i)
- Item 5 has been added to require an owner or operator to demonstrate that the facility is at least 25 meters from a sensitive receptor. Facilities that are within 25 meters from sensitive receptors are ineligible to utilize an alternative method and are required to use an add-on air pollution control device.

Appendix 8 – Smoke Test to Demonstrate Capture Efficiency for an Add-on Air Pollution Control Device(s) Pursuant to Paragraph (k)(6)
- Item 2.1 has removed a reference to Model #15 049 Tel-Tru T-T Smoke Sticks from E. Vernon Hill Incorporated.
CHAPTER 3: IMPACT ASSESSMENT

AFFECTED FACILITIES
EMISSION IMPACTS
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)
SOCIOECONOMIC IMPACT ASSESSMENT
DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727
COMPARATIVE ANALYSIS
AFFECTED FACILITIES
Based on site visits conducted by SCAQMD staff, SCAQMD permit database searches, internet searches, and third party sources, there are a total of 115 facilities that either conduct chromium electroplating or chromic acid anodizing. SCAQMD staff conducted site visits at 47 facilities, each with a variety of air pollution controls and operations.

EMISSION IMPACTS
PAR 1469 affects 115 facilities conducting electroplating or anodizing that use hexavalent chromium or trivalent chromium. Implementation of PAR 1469 will reduce both point source (requiring controls on previously uncontrolled tanks) and fugitive emissions (improving housekeeping and requiring operations to be conducted in a building). Quantifying the point source emissions reductions is difficult as there is large variance in hexavalent chromium emissions between the tanks and there are a limited number of source tests. The emissions of other air toxics generated the metal finishing operations may be reduced as well.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)
Pursuant to CEQA and SCAQMD Rule 110, the SCAQMD, as lead agency for the proposed project, has prepared a Draft Environmental Assessment (EA) for PAR 1469. The environmental analysis in the Draft EA concluded that PAR 1469 would not generate any significant adverse environmental impacts, and therefore no alternatives or mitigation measures are required. The Draft EA was released for a 32-day public review and comment review period from February 16, 2018 to March 20, 2018. Two comment letters were received from the public relative to the Draft EA, and responses to the comments will be prepared and included in the Final EA. The SCAQMD Governing Board must review the adequacy of the Final EA, including responses to comments, prior to the certification of the Final EA and adoption of the proposed amendments to Rule 1469.

SOCIOECONOMIC IMPACT ASSESSMENT
A Draft Socioeconomic Impact Assessment was prepared and released on July 13, 2018 and a Revised Draft Socioeconomic Impact was prepared and released on August 8, 2018 for public review and comment prior to the SCAQMD Governing Board Hearing on PAR 1469, which is anticipated to be heard on September 7, 2018.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727
Requirements to Make Findings
California H&SC Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the SCAQMD 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 1469 is needed to further reduce hexavalent chromium emissions from chromium electroplating or chromic acid anodizing operations. PAR 1469 proposes new requirements for hexavalent chromium-containing tanks, such as dichromate seal tanks, that are currently not regulated under Rule 1469. PAR 1469 requires air pollution controls for hexavalent chromium-containing tanks that have the potential to emit hexavalent chromium. In addition, PAR 1469 includes periodic source testing, parameter monitoring of control equipment, requirements for building enclosures, and additional housekeeping and best management practices for all hexavalent chromium-containing tanks. Proposed requirements include triggered provisions for permanent total enclosures vented to air pollution controls based on non-compliance with specific source testing or monitoring requirements. PAR 1469 also revises existing requirements to reduce surface tension limits and prohibit the use of chemical fume suppressants that contain PFOS in order to be consistent with the Chrome Plating NESHAP.

Authority
The SCAQMD Governing Board has authority to adopt PAR 1469 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40440, 40441, 40702, 41508, and 41700.

Clarity
PAR 1469 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency
PAR 1469 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

Non-Duplication
PAR 1469 will not impose the same requirements as an existing state or federal regulations. PAR 1469 implements the state ATCM and U.S. EPA’s NESHAP for chrome plating and anodizing facilities. PAR 1469 incorporates provisions from the state ATCM and NESHAP as well as has additional provisions that are more stringent that the NESHAP and ATCM. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

Reference
By adopting PAR 1469, the SCAQMD Governing Board will be implementing, interpreting or making specific the provisions of the California H&SC Section 41700 (nuisance), and Federal Clean Air Act Section 112 (Hazardous Air Pollutants) and Section 116 (Retention of State authority), California Code of Regulations Sections 93102-93102.16 (Airborne Toxic Control Measure for Chromium Plating and Chromic Acid Anodizing Facilities), and 40 CFR Part 63, Subpart N (National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks).
**COMPARATIVE ANALYSIS**

H&SC Section 40727.2 requires a comparative analysis of the proposed rule requirements with those of any Federal, State, or SCAQMD rules and regulations applicable to the same equipment or source category.

The following regulations are compared to PAR 1469 in this analysis:
- State – Airborne Control Toxic Measures for Hexavalent Chromium Emissions from Chromium Plating and Chromic Acid Anodizing Facilities (ATCM)

<table>
<thead>
<tr>
<th>Rule Element</th>
<th>PAR 1469</th>
<th>ATCM</th>
<th>NESHAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Require operation of a Tier I, Tier II, or Tier III Hexavalent Chromium tank to be in a building enclosure</td>
<td>None specified</td>
<td>None specified</td>
</tr>
<tr>
<td>Requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building</td>
<td>Beginning [180 days after Date of Rule Adoption], the owner or operator of a facility shall only operate Tier II and Tier III Hexavalent Chromium and associated process tanks within a building enclosure that meets the following requirements:</td>
<td>None specified</td>
<td>None specified</td>
</tr>
<tr>
<td>Enclosure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements for Tier II and Tier III Tanks</td>
<td>• Combined area of all enclosure openings shall not exceed 3.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Close or limit openings that are on opposite ends of the building</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Close any building opening that directly faces and opens towards a sensitive receptor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Close all enclosure openings in the roof that are located within 15 feet of Tier II and Tier III Hexavalent Chromium Tanks except for openings:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Allow access for equipment or parts; or</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>o Provide intake air or circulation air for a building enclosure that does not create air velocities that impact the</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
collection efficiency of a ventilation system for an add-on air pollution control device; or
- Equip with a HEPA filter or other air pollution control device
- Repair any breach within 72 hours of discovery

Owner or operator shall notify the Executive Officer of any conflicting requirements set by any other government agency and propose alternative compliance measure(s) to minimize the release of fugitive emissions

<table>
<thead>
<tr>
<th>Housekeeping Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Clean, using an approved method, surfaces within the enclosed storage area, open floor area, walkways around Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) or any surface potentially contaminated with hexavalent chromium weekly;</td>
</tr>
<tr>
<td>- Clean, using an approved method, or contain using a drip tray or other containment device, any liquid or solid material that may contain hexavalent chromium that is spilled immediately and no later than one hour after being spilled.</td>
</tr>
<tr>
<td>- Containers that contain chromium containing waste material shall be kept closed at all times except when being filled or emptied;</td>
</tr>
<tr>
<td>- On days when buffing, grinding, or polishing are conducted, the owner or operator shall clean, using an approved cleaning method, floors within 20 feet of a Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) or any surface potentially contaminated with hexavalent chromium.</td>
</tr>
</tbody>
</table>

| Clean at least once every seven days surfaces within the enclosed storage area, open floor area, walkways around the electroplating or anodizing tank (s), or any surface potentially contaminated with hexavalent chromium, that accumulates or potentially accumulates dust; |
| Clean or contain spilled liquid or solid material containing hexavalent chromium within one hour to minimize track out. |
| Store, dispose, recover, or recycle chromium or chromium containing wastes generated from housekeeping. |

<p>| At least once every 7 days, surfaces within the enclosed storage area, open floor area, walkways around affected tanks contaminated with hexavalent chromium from an affected chromium electroplating or chromium anodizing tank shall clean the surfaces using one of the following methods; HEPA vacuuming, hand-wiping with a damp cloth, wet mopping, hose down or rinse with potable water, other cleaning method approved by permitting authority or apply a non-toxic dust suppressant |
| Begin clean up, or otherwise contain all spills within 1 hour of the spill. |</p>
<table>
<thead>
<tr>
<th>buffered, grinding or polishing workstation</th>
<th>activities using practices that do not lead to fugitive dust and in accordance with hazardous waste requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Eliminate all flooring or walkways in the tank process area that is made of fabric such as carpets or rugs where hexavalent chromium containing materials can become trapped.</td>
<td>• All chromium or chromium-containing wastes generated from housekeeping activities shall be stored, disposed, recovered, or recycled so that practices do not lead to fugitive dust and in accordance with hazardous waste requirements</td>
</tr>
<tr>
<td>• During the cutting of any roof surface of a building enclosure the owner or operator shall perform the following:</td>
<td></td>
</tr>
<tr>
<td>o Prior to cutting, roof surfaces shall be cleaned by using a HEPA vacuum</td>
<td></td>
</tr>
<tr>
<td>o All cutting activities shall be conducted in a manner that does not generate fugitive emissions</td>
<td></td>
</tr>
<tr>
<td>o Notify the SCAQMD at least 48 hours prior to the commencement of any work being performed</td>
<td></td>
</tr>
<tr>
<td><strong>Best Management Practices</strong></td>
<td><strong>Minimize dragout from hexavalent chromium electroplating and chromic acid anodizing tank(s) by installing drip trays for facilities with automated lines, or by handling electroplated or anodized parts such that chromic acid is not dripped outside of the electroplating tank.</strong></td>
</tr>
<tr>
<td>• Facilities with automated lines shall have drip trays or other containment equipment between Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) and its adjacent tank</td>
<td></td>
</tr>
<tr>
<td>• Facilities without automated lines shall handle parts and equipment used to handle such parts, so that liquid containing chromium is not dripped outside the electroplating or anodizing tanks, unless the liquid is captured by a drip tray or other containment device</td>
<td></td>
</tr>
<tr>
<td>• The owner or operator shall not spray rinse parts or equipment that have chromium-containing liquid unless the parts or equipment are fully lowered inside a tank where the overspray and all</td>
<td></td>
</tr>
<tr>
<td>• Minimize dragout from hexavalent chromium electroplating and chromic acid anodizing tank(s) by installing drip trays for facilities with automated lines, or by handling electroplated or anodized parts such that chromic acid is not dripped outside of the electroplating tank.</td>
<td><strong>Install drip trays that collect and return any bath solution, contain and return to the tank any bath solution, contain and return to the tank any bath solution, or collect and treat in an onsite wastewater treatment plant any bath solution</strong></td>
</tr>
<tr>
<td>• Facilities without automated lines that spray down parts over the electroplating or</td>
<td></td>
</tr>
<tr>
<td>• Each spraying operation for removing excess chromic acid from parts removed from, and occurring over, an affected tank shall install a splash guard to minimize overspray during spraying operations and to ensure that any</td>
<td></td>
</tr>
</tbody>
</table>
liquid is captured inside the tank. Alternatively the owner or operator may:
- Install a splash guard at the tank that is free of holes, tears, or openings
- For tanks located within a process line, utilizing an overhead crane system, a low pressure spray nozzle and operated in a manner such that water flows off of the part or equipment and into the tank
- Maintain clear labeling of each tank within the tank process area with a tank number or other identifier, SCAQMD permit number, bath contents, maximum concentration (ppm) of hexavalent chromium, operating temperature range, any agitation methods used, and designation of whether it is a Tier I, Tier II, or Tier III Tank
- Conduct all buffing, grinding, and polishing operations within a building enclosure.
- Install a barrier to separate the buffing, grinding, or polishing within a facility from the chromium electroplating or chromic acid anodizing operation
- Prohibit compressed air cleaning or drying operations within 15 feet of all Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) unless:
  - A barrier separates those tanks from the compressed air cleaning or drying operations
anodizing tank(s) shall install splash guards
- Separate buffing, grinding, or polishing areas within a facility by installing a physical barrier
hexavalent chromium laden liquid captured by the splash guard is returned to the affected chromium electroplating or anodizing tank
- All buffing, grinding, or polishing operations that are located in the same room as chromium electroplating or chromic acid anodizing operations shall be separate from any affected electroplating or anodizing operation by installing a physical barrier
<table>
<thead>
<tr>
<th>Add-on Air Pollution Control Devices and Emission Standards: Tier III Tank Requirements</th>
<th>None specified.</th>
<th>None specified.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall collect and vent all hexavalent chromium emissions from each Tier III Hexavalent Chromium Tank, excluding chromium electroplating and chromic acid anodizing tanks that meets the following emission limits:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o For existing facilities, 0.0015 mg/amp-hr, if any tanks that are vented are electrolytic; or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o For new facilities, 0.0011 mg/amp-hr, if any tanks that are vented are electrolytic; or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o 0.20 mg/hr, if all tanks vented to the add-on air pollution control device are not electrolytic and the ventilation system has a maximum exhaust rate of 5,000 cfm or less; or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o 0.004 mg/hr-ft², with the applicable surface area based on the tank surface area of all Tier III Hexavalent Chromium Tank(s) and other tanks required to be controlled by SCAQMD Permit to Operate vented to an add-on air pollution control device, if the ventilation system has a maximum exhaust rate of greater than 5,000 cfm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Add-on air pollution control devices shall be installed 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
year after a Permit to Construct has been issued by the Executive Officer
  - Beginning no later than [30 days after Date of Adoption], until the add-on air pollution control has been installed, cover the tank no later than 30 minutes after ceasing operation of the tank. Tank covers shall be free of holes, tears, and gaps and handled in a manner that does not lead to fugitive emissions.
  - The owner or operator shall not be subject to the requirement to vent a Tier III Hexavalent Chromium Tank to an add-on air pollution control device if the uncontrolled hexavalent chromium emission rate of the tank is less than 0.2 mg/hr as demonstrated by a source test and it is not a chromium electroplating or chromic acid anodizing tank.

<p>| Add-on Air Pollution Control Devices and Emission Standards: Tier II Tank Requirements | None | None |
| Add-on Air Pollution Control Devices and Emission Standards: General | Owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall operate air pollution control techniques at the applicable minimum hood induced capture velocity. | None | None |</p>
<table>
<thead>
<tr>
<th>Source Test Requirements: Schedule</th>
<th>Initial test required to demonstrate compliance with emission rate standards except for chromium electroplating or chromic acid anodizing tanks using wetting agent chemical fume suppressants for sole method of compliance</th>
<th>None specified.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner or operator shall conduct the initial source test no later than 120 days after approval of the initial source test protocol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A source test conducted after January 1, 2015, may be used to demonstrate compliance with the initial source test.</td>
<td></td>
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</tr>
<tr>
<td>Subsequent source tests are required to be conducted within 60 months of the most recent successful SCAQMD approved source test for facilities permitted for more than 1,000,000 ampere-hours per year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsequent source tests are required to be conducted within 84 months of the most recent successful SCAQMD approved source test for facilities permitted for less than or equal to 1,000,000 ampere-hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>An owner or operator of facility that elects to meet an emission limit specified in paragraph (h)(2) using a certified wetting agent chemical fume suppressant or certified alternative wetting agent chemical fume suppressant shall not be subject to the requirements of subparagraph (k)(1)(A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source Test Requirements: Emission Screening</td>
<td>None specified.</td>
<td>None specified.</td>
</tr>
<tr>
<td>An emission screening of hexavalent chromium for a Tier III Hexavalent Chromium Tank may be alternatively conducted to comply with the requirements for subsequent source tests if the emissions screening test:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Follows a source test protocol previously</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
submitted and approved by the SCAQMD

- Consists of one run to evaluate the capture and control of hexavalent chromium emissions
- Be representative of operating conditions at the facility

- An emissions screening test of hexavalent chromium for a Tier III Hexavalent Chromium Tank may be conducted as an alternative to complying with the requirements for an initial source tests if:
  - The emissions screening meets the requirements of clauses (k)(3)(A)(i) through (iii);
  - The facility conducted a source test after January 1, 2009 that meets the requirements of clauses (k)(1)(C)(i) through (k)(1)(C)(iii)
  - Submit to the Executive Officer a source test that requires approval to satisfy clause (k)(3)(B)(ii) no later than [30 days after Date of Rule Adoption]

- The owner or operator shall submit to SCAQMD the results of the emission screening within 30 days of receiving the results
- The owner or operator shall conduct a source test using an approved test method within 60 days of conducting an emission screening that:
  - Fails the capture efficiency test(s) specified in the source test protocol;
| Source Test Protocol Submittal | The owner or operator shall submit source test protocols for source tests based on the schedule below for air pollution control techniques existing on or before [Date of Adoption]

- Facility Permitted >20,000,000 Amp-hrs
  - Initial source test protocol due no later than [180 Days After Date of Adoption]
  - 180 days prior to due date of subsequent source test
- Facility Permitted <20,000,000 and >1,000,000
  - Initial source test protocol due no later than [365 Days After Date of Adoption]
  - 180 days prior to due date of subsequent source test
- For new or modified air pollution control techniques after [Date of Adoption]
  - Initial source test protocol due 60 days after initial start-up
  - 180 days prior to due date of subsequent source test
- Most recent SCAQMD approved source test protocol may be used for subsequent source tests if there are no changes since the last successful SCAQMD approve source test | None specified. | None specified. |

| Capture Efficiency | The owner or operator of a facility that is required to conduct a source test pursuant to | None specified. | None specified. |
to subdivision (k) shall demonstrate that each add-on air pollution control device meets the design criteria and ventilation velocities specified in A Manual of Recommended Practice for Design authored by the American Conference of Governmental Industrial Hygienists or alternative design criteria and ventilation velocities approved by the Executive Officer.

<table>
<thead>
<tr>
<th>Smoke Test</th>
<th>None Specified</th>
<th>None Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The owner or operator of a facility shall conduct a smoke test for each add-on air pollution control device pursuant to Appendix 5 and each add-on non-ventilated air pollution control device pursuant to Appendix 8.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wetting Agent Chemical Fume Suppressants</th>
<th>None Specified</th>
<th>None Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The owner or operator shall not add PFOS based fume suppressant to any chromium electroplating or chromic acid anodizing bath.</td>
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<td></td>
</tr>
<tr>
<td>• Surface tension shall be maintained below:</td>
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<td></td>
</tr>
<tr>
<td>o 40 dynes/cm (stalagmometer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o 33 dynes/cm (tensiometer)</td>
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</tr>
<tr>
<td>• Has been certified by the Executive based on a certification process conducted by SCAQMD and CARB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wetting Agent Chemical Fume Suppressants: Certification/Phase Out</th>
<th>None specified.</th>
<th>None specified.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No later than January 1, 2020, the Executive Officer shall notify the owner or operator of the following information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Availability of wetting agent chemical fume</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Certify wetting agent chemical fume suppressants to achieve a surface tension level at which an emission factor of ( \leq 0.01 ) mg/amp-hr is achieved. Wetting agent chemical fume suppressants must additionally meet a surface tension of (&lt; 45) dynes/cm (stalagmometer) or (&lt; 35) dynes/cm (tensiometer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• After September 21, 2015, the owner or owner of an affected facility shall not add PFOS–based fume suppressant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If a chemical fume suppressant containing a wetting agent is used, the surface tension of the electroplating or anodizing bath shall not exceed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o 40 dynes/cm (stalagmometer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o 33 dynes/cm (tensiometer)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
suppressant that is certified by the Executive Officer
  o Certification status of any potential wetting agent chemical
• Beginning July 1, 2021, the owner or operator shall only add a certified wetting agent chemical suppressant to a electroplating or chromic acid anodizing tank that contains hexavalent chromium
• If there will not be a wetting agent certified fume suppressant, the owner or operator shall install and implement an air pollution control technique to meet the emission limits no later than July 1, 2021
• An owner or operator may submit no later than January 1, 2021, a written and signed commitment that the facility will phase out by July 1, 2022, the use of hexavalent chromium in the electroplating or chromic acid anodizing tank that use a wetting agent chemical fume suppressant
• The owner or operator may continue to use a wetting agent chemical fume suppressant until July 1, 2022
• Owner or operator that fails to phase out the use of hexavalent chromium by July 1, 2022 will be required to cease operation of the electroplating or chromic acid anodizing until it can meet the emission limits

<table>
<thead>
<tr>
<th>Parameter Monitoring: Pressure Air Flow</th>
<th>None specified.</th>
<th>None specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The owner or operator shall monitor the operation of the add-on air pollution control device by:</td>
<td></td>
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</tr>
</tbody>
</table>
- Installing and maintaining a device to measure the applicable pressures and air flows specified in Table 4 - Pressure and Air Flow Measurement Parameters
- Installing each device so that it is accessible and in clear sight of the operation or maintenance personnel;
- Maintaining all parameters identified in Table 4 - Pressure and Air Flow Measurement Parameters within the range specified in the Facility’s SCAQMD Permit to Operate;
- Labeling each mechanical gauge with the corresponding acceptable operating ranges established during the most recent source test and within the range specified in the SCAQMD Permit to Operate; and
- Maintaining the mechanical gauges in accordance to the requirements in Appendix 4

- The owner or operator shall measure the velocity of all collection slots and if applicable, the pressure of the push manifold, or alternate location based on the source test every 180 days

| Parameter Monitoring: Pressure and Air Flow | Monitor the operation of the add-on air pollution control device by installing and maintaining mechanical gauges to measure the applicable pressures and air flows at the: | Continuous pressure drop and inlet velocity monitoring
- Record once a week | Daily pressure drop and inlet velocity monitoring and recording |

---

### Table 4 - Pressure and Air Flow Measurement Parameters

- Continuous pressure drop and inlet velocity monitoring
- Record once a week
<table>
<thead>
<tr>
<th>Add-On Air Pollution Control Device Parameter Monitoring</th>
<th>Monitoring required of collections slots and push air manifold</th>
<th>None Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acceptable measurements and actions:</td>
<td>None Specified</td>
</tr>
<tr>
<td></td>
<td>o Collection Slot, &gt; 95% of the most recent passing source test or emission screening; or ≥ 2,000 fpm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Push Air Manifold, 95-105% compared to the most recent passing source test or emission screening</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Action required, none</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Repairable measurement and actions:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Collection Slot, 90-95% of the most recent passing source test or emission screening test, or &lt; 2,000 fpm and &gt; 1,800 fpm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Push Air Manifold, 90-95% or 105-110% of the most recent passing source test or emission screening test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Action required, repair</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Failing Measurement and actions:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Collection Slot, &lt; 90% of the most recent passing source test or emission screening test, or &lt; 1,800 fpm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Push Air Manifold, &gt; 110% or &lt; 90% of the most recent passing source test or emission screening test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Action required, none</td>
<td></td>
</tr>
</tbody>
</table>

- Push Manifold – Static Pressure
- Collection Manifold/Any Location within the System – Static Pressure/Volumetric Flow Rate
- Across Each Stage of the Control Device – Differential Pressure
| Parameter Monitoring: Velocity of Collection Slots | Demonstrate that emissions are captured every 180 days by the add-on air pollution control device that meets the requirements in Table 5 using:  
- A hot-wire anemometer;  
- A vane anemometer; or  
- A device or method approved by Executive Officer | None specified | None Specified |
| Parameter Monitoring: HEPA Filters | Beginning 60 Days after completion of the initial source test, air pollution control devices equipped with HEPA filters shall be:  
- Equipped with ports  
- Calibrated once every calendar year  
- Maintained in accordance with manufacturer specification | None specified | None specified. |
<p>| Parameter Monitoring: Surface Tension | If using a certified chemical fume suppressant, the surface tension shall be measured daily for 20 operating days, and every third operating day thereafter, but no less than once weekly. | Monitor and record surface tension of electroplating baths weekly. | Monitor and record surface tension of electroplating baths once every 40 hours of operation. |</p>
<table>
<thead>
<tr>
<th>Inspection and Maintenance and Operation and Maintenance Plan</th>
<th>None specified</th>
<th>None specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier II Hexavalent Chromium Tanks that are not controlled by an add-on air pollution control device shall comply with the applicable inspection and maintenance requirements in Table 4-3 of Appendix 4</td>
<td>Tier I, Tier II, and Tier III Hexavalent Chromium Tanks shall comply with the inspection and maintenance requirements in Table 4-2 of Appendix 4</td>
<td>Facility’s Operation and Maintenance Plan shall be revised to reflect the incorporation of new inspection and maintenance requirements for a device or monitoring equipment</td>
</tr>
<tr>
<td>Prior to replacing an ampere-hour meter the owner or operator shall document with a photograph the actual ampere-hour reading of:</td>
<td>Prior to replacing an ampere-hour meter the owner or operator shall document with a photograph the actual ampere-hour reading of:</td>
<td>Prior to replacing an ampere-hour meter the owner or operator shall document with a photograph the actual ampere-hour reading of:</td>
</tr>
<tr>
<td>o The ampere-hour meter being replaced;</td>
<td>o The new ampere-hour meter after installation</td>
<td></td>
</tr>
<tr>
<td>Reporting of Notification of Incidents</td>
<td>None specified.</td>
<td>None specified.</td>
</tr>
<tr>
<td>Notify the Executive Officer within four hour of the incident or within four hours of any failed smoke test, any failed source test, any exceedance of a permitted ampere-hour limit, or any malfunction of a non-resettable ampere-hour meter. The notification shall include.</td>
<td>Notify the Executive Officer within four hour of the incident or within four hours of any failed smoke test, any failed source test, any exceedance of a permitted ampere-hour limit, or any malfunction of a non-resettable ampere-hour meter. The notification shall include.</td>
<td>Notify the Executive Officer within four hour of the incident or within four hours of any failed smoke test, any failed source test, any exceedance of a permitted ampere-hour limit, or any malfunction of a non-resettable ampere-hour meter. The notification shall include.</td>
</tr>
<tr>
<td>o Date and time of the incident</td>
<td>o Date and time of the incident</td>
<td>o Date and time of the incident</td>
</tr>
<tr>
<td>o Specific location and equipment involved</td>
<td>o Specific location and equipment involved</td>
<td>o Specific location and equipment involved</td>
</tr>
<tr>
<td>o Responsible party to contact for further information</td>
<td>o Responsible party to contact for further information</td>
<td>o Responsible party to contact for further information</td>
</tr>
<tr>
<td>o Causes of the incident</td>
<td>o Causes of the incident</td>
<td>o Causes of the incident</td>
</tr>
<tr>
<td>Chromium Electroplating or Chromic Acid Anodizing Kit Requirements</td>
<td>Removed</td>
<td>No person shall sell, supply, offer for sale, or manufacture for sale in California, chromium electroplating or chromic acid anodizing kits unless to an owner or operator of a permitted facility at which chromium electroplating and chromic acid anodizing is performed.</td>
</tr>
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<td>Conditional Requirements for Permanent Total Enclosures: Triggers</td>
<td>• More than one non-passing source test within a 48-month period&lt;br&gt;• More than one failure to cease operating a tank controlled by an add-on air pollution control device within a 48-month period due to a failing measurement of the collection system or a failed smoke test, if the facility is greater than 1,000 feet of a sensitive receptor&lt;br&gt;• One failure to cease operating a tank due to a failing measurement of the collection system or a failed smoke test, if the facility is less than or equal to 1,000 feet of a sensitive receptor</td>
<td>None specified.</td>
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<tr>
<td>Conditional Requirements for Permanent Total Enclosure: Procedure to Contest</td>
<td>• Within 30 days submit a written report providing evidence that the installation of a PTE is not warranted based on:&lt;br&gt;  o Incidences did not occur&lt;br&gt;  o Owner or operator resolved incidences in a timely manner</td>
<td>None specified.</td>
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<tr>
<td>Conditional Requirements for Permanent Total Enclosure: Construction</td>
<td>None specified.</td>
<td>None specified.</td>
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<td><strong>Construction</strong></td>
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<td>• Install no later than 12 months after the Permit to Construct</td>
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<td>• Permit to Construct application due 180 days after notification by the Executive Officer if near sensitive receptor</td>
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<td>• Permit to Construct application due 270 days after notification by the Executive Officer for other facilities</td>
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<thead>
<tr>
<th>Hexavalent Chromium Phase-Out</th>
<th>None specified.</th>
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<td><strong>Phase-Out</strong></td>
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<td>• Tier II or Tier III Hexavalent Chromium Tank shall not be required to vent to an add-on air pollution control if the owner or operator submits a Hexavalent Chromium Phase-Out Plan that contains:</td>
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<tr>
<td>o A written commitment to eliminate or reduce hexavalent chromium concentrations to below the Tier II or Tier III concentrations;</td>
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<td>o A description of the method by which hexavalent chromium concentrations will be reduced or eliminated;</td>
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<tr>
<td>o A list of milestones that are necessary to occur in order for the facility to eliminate or reduce hexavalent chromium;</td>
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<td>o Completion date for each milestone;</td>
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<td>o List of all control measures that will be implemented</td>
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<tr>
<td>• The Executive Officer shall notify if the plan is approved or disapproved</td>
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</table>
- Upon approval of the Hexavalent Chromium Phase-Out Plan, the owner or operator shall implement the approved plan and submit a progress report to the Executive Officer by the 1st of each quarter.
REFERENCES


Fume Suppressant Fact Sheet. Retrieved from https://www.arb.ca.gov/toxics/chrome/fumesuppressantfactsheet.pdf


Polo, Chen, (October 2002). Report on Nickel and Chromium Emissions from Electroplating Tanks, Version 3.0


APPENDIX A: RESPONSE TO COMMENTS
Appendix A includes responses to comments received through March 15, 2018. Comments received subsequent to this date will be responded to in the Final Staff Report for PAR 1469.
September 18, 2017

Mr. Wayne Nastri
Executive Officer
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Re: Comments - Proposed Amended Rule 1469 Working Group Meeting #5

Dear Mr. Nastri:

The Metal Finishing Associations of California ("MFA") represents over 130 companies throughout Northern and Southern California, which comprise a diverse industrial base of metal finishing and related businesses that employ thousands of workers. Its members provide necessary products and services to manufacturers in various other industries, including aerospace, automotive, electronics, computers, smart phones, medical devices, energy, and other consumer and industrial products. A large segment of our membership also provides mission critical parts and components for military aircraft, satellites, telecommunications, and other defense applications. In addition, well over 90 percent of the MFA membership are family-owned, small businesses.

Joining MFA in these comments are the National Association of Surface Finishing and the California Small Business Alliance.

Located in Washington DC, NASF represents the interests of businesses, technologists and professionals in the surface coatings industry. Its highly regarded programs and activities are informed by NASF’s mission to advance an environmentally and economically sustainable future for the finishing industry; and promote the vital role of surface technology in the global manufacturing value chain.

The California Small Business Alliance is a non-partisan coalition of California trade associations committed to provide small businesses with a single constructive voice before air quality management districts and other environmental regulatory agencies. While Alliance members represent small businesses, the combined impact of the membership on society and the economy is enormous. For example, in the Los Angeles metropolitan region alone, membership in the Alliance has grown to represent 14,000 companies, 700,000 employees and $42 billion in shipments.
Representatives of the MFA, including legal counsel and technical experts, have been actively engaged with AQMD staff since the beginning of the recent rulemaking process earlier this year. MFA members and its representatives have also attended all five public working group meetings, including the most recent meeting held on August 31, 2017 (referred to as “Working Group Meeting #5”), plus participated in numerous other meetings with the AQMD’s legal counsel, economic experts and rule development staff. This comment letter addresses the information presented by the staff at Working Group Meeting #5, noted as follows:

1.0 AQMD TESTING DATA

At the recent working group meeting, the AQMD presented a summary of test data collected from its various enforcement activities, including liquid, air and swipe samples of process areas and metal finishing tanks. In general, the MFA remains concerned that major rulemaking and policy decisions are being based on relatively few and inconsistent data points, especially when it concerns a potential requirement of add-on control devices and other costly measures for currently unregulated tanks. While the MFA reserves the right to modify or supplement these comments based on subsequent AQMD presentations, at this time, the following summarizes our primary concerns and comments based on data presented thus far:

(1) Sodium Dichromate and Dilute Chromate Tanks – On page 13 of the AQMD presentation, test results were shown of three (3) air samples of sodium dichromate seal tanks taken from three (3) different facilities (Facility C, D and E). The tank sizes ranged from 12 to 32 square feet, and operating temperatures ranged up to 212°F. Of the three air samples presented, there was a wide range of results from 97,200 to 682,000 ng/m³, which were sampled approximately 6 inches above the liquid surface of fully heated tanks without air sparging. Based on our review, there are inconsistencies with the sampling data as the measured air concentrations do not necessarily correlate to the hexavalent chromium concentrations within the tank. In addition, only 2 of the 3 measured facilities had valid analysis of the tank contents (Facility D and E). Of these 2 examples, the air sample concentrations of Facility D were over two times higher than Facility E, even though the hexavalent chromium concentration in the tank solution were approximately 60 percent of Facility E. While general qualitative judgements may be speculated based on this limited data, it is difficult to draw any specific conclusions or correlations given only two data points, and inconsistencies amongst these data points.

Moreover, it has not been demonstrated that potential fugitives from such tanks are being fully exhausted from building enclosures, nor that add-on controls are necessarily required. In response to a question during the workshop, an AQMD source test manager indicated that the same level of hexavalent chromium measured near the tank liquid surface were not being observed at the rooftop vents at these tested facilities. Rather, rooftop concentrations were substantially lower by orders of magnitude. In our view, if the tanks are properly maintained in buildings with open rooftop vents located at a sufficient distance away from such tanks, the likelihood of fugitives discharged from affected facilities would be sufficiently limited. As a consequence, the MFA would generally support housekeeping and best management practices as being sufficient measures to control sodium dichromate seal tanks.

(2) Nickel Acetate Seal, Hot Water and Teflon Seal – On page 14, test results were shown of four (4) liquid samples of nickel acetate, one (1) liquid sample of DI water seal and one (1) liquid sample of teflon seal tank. The tank sizes ranged from 4.5 to 30 square feet. Based on the presented test data, hexavalent chromium concentrations in these tank solutions were less than 1 ppm or nondetect in all cases, except for teflon seal tank which was measured at 5 ppm. In our view, these types of tanks do not require any further regulatory action nor other control measures.
(3) Chromate Conversion and Dye Tanks – On page 15, test results were shown for one (1) air sample of a chromate film tank (Facility D), which indicated a near-surface concentration of 8,340 ng/m³. In addition, two (2) liquid samples from two (2) chem film tanks (Facility C and G), which measured at 4 and 2,880 ppm, respectively. There was also one (1) liquid sample from an anodine clear tank (Facility F), which measured 300 ppm. Lastly, there were six (6) liquid samples from different color dye tanks (Facility C and F), in which hexavalent chromium concentrations were less than 1 ppm or non-detect in all cases, with exception of two tanks that measured 2 and 8 ppm, respectively. In our view, all of these tank types do not require any further regulatory action or other control measures.

(4) Rinse, Cleaner and De-smut Tanks – On page 16, test results were shown for five (5) liquid samples of standard rinse tanks (Facility B, C, and F), in which hex chrome concentrations were less than 4 ppm in all cases, with exception of one anomalous tank. In addition, there were three (3) liquid samples from DI rinse tanks (Facility A, F and G), in which hex chrome concentrations measured less than 0.25 percent by weight, respectively. Lastly, there were three (3) liquid samples from two cleaner tanks and one de-smut tank, in which hex chrome concentrations were less than 0.001 percent by weight. In our view, these types of tanks do not require any further regulatory action or other control measures.

(5) Passivate, Etch, Neutralizer and Stripping – On page 17, test results were shown for one (1) liquid samples taken from tanks that performed stripping, passivation, passivate rinse, etch and acid neutralizer, respectively. Hexavalent chromium concentrations from these tank solutions were less than 0.021 percent by weight in all tanks, with the exception of the passivation and stripping tank which measured 10,000 and 47,400 ppm, respectively. In the latter cases, neither the tank surface air concentrations nor tank operating temperatures were recorded or measured. However, the MFA would generally support housekeeping and best management practices as being sufficient measures to control these tanks.

2.0 PROPOSED RULE STRUCTURE

At this latest meeting, the AQMD presented a proposed rule structure and proposed rule language for certain sections, which included rule applicability, definitions, general requirements, housekeeping and best management practices (BMPs). In general, the MFA is supportive of the proposed rule structure, as presented at the last working group meeting. While the MFA reserves the right to modify or supplement these comments based on subsequent AQMD presentations, the following summarizes our primary comments at this time:

(1) Ambient Air Monitoring – The AQMD indicated that ambient air monitoring would be considered in a separate rulemaking which could impact multiple industries, and therefore, would not be proposing such requirements in the amended Rule 1469. The MFA remains concerned about the use of ambient air monitoring (and fence line limits) for rulemaking and enforcement purposes.

MFA reiterates its request in Workshop #5 that, prior to the inclusion of air monitoring provisions in any newly amended rules, the District consider the recently-enacted AB 617 [Garcia] Chapter 136, Statutes of 2017 and work with the California Air Resources Board [CARB] to implement the requirements of that law.

The new law requires CARB, by October 1, 2018, to prepare a monitoring plan regarding technologies for monitoring criteria air pollutants and toxic air contaminants and the need for and benefits of additional community air monitoring systems. It also requires CARB to select locations around the state for the preparation of community emissions reduction programs, and requires an air district containing a selected location, within one year of the state board’s selection, to adopt a
community emissions reduction program. By increasing the duties of air districts, this bill would impose a state-mandated local program.

It is important that implementation of these new laws with statewide application occurs without a duplication of efforts, and with a mind to the costs versus benefits.

(2) **Tier I and Tier II Hexavalent Chromium Tanks** – The MFA supports the concept of a Tier I and II hex chrome tanks for regulatory purposes. However, the MFA is still reviewing potential hexavalent chromium concentration, temperature and other limits which could define these categories. Irrespective, based on our review of the test data presented to date (and as noted above), the MFA believes most of the tank categories will not require further controls or other regulatory action. In cases of other potential applicable tanks, the MFA does not anticipate that add-on controls will be necessary, but rather housekeeping and BMPs would be sufficient control measures under the amended rule.

(3) **Housekeeping** – The MFA supports housekeeping measures for applicable tanks under the amended rule with few exceptions. However, the MFA does not support daily cleaning of applicable tanks, as currently proposed in PAR Rule 1469 (f)(4), as this places an undue burden on metal finishers. The current cleaning requirement is once per week, which we believe is sufficient housekeeping. In addition, the AQMD is proposing a new cleaning requirement under PAR Rule 1469 (f)(7) which requires the cleaning, using an approved cleaning method, of “suspected chromic acid residue” within 24 hours, such as visible stains. The MFA opposes this additional cleaning method as this would place an undue burden on metal finishing facilities, and also open to wide interpretation for enforcement officers in the issuance of Notices of Violations.

(4) **Best Management Practices** – The MFA supports BMPs for applicable tanks under the amended rule with few exceptions. Regarding the proposed limitations on using water sprays as currently proposed in PAR Rule 1469 (g)(2), the MFA does not believe such limitations are necessary. Given the water spray typically occurs over rinse tanks, and that neither the parts nor rinse tank will have significant amounts of chrome laden liquid.

(5) **Permanent Total Enclosures (PTEs)** – The AQMD is considering a trigger for PTEs for both Tier I and II chrome tanks based on (a) failure of a source test twice within 36 months or (b) failure to correct deficient slot velocity measurements within a specified time period. In general, the MFA does not believe that PTEs are necessary to control potential Tier I or II tanks, as we anticipate housekeeping and BMPs would be sufficient control measures. In addition, equipment source testing can be very costly, especially for facilities with many regulated tanks or permit units. As a consequence, the MFA is concerned about repetitive source testing requirements, which are unnecessary for compliance purposes. In addition, as we have noted before, the use of PTEs can also be very costly and difficult to implement, especially for facilities that were not designed nor constructed to accommodate them for existing tank operations.

The MFA also strongly encourages the AQMD to consider the ongoing confirmation that the provisions in the proposed rule update that are of concern to MFA are not necessary. This is documented by the results AQMD has obtained through its extensive hexavalent chromium monitoring in Compton, obtained from 36 separate sampling dates, beginning on June 30 of this year, and now involving seven sites.
The MFA and its representatives look forward to continued discussions on the amended rule with the AQMD. Thank you and we look forward to your response.

Sincerely,

Wesley Tunnell
President

cc: Barry Groveman, Musick Peeler
Ryan Hiete, Musick Peeler
Susan Nakamura, SCAQMD (via email only)
Kurt Wiese, SCAQMD (via email only)
Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 9/18/17

1-1 Response: Since this comment was submitted, additional source testing of tanks that operate between 140 and 170 degrees have been conducted. Using these additional data points combined with previous tank source tests, the SCAQMD staff has developed a table based on concentration thresholds that are based on source test data, with input from industry representatives that further refines the tiers of tanks by adding three tiers of tanks, in order to incorporate provisions for an interim “Tier II Tank” where emission reductions strategies are needed, but not add-on pollution controls.

1-2 Response: Please see response to comment 1-1. Regarding the comment on fugitive emissions escaping from the building enclosure, ambient monitoring and sampling at metal finishing facilities in Newport Beach, Paramount and Long Beach have shown elevated levels of hexavalent chromium that were attributed to cross-drafts that allowed hexavalent chromium emissions to exit the building enclosure and hexavalent chromium emitting tanks that are currently not regulated under Rule 1469. Hexavalent chromium emissions were substantially reduced after operators closed building openings that allowed emissions to be emitted out of the building, demonstrating the need to establish operating parameters for building enclosures. Regarding the comment on the difference in sampled concentrations, SCAQMD staff does not have the tank concentrations, nor specific operating temperatures which would affect the sampled concentrations. While there is variability between the sampled results, all 3 sampled concentrations were more than 10 times the measured concentration of a chromic acid anodizing tank controlled by chemical fume suppressant.

1-3 Response: Based on the tanks that staff has observed, the tanks referenced in the comment are all considered to be either Tier I Tanks or associated process tanks and do not have control requirements under PAR 1469, except for housekeeping and the requirement to operate Tier I Tanks inside a building. It is the responsibility of the owner or operator to assess the operating parameters (temperature and hexavalent chromium concentration) of a tank and then determine if the tank is a Tier I, II, or III Hexavalent Chromium Tank.

1-4 Response: Based on the tanks that staff has observed, the tanks referenced in the comment are all considered to be Tier I tanks and do not have control requirements under PAR 1469, except for housekeeping and the requirement to operate Tier I tanks inside a building. It is the responsibility of the owner or operator to assess the operating parameters (temperature and hexavalent chromium concentration) of a tank and determine if the tank is a Tier I, II, or III Hexavalent Chromium Tank.
Response: Based on the tanks that staff has observed, the tanks referenced in the comment are all considered to be associated process tanks, with the possible exception of rinse tanks that can build up concentrations of hexavalent chromium above Tier I allowable concentrations. Tier I Tanks only have housekeeping requirements and are required to be operated within a building. It is the responsibility of the owner or operator to assess the operating parameters (temperature and hexavalent chromium concentration) of a tank and determine if the tank is a Tier I, II, or III Hexavalent Chromium Tank.

Response: Based on the tanks that staff has observed, the tanks referenced in the comment are all considered to be Tier I Tanks, with the possible exception of electrolytic stripping tanks that can be Tier III Tanks, unless the tank meets the temperature and hexavalent chromium concentrations of a Tier I or II Tank. Tier III Tanks have control requirements under the rule proposal. It is the responsibility of the owner or operator to assess the operating parameters (temperature and hexavalent chromium concentration) of a tank and determine if the tank is a Tier I, II, or III Hexavalent Chromium Tank.

Response: SCAQMD staff has initiated rule development for Proposed Rule (PR) 1480 – Air Toxic Metals Monitoring which will provide a comprehensive approach to monitoring air toxics metals at various communities near a variety of industries. Therefore, it is more appropriate to consider monitoring within the context of PR 1480 instead of within PAR 1469.

Staff understands the requirements of AB 617 and will work with all stakeholders during development of PR 1480.

Response: Tier I Tanks are subject to housekeeping requirements under the rule proposal. Tier II Tanks and Tier III Tanks (formerly Tier II Tanks) must meet emission limits that require installation of air pollution controls. In general, best management practices apply to Tier II and II Tanks, but there are labeling requirements for Tier I, II, and III Tanks.

Response: The housekeeping provision under paragraph (f)(4) has been modified to read: Clean, using an approved cleaning method, surfaces within the enclosed storage area, open floor area, walkways around the electroplating or anodizing tanks, or any surface potentially contaminated with hexavalent chromium or surfaces that potentially accumulate dust at least weekly. This language exists in the current version of Rule 1469. Regarding the comment about visible stains, the language pertaining to “suspected chromic acid residue” in an earlier proposal has been removed.

Response: The requirement for water spraying/rinsing has been modified to require that the owner or operator shall not spray rinse parts or equipment that
were previously in a Tier II or Tier III hexavalent chromium tank, unless the parts or equipment are fully lowered inside a tank where the liquid is captured inside the tank. Please refer to paragraph (g)(2) for more information regarding water spray rinsing requirements.

1-11 Response: The triggers to require a permanent total enclosure (PTE) have been modified such that the timing is based on 48 months rather than 36 months. The triggers that will require a PTE are included in subdivision (t):

- More than one non-passing source test within a consecutive 48 month period; or
- The owner or operator of a facility failed to meet the requirements to shut down a tank controlled by an add-on air pollution control device more than once within a consecutive 48-month period for a facility that is located more than 1,000 feet from a sensitive receptor; or
- The owner or operator of a facility failed to meet the requirements to shut down a tank controlled by an add-on air pollution control device once for a facility that is located less than or equal to 1,000 feet from a sensitive receptor.

PAR 1469 allows for a facility to contest the PTE requirement. The owner or operator is allowed to contest the requirement to install a permanent total enclosure within 30 days of receiving notification from the Executive Officer that the requirement had been triggered. A written report contesting the requirement must include evidence that installation of the permanent total enclosure is not warranted based on the several criteria:

- The specified incidents of non-compliance did not occur; or
- The owner or operator of a facility resolved the specified incidents of non-compliance in a timely manner; and
- The owner or operator of a facility implemented specific measures to minimize the hexavalent chromium emissions.

1-12 Response: PAR 1469 is necessary. Ambient monitoring in Compton near Rule 1469 facilities was initiated after ambient monitoring efforts near Rule 1469 facilities in Newport Beach, Paramount, and Long Beach were conducted. Facilities in Compton had the benefit of learning about tanks that were potential high hexavalent chromium emitters and the importance of building enclosures. PAR 1469 is needed to require pollution controls on tanks with potentially high hexavalent chromium emissions, such as heated sodium dichromate seal tanks. PAR 1469 also establishes needed requirements to minimize cross-drafts from buildings with Rule 1469 hexavalent chromium tanks and housekeeping and best management practices. These provisions have been instrumental in reducing hexavalent chromium emissions near the Rule 1469 facilities in Newport Beach, Paramount, and Long Beach. Throughout the rulemaking process, the SCAQMD staff has worked with the Metal Finishing Association of Southern California on a variety of
provisions to allow more flexibility, ensure provisions are enforceable, provide additional clarity, and remove unnecessary provisions.
October 12, 2017

Mr. Wayne Nastri, Executive Officer  
South Coast Air Quality Management District  
21865 East Copley Drive  
Diamond Bar, California 91765

Re: Comments – Proposed Amended Rule 1469 Working Group Meeting #6

Dear Mr. Nastri:

The Metal Finishers Associations of California ("MFA") represents over 130 companies throughout Northern and Southern California, which comprise a diverse industrial base of metal finishing and related businesses that employ thousands of workers. Its members provide necessary products and services to manufacturers in various other industries, including aerospace, automotive, electronics, computers, smart phones, medical devices, energy, and other consumer and industrial products. A large segment of our membership also provides mission critical parts and components for military aircraft, satellites, telecommunications, and other defense applications. In addition, well over 90 percent of the MFA membership are family-owned, small businesses.

Joining the MFA in these comments are the National Association of Surface Finishing ("NASF") and the California Small Business Alliance.

Located in Washington DC, NASF represents the interests of businesses, technologists and professionals in the surface coatings industry. Its highly regarded programs and activities are informed by NASF’s mission to advance an environmentally and economically sustainable future for the finishing industry; and promote the vital role of surface technology in the global manufacturing value chain.

The California Small Business Alliance is a non-partisan coalition of California trade associations committed to provide small businesses with a single constructive voice before air quality management districts and other environmental regulatory agencies. While Alliance members represent small businesses, the combined impact of the membership on society and the economy is enormous. For example, in the Los Angeles metropolitan region alone, membership in the Alliance has grown to represent 14,000 companies, 700,000 employees and $42 billion in shipments.

Representatives of the MFA, including legal counsel and technical experts, have been actively engaged with AQMD staff since the beginning of the recent rulemaking process earlier this year. MFA members and its representatives have also attended all six public working group meetings, including the most recent meeting held on September 20, 2017 (referred to as "Working Group Meeting #6"), plus participated in numerous other meetings with the AQMD’s legal counsel, economic experts and
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October 12, 2017

rule development staff. This comment letter addresses the information presented by the staff at Working Group Meeting #6, noted as follows:

1.0 GENERAL COMMENTS

At Working Group Meeting #6, the AQMD presented proposed draft rule language for PAR 1469 and a summary presentation of the staff proposal. While the MFA reserves the right to modify or supplement these comments based on subsequent AQMD presentations, at this time the following summarizes our primary concerns and comments based on data presented thus far:

(1) New Source Review – As explained during the prior workshop, the MFA is concerned with the applicability of New Source Review ("NSR") per AQMD Rule 1303 (criteria pollutants) and Rule 1401 (air toxics) for facilities seeking to implement the proposed amended rule. NSR generally applies to "new permit units, relocations, or modifications to existing permit units." If triggered, permit applications and agency fees could range up to $3,000 per permit unit/application. In addition, in the case of Rule 1401 the permit applicant must demonstrate compliance with an increased Maximum Individual Cancer Risk ("MICR") of ≤1 in 1 million, or ≤5 in 1 million with use of T-BACT, which might mean the preparation of expensive Health Risk Assessment ("HRA") reports that range up to $25,000 each. Further, permit applications could take months or years awaiting AQMD review, approval and final permit issuance.

There are many examples of facility actions that may be construed as a "modification" or otherwise trigger NSR. A few examples of Best Management Practices ("BMPs"), housekeeping and other control measures under PAR 1469 which may trigger NSR are (a) relocating tanks farther away from roof vents, (b) installing covers to existing tanks, (c) adding polyballs or other mechanical fume suppression, (d) replacing air sparging with mechanical agitation, (e) installing or upgrading pressure gauges, flowmeters or other required monitoring devices, or (f) installing a total enclosure around existing tanks. Moreover, NSR could also apply if the AQMD denies potential NSR exemptions for submitted permit applications, including Rule 1401(g)(l)(B) and (C) for "Modifications with No Increase in Risk" and "Equipment Previously Exempted Under Rule 219", respectively. NSR applicability could incur significant permitting costs as noted above, plus create considerable delays in implementing PAR 1469 emission reduction measures which are intended to protect the public health. Further, such delays in AQMD approval and permit issuance only increase the regulated facility’s exposure of receiving Notices of Violation ("NOVs") for failure to implement PAR 1469 measures.

To address these concerns, the MFA requests that additional language be placed into PAR 1469 which clearly states that the implementation of such BMPs, housekeeping and other control measures would not trigger NSR. And in cases where permit action is necessary, the MFA requests rule language that clarifies and confirms such actions would be exempted from NSR requirements. For example, PAR 1469 may include the following proposed language:

"New Source Review Applicability – The implementation of applicable rule requirements for existing facilities and equipment as of [date of adoption] shall not be deemed a new source, modification nor otherwise trigger permit action or New Source Review. Further, the Executive Officer or his representatives shall not deny any existing New Source Review exemption for permit applications submitted to comply with rule requirements, including but not limited to equipment previously exempted under Rule 219 and modifications with no increase in risk.

(2) Chrome Tank Test Data – As noted previously, the MFA remains concerned that major rulemaking and policy decisions are being based on inconsistent data and little scientific support, especially when it concerns a potential requirement of add-on control devices and other costly measures for currently unregulated tanks. For proposed control requirements under PAR 1469, the cart
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is clearly in front of the horse. If the AQMD wants to effectively control emissions for a technology-based rule, it should start by quantifying emissions from various tank conditions, then and only then, can reasonable determinations be made as to what may pose a “a problem” and how to correct it. For example, it is not clear that an add-on control device would be needed to reduce uncontrolled emissions from a facility. In addition, all of the provisions required in the proposed rule to control additional emissions from other potential sources of hexavalent chromium would be tremendously burdensome for industry, and have essentially no effect on emissions. It is not possible to justify the required rule changes since the AQMD has yet to adequately quantify emissions from applicable tanks.

(3) Ambient Air Monitoring – The AQMD has indicated that ambient air monitoring would be considered in separate rulemaking which could impact multiple industries, and therefore, would not be proposing such requirements in the amended Rule 1469. The MFA continues to remain concerned about the use of ambient air monitoring (and fence line limits) for rulemaking and enforcement purposes and have raised legitimate issues of flawed assumptions, unreliable data, contributing sources, prohibitive costs and inconclusive results. Nevertheless, the AQMD continues to selectively utilize such unreliable ambient monitoring data to support its enforcement objectives and unfairly target metal finishers. Moreover, the AQMD continues to rely upon an unsubstantiated 1 ng/m³ hexavalent chromium standard that is not supported by the current science for enforcement purposes, including orders for facility shut down and business curtailment. Based on testimony of affected small businesses, it is clear the AQMD’s continued use of such unreliable air monitoring data is having significant adverse economic impacts, including loss of customers, decreased business volumes and employee layoffs. The MFA will reserve further comment until the AQMD initiates the separate rulemaking regarding ambient air monitoring.

2.0 FUGITIVES FROM METAL FINISHING OPERATIONS

The MFA does not believe there has been sufficient demonstration that potential fugitive emissions from unregulated chrome tanks are being significantly exhausted from building enclosures, nor that add-on control devices are necessarily required for such tanks. Under existing Rule 1469, the applicable emission limits for existing chromium electroplating and chromic acid anodizing tanks is 1,500 ng/amp-hr, which is typically measured after add-on control devices, such as High Efficiency Particulate Air (HEPA) systems. These add-on control devices are generally mounted on rooftops through a single exhaust stack with forced ventilation. The AQMD continues to be concerned about fugitive emissions from unregulated tanks containing hexavalent chromium, which are being discharged from metal finishing buildings. Rather than relying on assumptions, the AQMD needs to base its regulatory policy and rulemaking on validated scientific data that demonstrates significant fugitive emissions are actually being discharged from buildings through roof vents, doors, windows and other openings. Thus far, any substantial scientific data making such demonstration for fugitive emissions is lacking. Quite the contrary, based on statements from the AQMD source testing staff during the working group meetings, it appears that measured fugitive emissions through rooftop vents from unregulated tanks are far below any measurements at the tank surface by several orders of magnitude, even without any add-on control devices.

As evidence to support this conclusion, it is our understanding that the highest measurements of fugitive emissions from roof vents at metal finishing operations that has been collected by the AQMD is approximately 30 ng/m². In addition, the U.S. Environmental Protection Agency (“EPA”) examined the unregulated tanks containing hexavalent chromium as part of both the chromium electroplating NESHAP and the plating and polishing area source NESHAP, and chose not to impose emission limits or controls. Furthermore, the U.S. Occupational Safety and Health Administration (“OSHA”) did not recommend engineering controls for these unregulated tanks when setting the

Metal Finishing Association of Southern California
federal workplace exposure standard for hexavalent chromium. In short, these regulatory agencies believed that the emissions from these sources did not contribute significantly to air emissions or workplace exposure levels.

As another example of why fugitive emissions from the unregulated tanks are very low, facilities with dichromate seal tanks that have high concentrations of hexavalent chromium are compliant with the OSHA workplace exposure standard for hexavalent chromium with very low workplace exposure levels. If the workplace exposure levels of workers in the breathing zone only a few feet away from tanks are several orders of magnitude lower than the concentrations of hexavalent chromium in the tanks, then it is unlikely that fugitive emissions from these tanks leaving the building would be of much consequence unless, of course, the tank is constantly air sparged and/or running near the boiling point.

Based on the data gathered thus far, the fugitive emissions from the unregulated sources exiting the building would be considerably less than the emissions from the permitted sources. Accordingly, the elimination of all fugitive emissions from metal finishing operations would do little, if anything, to reduce ambient air concentrations of hexavalent chromium, particularly considering that metal finishing emissions of hexavalent chromium represent less than one percent of the total hexavalent chromium emissions according to the U.S. EPA National Emissions Inventory.

3.0 PROPOSED RULE AMENDMENTS

At this latest meeting, the AQMD presented proposed rule language which included rule applicability, definitions, general requirements, housekeeping and best management practices (BMPs). While the MFA reserves the right to modify or supplement these comments based on subsequent AQMD presentations, the following summarizes our primary comments at this time:

(1) Rule Applicability – As explained by AQMD staff, PAR 1469 would apply to chromium electroplating, chromic acid anodizing tanks and associated chrome tanks. Based on our understanding those facilities which do not operate chromium electroplating or chromic acid anodizing tanks would not be subject to PAR 1469, although they may operate tanks with chromium for other purposes. In addition, those tanks which are not associated with chrome plating or chrome anodizing would also not be subject to PAR 1469. If our understanding is correct, this rule applicability for PAR 1469 is consistent with existing Rule 1469 regarding applicable tanks, so the MFA has no further comment.

(2) Tier I Hexavalent Chromium Tanks – The MFA would not suggest utilizing a hexavalent chromium concentration for tank classification because not enough data has been provided to support a parts per million number. Furthermore, it has not yet been proven that hexavalent chromium concentration is a good predictor for high hexavalent chromium emissions. HOWEVER, if concentration levels as measured in parts per million ("ppm") are to be utilized than we offer the following: Tier I tanks should only capture those tanks which exhibit the highest potential for emissions, and therefore exclude tanks which otherwise should remain unregulated. In this regard, the MFA supports the following definition of Tier I tank under PAR 1469 – A Tier I tank means “a tank containing a hexavalent chromium concentration of 50,000 ppm or greater.” Based on the AQMD test data provided thus far, the MFA anticipates the following tanks would not qualify as Tier I tanks:

- Nickel Acetate Seal, Hot Water Seal, Teflon Seal
- Chromate Conversion, Dye Tanks
- Cleaner, De-smut Tanks
- Etch, Neutralization, Passivation
- Rinse Tanks

Metal Finishing Association of Southern California
(3) Tier II Hexavalent Chromium Tanks – The MFA would not suggest utilizing a hexavalent chromium concentration or a temperature level for tank classification because not enough data has been provided to support a parts per million number or a temperature level cutoff. Furthermore, it has not yet been proven that hexavalent chromium concentration is a good predictor for high hexavalent chromium emissions. And more data should be sought and provided before setting a square footage level as well. HOWEVER, if the AQMD anticipates add-on control devices for Tier II tanks, then the regulatory definition should be limited to only those tanks which have the following characteristics: (a) a minimum concentration of 75,000 ppm of hexavalent chromium, (b) minimum operating temperature of 190° F, and (c) conducts air sparging. The MFA opposes the generic requirement of “continuous bubbling” observed at the surface of the tank as being a potential qualifier for Tier II tank applicability, as this is vague and subject to wide interpretation by AQMD enforcement officers.

(4) Freeboard Height – PAR 1469 would require a minimum freeboard height of 8” for applicable Tier I and II tanks, which are newly installed (or modified) after the rule adoption date. The freeboard height requirement would not apply to existing tanks prior to rule adoption. The MFA opposes a freeboard height requirement for existing, new or modified applicable tanks because it has not been demonstrated that a minimum freeboard height results in any meaningful emission reductions. In general, facility operators are already incentivized to maintain a tank freeboard to preserve product quality and minimize chemical losses. To manage a different freeboard height for different tanks would create compliance issues for facility operators while providing minimal environmental benefit. In addition, reconfiguring tanks to provide for additional freeboard may not be feasible for most facilities. At the very least it would be expensive for facilities that could replace or reconfigure tanks to accommodate their parts and the additional freeboard.

(5) Building Enclosures – Pursuant to PAR 1469 (e), the MFA is concerned about the vagueness in the existing proposed rule language for building enclosures, including cross draft requirements, prohibition of forced air ventilation, sensitive receptor requirements, closure of building openings and others. Based on our interpretation, a building with just a single Tier I tank could not operate with any force air ventilation, must close off any nearby roof vents, and shut all of its doors during operations. If that is not the AQMD intent then the MFA requests clarity in the draft rule, otherwise, there would be wide interpretation by AQMD enforcement officers and potential Notices of Violation. In addition, the MFA does not support monthly inspections of the building enclosures for “breaks, cracks, gaps or deterioration” nor a 72-hour repair requirement, as these requirements are similarly vague and would likely lead to NOVs.

(6) Permanent Total Enclosures (“PTEs”) – PAR 1469 (e)(9) specifies a trigger for PTEs for Tier II tanks based on (a) failure of a source test within 48 months, or (b) more than one incident of failure of smoke and/or slot velocity measurements. If triggered, PAR 1469 requires permit applications for a PTE within 90 to 180 days, and construction of the PTE within 12 months. The MFA does not believe that PTEs are necessary to control potential Tier II tanks, as we anticipate the use of buildings, housekeeping and BMPs would be sufficient control measures. As we have noted before the use of PTEs can also be very costly and difficult to implement, especially for facilities that were not originally designed or constructed to accommodate PTEs for existing tank operations.

(7) Source Testing – PAR 1469 (k)(1) will require compliance source testing every 36 months. As we have noted compliance source testing for hexavalent chromium is very costly, especially for facilities with many regulated tanks or permit units. In addition, these source tests generally require several days and disrupt production operations. Given that HEPA control systems for
applicable tanks maintain adequate operational efficiency for many years, the MFA questions the need for source testing every 36 months. We are not aware of any other industry with such a rigorous frequency of compliance source testing for add-on control devices.

(8) **Capture Efficiency Testing** — PAR 1469 (k)(6) specifies routine slot velocity and smoke testing for applicable tanks with add-on control devices every month and 6-months, respectively. In particular, PAR 1469 specifies that a facility must “shut down” all chrome electroplating and anodizing lines if such capture tests show a slight deviation of 5% to 10% from the most recently approved AQMD approved source test. The MFA is very concerned with such stringent limitations and the shut down requirement, given the numerous factors that could impact these capture test results, such as equipment sensitivity, testing locations, personnel handling and others. 5% to 10% is a small margin for error which would be difficult to ensure compliance, could result in unnecessary equipment shut downs, and possibly lead to triggering the on-ramp for a PTE pursuant to PAR 1469 (e)(9)(A).

(9) **Notification of Incidents** — PAR 1469 (p)(4)(A) requires a regulated facility to notify the AQMD within “one hour” of any failed smoke test, failed source test, exceedence of a permitted ampere-hour limit or malfunction of a non-resettable ampere-hour meter. Further, PAR 1469 (p)(4)(B) requires corrective action and a written report within seven (7) days of notification. The MFA believes these proposed notification requirements are redundant as existing AQMD Rule 430 already covers the reporting of such incidents that result in rule or permit violations.

(10) **Parametric Monitoring** — PAR 1469 (m)(1)(D) adds a new requirement that the operator “shall ensure any velocity within 10 feet” of a Tier I tank with an add-on control device is “less than one-tenth of the collection slot velocity as specified in the most recent successful source test.” The MFA requests that this proposed requirement be removed as it is unclear what purpose it serves. Moreover, due to its vagueness the requirement would be subject to wide interpretation by AQMD enforcement and likely lead to NOVs.

(11) **Surface Tension Testing** — PAR 1469 (o)(4)(D) proposes a “daily” surface tension test for applicable tanks. The MFA opposes such daily testing since the current requirement of weekly surface tension testing is sufficient to ensure compliance.

(12) **Housekeeping** — The MFA supports housekeeping measures for applicable tanks under the amended rule with few exceptions. However, the MFA opposes daily cleaning of applicable tanks and operational areas as currently proposed in PAR 1469 (f)(4) and (f)(6). This would place an undue burden on metal finishers. The current cleaning requirement is once per week and we believe this is sufficient housekeeping for applicable operations. As a general note, increasing the administrative burden by requiring tasks or record keeping to be performed more frequently is not conducive to efficient compliance or inspection, and the increased frequency typically has negligible effects on emissions.

(13) **Water Spraying** — The MFA supports Best Management Practices for applicable tanks under the amended rule with few exceptions. Regarding the proposed limitations on using water sprays as currently proposed in PAR 1469 (g)(2), the MFA does not believe such limitations are necessary. Given that water spray typically occurs over rinse tanks and that neither the parts nor the rinse tank will have significant amounts of chrome laden liquid. This requirement would impose unnecessary compliance costs with little or no environmental benefit.
MFA Comment Letter – AQMD Proposed Amended Rule 1469
October 12, 2017

(14) **Compressed Air Cleaning or Drying** – Regarding the proposed limitations on using compressed air cleaning or drying as currently proposed in PAR 1469 (g)(7), the MFA does not believe such limitations are necessary. At this point in the process any residual rinse water on finished parts will have negligible amounts of hexavalent chrome, if any. This requirement would impose unnecessary compliance costs with little or no environmental benefit.

(15) **Rinse Tanks** – Regarding the proposed limits on rinse tanks as proposed in PAR 1469 (g)(8), the MFA opposes a maximum hex chrome concentration for rinse tanks. Generally speaking, rinse tanks, no matter how concentrated, are not emitters as they are not heated, air sparged or electriﬁed. Rinse tank requirements would not yield any signiﬁcant environmental beneﬁt as these tanks have negligible amounts of hexavalent chrome content, if any. This will place an undue burden on metal ﬁnishers to conduct frequent analytical testing on a daily basis for hex chrome concentrations to ensure compliance. Most metal ﬁnishing facilities do not have such analytical equipment or technical capabilities.

(16) **Add-on Control Devices for Tier II Tanks** – PAR 1469 (h)(6) speciﬁes add-on control devices for Tier II tanks and proposes a hex chrome emission limit which is to be determined. As noted above, the MFA questions the need for add-on control devices for Tier II tanks based on the limited and inconsistent emission data collected for chrome tanks and roofﬂop vents. If an emission limit will be adopted, the MFA opposes an emission limit for Tier II tanks which would be lower than the current hex chrome emission limits speciﬁed by Table 1, which are currently applicable to existing tanks. The current state of pollution control technology has not signiﬁcantly changed since the prior amendments to Rule 1469 and, therefore, any lower emission limits would not be justiﬁed.

The MFA and its representatives look forward to continued discussions on the amended rule with the AQMD. Thank you and we look forward to your response.

Sincerely,

Wesley Turnbow
President

cc: Barry Groveman, Musick Peeler
Ryan Hiete, Musick Peeler
Sasan Nakamura, SCAQMD (via email only)
Kurt Wiese, SCAQMD (via email only)
Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 9/18/17

2-1 Response: New Source Review (NSR) and T-BACT requirements are only triggered by an emissions increase. BMPs and housekeeping are generally not activities that require an SCAQMD permit and are not considered a modification and therefore not subject to NSR or requirements to install T-BACT. Many of the activities listed in the comment would be implemented to reduce emissions and would not result in an emissions increase; for example, addition of polyballs or mechanical fume suppressants, installation of pressure gauges, flowmeters and other monitoring equipment, installing a total enclosure around existing tanks, and installing heating, cooling or other rooftop ventilation equipment are all activities that are expected to decrease and not increase emissions. In addition, there is no longer a prohibition on air sparging as was the case when this comment was submitted. Covers for Tier II Tanks are allowed as a method of control, and are allowable for Tier III Tanks in the interim period before air pollution control systems are installed. Please contact SCAQMD Engineering and Permitting staff to determine whether other activities will require a permit application to be submitted and whether an increase in emissions is assumed for these activities.

2-2 Response: Please see Response to Comment 1-1.

2-3 Response: Please see Response to Comment 1-7. During the rule development process for Proposed Rule 1480 – Air Toxic Metals Monitoring for ambient monitoring, background information and proposed provisions such as applicability, timing as to when a facility would be required to conduct ambient air monitoring, thresholds, pollutants monitored, and other actions that would be required based on the results of ambient air monitoring have been or will be discussed. Staff has explained the basis of the 1 ng/m³ hexavalent chromium threshold used in Orders for Abatements for certain facilities in Paramount and Long Beach in multiple PAR 1469 Working Group Meetings. In addition, through ambient monitoring efforts conducted by the SCAQMD there were no orders for facility shutdowns. Provisions in the orders for abatement did require facilities to cease hexavalent chromium emitting operations until the average ambient concentration was below a specified threshold.

SCAQMD has a robust ambient monitoring program that ensures accurate results with established quality assurance and quality control procedures. The ambient monitoring activities in Paramount, Long Beach and Compton were subject to SCAQMD protocols and procedures that are used during sample collection, instrument calibration, chain of sample custody and sample analysis.
2-4 Response: Please see Responses to Comments 1-2 and 1-12.

2-5 Response: PAR 1469 is applicable to facilities performing chromium electroplating and chromic acid anodizing. PAR 1469 requirements are specific to tanks at these facilities. If facilities that do not perform chromium electroplating or chromic acid anodizing have process tanks that contain chromium, these other facilities are not subject to the requirements of PAR 1469. However, they may be subject to Rule 1426, and under a future rulemaking for PAR 1426 additional requirements may be imposed.

2-6 Response: The Tier I Tank definition, as discussed at Working Group meetings and Public Workshops is contained in paragraph (c)(57). A concentration of 1,000 ppm is appropriate to differentiate Tier I Tanks from those with lower concentrations of hexavalent chromium that have very limited potential for fugitive emissions. The 1,000 ppm threshold for a Tier I Tank was based on the 2012 National Emission Standards for Hazardous Air Pollutants (NESHAP). SCAQMD staff conducted source tests to determine the hexavalent chromium emissions associated with tanks at varying temperatures and concentrations to define Tier I, II, and III tanks. Please also see Response to Comment 14-2.

2-7 Response: Please see Response to Comment 1-1. SCAQMD staff has conducted additional emissions testing and added a new definition for a Tier II and Tier III Hexavalent Chromium Tank. The Tier II Hexavalent Chromium Tank definition is contained in paragraph (c)(58) and the Tier III Tank definition is contained in paragraph (c)(59). Tier III Tanks have the highest potential for emissions and these tanks are the focus of new requirements in PAR 1469. Staff has worked with the stakeholders to refine the concept for these tanks, including the concentration thresholds used in Appendix 10 to define Tier II and Tier III Hexavalent Chromium Tanks.

2-8 Response: The requirements for freeboard height have been removed from PAR 1469.

2-9 Response: Many of the requirements for a building enclosure have been modified since the comment was submitted, including the requirement for Tier I Tanks to be located within a building enclosure that meets the definition of a building enclosure under paragraph (c)(11), however, operation of a Tier I Hexavalent Chromium Tank does not need to be in a building enclosure that meets the requirements of subdivision (e). Tier II and III Hexavalent Chromium Tanks must be within a building enclosure that meets the requirements of subdivision (e).

2-10 Response: Please see Response to Comment 1-11. The triggers for installation of a Permanent Total Enclosure (PTE) have been modified to require a PTE if an owner or operator fails to shut down a Tier II or III Hexavalent
Chromium Tank upon failing a smoke or slot velocity test, instead of requiring a PTE if an owner or operator fails a smoke or slot velocity test.

2-11 Response: Source testing requirements have been modified since this comment was received. PAR 1469 has been changed to require a subsequent source test after the initial sources test every 60 months (five years) for facilities with permitted throughput of more than 1,000,000 amp-hrs/yr and every 84 months (seven years) for facilities with permitted throughput of less than 1,000,000 amp-hrs/yr. PAR 1469 requires an emission screening test after an initial sources test within 60 to 84 months if all capture efficiency tests conducted by the owner or operator within 48 months did not require a tank to be shut down and all applicable inspection and maintenance requirements (specified in Appendix 4) were conducted.

2-12 Response: Subdivision (m) defines the requirements for a failing slot velocity measurement where the tank must be immediately shut down, rather than the air pollution control (APC) system. Under the current proposal, other tanks served by the same APC system that have acceptable velocity measurements are still allowed to operate. Staff received comments that the deviation of +/-10% from the most recently approved of slot velocity and push manifold pressure was too stringent. The requirement was reviewed and revised based on the Industrial Ventilation Guidelines of 2,000 fpm. There are no equivalent standards for push manifold pressure so the shutdown pressure remains. Staff acknowledges that there are many factors that could alter the capture test results. However, the capture test is required every 180 days. Prior to this test, PAR 1469 requires the owner or operator to maintain control efficiency and monitor operating parameters. Issues can be identified and addressed by the owner or operator prior to necessitating a shutdown of the tank. While PAR 1469 would require a shutdown of the tank that is being controlled by an add-on air pollution control device, it would not require construction of a PTE. Construction of a PTE is based on whether an owner or operator of a facility failed to shut down a tank that had a failing measurement.

2-13 Response: Rule 430 does not apply to any Regulation XIV rules. Therefore, the notification requirements in PAR 1469 are not redundant and subparagraph (p)(4)(A) is necessary. Since the comment was submitted, the 1-hour timing to report a failed smoke test, failed source test, exceedance of a permitted ampere-hour limit, or malfunction of a non-resettable ampere-hour meter, while consistent with the 1-hour requirement to notify SCAQMD of a breakdown under Rule 430 has been extended to four hours.

2-14 Response: The referenced subparagraph has been removed from PAR 1469.

2-15 Response: The requirement under paragraphs (o)(4) and (m)(2) to record the surface tension daily for 20 operating days is an existing requirement. It is not the
intent of this provision to restart the 20-day requirement for daily surface tension measurement as a result of the proposed rule amendment.

2-16 Response: Please see Response to Comment 1-9.

2-17 Response: Please see Response to Comment 1-10.

2-18 Response: A barrier separating the compressed air cleaning or drying operation within 15 feet of Tier II and Tier III Tanks provides appropriate control to prevent fugitive emissions associated with compressed air cleaning or drying operations from becoming airborne due to drafts within a building enclosure. A tank wall may function as a barrier as long as parts are compressed air cleaned or dried below the lip of the tank. A barrier is not necessary for compressed air cleaning within a PTE.

2-19 Response: Under PAR 1469, only rinse tanks having a hexavalent chromium concentration of 1,000 ppm or greater are considered Tier I Tanks and are subject to housekeeping requirements. Rinse tanks with a hexavalent chromium concentration less than 1,000 ppm do not have any requirements. Please also see Response to Comment 14-2.

2-20 Response: The comment refers to Tier II Tanks. Most of these tanks are now considered Tier III Tanks, with an intermediate designation of Tier II for tanks that meet the definition of paragraph (c)(58). Since receipt of this comment letter, SCAQMD staff has conducted additional samples and testing of hexavalent chromium tanks. Based on test data from a number of Tier I, Tier II and Tier III Hexavalent Chromium Tanks, it is evident that add-on air pollution controls are necessary for control of emissions from Tier III Tanks. The levels defining Tier III Tanks have been discussed at several Working Group meetings.
Wayne Nastri  
Executive Officer  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765  

October 25, 2017  

Dear Mr. Nastri,

Our organizations are very concerned about the lack of protections for communities in the proposed chrome plater rule which South Coast is planning on issuing in a few months. The rule has been significantly weakened since it was first proposed, abandoning ambient monitoring provisions, scaling back the use of HEPA filters, and removing the requirements for total enclosure with negative air. To say we are disappointed is an understatement.

Chrome platers emitting hexavalent chromium into our communities have been very problematic in the South Coast Basin for a long time. Many of our organizations worked on the existing state rule in 2006 and the subsequent local rules in South Coast. We pushed hard for the best protections available then, and to have more stringent requirement for platers located next to schools and sensitive receptors. It is apparent to us now that many facilities just did not comply with the rules and some sources went completely unregulated altogether. From the plater next to Suva School, to Master Plating, to the platers in Paramount and Compton now, the devastating public health effects to communities hosting these plating operations are an endemic part of the terrible history of environmental injustice in the South Coast region.

Chrome platers are concentrated in the Los Angeles area. No one really knows how many of these facilities exist, not even your own staff, but over 10% of all the chrome platers in the nation call the South Coast air basin their home. New facilities operating without permits are discovered often. These platers, already concentrated in our air basin, are further concentrated in low-income communities of color where enforcement is lax and regulators commonly turn a blind eye to complaints about odors and emissions. The communities of Paramount, Compton, and parts of East Los Angeles all have concentrated pockets of platers.

This concentration of chrome platers in communities is further exacerbated by other sources of hexavalent chromium emissions such as forgers and metal heat treaters, and potentially other sources not yet identified. Since there are so few air monitors in the basin which detect hexavalent chromium, it would be simply blind luck if a monitor were to be placed in one of these areas of concentration. Ironically, it was the air monitor placed to measure the emissions from Carlton Forge which inadvertently identified the platers in Paramount as an hexavalent chromium air pollution hot spot.

Each and every source of hexavalent chromium is contributing to the emissions which are endangering our communities. Each and every source needs to take on the responsibility to cease to emit this highly toxic chemical into our homes, schools, play yards, community centers,
and churches. Our communities should not bear the burden for these emissions with their health and well-being.

When the original rule making on chrome platers started earlier this year it envisioned robust monitoring and rigorous air pollution controls for platers. However, pressure from the plating industry has your agency back-tracking on those measures. Without the monitoring, robust pollution controls, and total enclosure of all the industrial processes emitting these dangerous emissions we are no longer confident that this regulatory effort will protect our communities.

We urge you and your staff to consider the damage to public health which releases of hexavalent chromium are known to cause in the communities hosting these hexavalent chromium sources. We also urge you to think about the environment which the workers at these facilities are laboring in; these hexavalent chromium emissions are dangerous to all who work in this industry. We need the agency to insure that these facilities are made to completely capture these dangerous emissions, and to have the necessary monitoring sufficient to ensure compliance with the rules.

The European Union has just passed a regulation which will end the use of chromium for decorative purposes; we urge the South Coast AQMD to consider such as action as well. South Coast has taken similar actions before on dry cleaning facilities to ban chemicals which were damaging air quality and we urge you to consider to doing this for chromium as well.

If our experiences in the communities we represent teach us anything, we have learned that we cannot rely on anything but robust monitoring and a strong enforcement presence to ensure that these facilities are being operated properly and that our communities get the protections they deserve from their government. We urge you to work with us to create a rule which will ensure that families, teachers, workers, parishioners, and community residents are safe from hexavalent chromium in their communities.

Respectfully,

Action Now

Mitzi Shpak

Executive Director

Altadena, CA

American Legion Post 6

Pastor Anthony Quezada

1927 E. Plymouth St.

Long Beach, CA

Apostolic Faith Center

Pastor Alfred Carrillo

1510 E. Rubidoux St.

Wilmington, CA
California Communities Against Toxics
Jane Williams
Executive Director
Rosamond, CA

California Safe Schools
Robina Suwol
Executive Director
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California Kids IAQ
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Cynthia Medina
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Earthworks Films, Inc.
Maria Florio
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East Yard Communities for Environmental Justice
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Mothers of East Los Angeles
Teresa Marquez
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Mujeres Pro Maywood
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Magdalena Guillen
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Yvette Lopez-Ledesma
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Fe Koons
President
Carson, CA

Physicians for Social Responsibility – LA
Martha Dina Arguello
Director
Los Angeles, CA

Randall Enterprises, Inc.
David Randall
President
Sherman Oaks, CA

Resurrection Catholic Church
Monsignor John Moreta
Pastor
Los Angeles, CA

San Pedro & Peninsula Homeowners Coalition
Dr. John G. Miller, MD
President
San Pedro, CA
Society for Positive Action  
Shabaka Heru  
President  
Los Angeles, CA  

St. Philomena Social Justice Ministry  
Modesta Pulido  
Chairperson  
Carson, CA  

Watts Labor Community Action Committee  
Timothy Watkins  
President/CEO  
Los Angeles, CA  

Wilmington Improvement Network  
Anabell Romero Chavez  
Board Member  
Wilmington, CA
Responses to Environmental Multi-Agency Comment Letter (34 commenters, Action Now et.al.), submitted 10/25/17

3-1 Response: PAR 1469 reduces emissions of hexavalent chromium and offers protection to the communities surrounding the affected facilities. PAR 1469 incorporates the requirements of the U.S. EPA chrome NESHAP (Chromium Electroplating: National Emission Standards for Hazardous Air Pollutants), as well as the California Air Resources Board (CARB) Airborne Toxics Control Measure (ATCM) for chrome plating and anodizing (Airborne Toxic Control Measure for Chromium Plating and Chromic Acid Anodizing Facilities). In addition, PAR 1469 requires control of additional process tanks not controlled by the NESHAP or CARB ATCM.

Early discussions regarding ambient monitoring and permanent total enclosures (PTE) under negative pressure vented to HEPA filters were discussed at Working Group Meetings, however, no provisions were included in PAR 1469. PAR 1469 does include a conditional provision for installation of a PTE for facilities that either fail multiple source tests or fail to shut down a tank after failing a smoke or slot velocity test. See subdivision (t) of PAR 1469 for more information regarding triggers for installation of a PTE. Please also see Response to Comment 1-11.

PAR 1469 incorporates provisions to reduce migration of fugitive hexavalent chromium emissions outside of a building enclosure, including: closing roof openings within 15 feet of a Tier II or Tier III Tank; closing of enclosure openings located on opposite sides of a building enclosure; and closing of enclosure openings on sides of a building enclosure that face nearby school or sensitive receptor. Please also see Response to Comment 9-1.

Although ambient monitoring provisions are not included in PAR 1469, a separate rule for ambient monitoring is planned. Please also see Response to Comment 1-7.

3-2 Response: The U.S. EPA NESHAP, CARB ATCM, and Rule 1469 only addresses chromium emissions from plating and anodizing tanks. Ambient monitoring and emissions testing conducted by SCAQMD staff revealed significant sources of hexavalent chromium emissions from certain non-plating tanks that were sparged (air-agitated), electrolytic, or operated at elevated temperatures. Control of these tanks, considered Tier II and Tier III Tanks is required under PAR 1469. Staff inspects chrome plating and chromic acid anodizing facilities and enforces air quality rules. Please also see Response to Comment 3-3.
In addition to addressing emissions from individual tanks at plating and anodizing facilities, PAR 1469 will reduce fugitive emissions of hexavalent chromium through best management practices, requiring a building enclosure for operations, limiting enclosure openings and specifying operational factors to limit cross drafts through a building enclosure. A PTE that is vented to air pollution control equipment meeting a high level of control, is required in certain situations.

3-3 Response: Staff has an accurate count of all plating and anodizing facilities that have permits with the SCAQMD and are subject to Rule 1469. As discussed in Chapter 1, staff conducted numerous searches to identify facilities that would be applicable to PAR 1469. Staff conducted internet searches, verified lists of companies provided by stakeholders, and reviewed the SCAQMD’s permit database for any potential PAR 1469 facilities.

SCAQMD regulates all facilities within its jurisdiction consistently across communities and SCAMD staff conducts inspections at all facilities with SCAQMD permits. Facilities regulated under Rule 1469 are subject to quarterly inspections, where inspections are conducted consistently facility to facility regardless of their location. SCAQMD staff routinely respond to complaints about odors and emissions received from the public.

3-4 Response: SCAQMD has existing rules that currently address many source categories of hexavalent chromium emissions, including from chrome plating and anodizing operations (Rule 1469 - Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations); from grinding operations at metal forging facilities, (Rule 1430 - Control of Emissions from Metal Grinding Operations at Metal Forging Facilities); from cooling towers (Rule 1404 - Hexavalent Chromium Emissions from Cooling Towers); from spraying of coatings containing chromium (Rule 1469.1 - Spraying Operations Using Coatings Containing Chromium) and from metal finishing operations (Rule 1426 - Emissions from Metal Finishing Operations). In addition to existing rules for the source categories described above, SCAQMD has also proposed rules to address hexavalent chromium emissions from metal melting operations (PR 1407 - Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Melting Operations); from heat treating (PR 1435 - Control of Emissions from Metal Heat Treating Processes) and from laser cutting of metals (PR 1445 - Control of Toxic Emissions from Laser Arc Cutting). PAR 1469 will reduce emissions of hexavalent chromium from fugitive sources, through housekeeping practices and by requiring building enclosures, as well as from point sources. Other SCAQMD rules described above also include requirements to reduce metal air toxic emissions.

Under the SCAQMD Community Air Toxics Initiative, SCAQMD will systematically identify and prioritize high-risk facilities, then use the latest
air monitoring technology to confirm specific sources causing high emissions. If identified, SCAQMD will seek Orders for Abatement from the independent SCAQMD Hearing Board to require these facilities to reduce their emissions to a level that does not pose an immediate threat to public health.

Air monitoring in the Compton area has begun in order to launch this initiative. Efforts here will initially focus on chromium plating and anodizing plants. In addition, the SCAQMD has received a series of metallic odor complaints from community members in Paramount. In response, staff began conducting investigations into local sources of emissions.

3-5 Response: Please see Response to Comment 3-4.

3-6 Response: Please see Response to Comment 3-1

3-7 Response: Please see Response to Comment 3-1. Regarding your comments on the environment in which the workers at these facilities labor, and that hexavalent chromium emissions are dangerous to all who work in this industry; after consultation with CAL-OSHA, SCAMQD staff verified that there is no conflict between the requirements of PAR 1469 and the requirements of CAL-OSHA, the agency responsible for indoor air quality at industrial facilities. Implementation of PAR 1469 to install air pollution controls for Tier III Hexavalent Chromium Tanks is expected to also improve the work environment as these thanks will be ventilated to pollution controls rather than emitting within the building exposing workers to high levels of hexavalent chromium emissions.

3-8 Response: The European Union (EU) REACH program allows Authorisations (i.e. exemptions) for up to 12 year review periods to identify alternatives. In addition, the EU may allow additional time to identify and implement alternatives after the initial review period, depending on the outcome of the initial review period. Authorisations have been granted for chromic acid anodizing and hard and decorative plating operations. Authorisations have been granted for the appearance and color of plated products. It should be noted that EU Authorisations are very broad, and can include both upstream and downstream users within a single Authorisation. The EU defines “functional decorative plating”, which is very broad and includes architectural, automotive, and metal manufacturing, a definition which includes decorative plating as commonly recognized in the United States.

Please also see Response to Comment 9-2.

3-9 Response: Please see Responses to Comments 3-1 and 3-3.
November 8, 2017

Mr. Eugene Kang
Program Supervisor
Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 Copley Drive Diamond Bar, CA 91765
Phone: (909) 396-3524

Subject: Proposed Amended Rule 1469 Comments

Dear Mr. Kang,

The Industrial Environmental Coalition of Orange County (IEC/OC) appreciates the opportunity to provide comments to the South Coast Air Quality Management District (SCAQMD) on Proposed Amended Rule (PAR) 1469, Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations. The IEC/OC represents diverse industrial businesses in Orange County, including aerospace companies, metal processing facilities, pharmaceutical companies, general manufacturing, and public utilities. Our mission is to facilitate communication between industry and government agencies on environmental issues impacting our member’s business operations.

In pursuing rule developments and other actions, the IEC/OC requests that SCAQMD consider reasonable, fair, and cost-effective emission control requirements that will properly achieve the health protection goals of the SCAQMD’s Air Toxic Initiative.

In general, IEC/OC’s finding on PAR 1469 is that certain conditions and requirements included in the draft rule language may not be feasible considering current operating parameters of existing tanks and tank lines. Implementation of PAR 1469 in its current form would render certain tank lines at existing facilities inoperable, and could force businesses out of the district. The requirements of PAR 1469 should be revised to account for difficulties associated with modifying existing operations.

IEC/OC has the following specific comments on PAR 1469:

1. Comment 1 – The Requirements for freeboard height contained in Section (d)(4) of the draft rule language are not feasible at existing facilities. The current industry standard is a freeboard height of four inches for electroplating, and many existing facilities have automated tank lines that have a uniform freeboard height of four inches. Changing the freeboard height of one tank in an existing line to eight inches would render these automated lines inoperable. Automated lines are difficult to physically modify for reasons including, over-head clearance limitations, existing rack size and configuration, and strict process specifications that are set and audited by defense and commercial aircraft customers. In addition, parts loaded into the rack of an automated line will not be fully submerged if the liquid level of one tank were to be lowered. This would result in failure to meet established performance standards. IEC/OC suggests that the eight-inch freeboard height requirement be changed from modified and new Tier II tanks to new standalone tanks or new tank lines, only. The requirement for freeboard height of eight inches should not apply to existing process lines.
2. Comment 2 – The compliance dates for permit application submittal do not allow enough
time to adequately assess options and prepare an application for successful modifications.
The draft rule language establishes compliance time limits for permit application submittal of 180
to 365 days. Additional time is needed to properly plan, design, and apply for significant process
changes, such as add-on control devices. Six months is inadequate to develop a strategy, confirm
that control device operating parameters, such as capture air velocity and pressure drop across
various control processes, will meet the requirements of the new rule, and confirm the newly
designed process will continue to meet customer specifications. To ensure process modifications
and/or add-on control technologies achieve long-term success, adequate time should be allowed for
research, planning, design, and application preparation. IEC/OC suggests a compliance date of two
years after the date of adoption for permit application submittal.

3. Comment 3 – The definition of a Tier II Tank was established using insufficient data. Page 1-22
of the Preliminary Draft Staff Report states, “Further testing will be conducted to determine
whether there are significant increases in emissions in the range of temperatures between 140 and
170 degrees Fahrenheit.” Despite this statement and the lack of supporting evidence, the current
definition of a Tier II tank includes 140 degrees as the temperature threshold, and a Public
Workshop was held for the PAR. Further progress on PAR 1469 should be delayed until adequate
data regarding key quantitative definitions are obtained.

The IEC/OC supports an open dialogue on SCAQMD’s Air Toxics Initiative, PAR 1420, and other actions,
to effect beneficial rule developments. If you have any questions, please do not hesitate to contact me at
(562) 495-5777.

Sincerely,

Chris Waller
IEC/OC Air Regulations Sub-Committee Chair

Mission Statement: Our goal is to provide a forum for Orange County businesses to remain current on emerging issues and to exchange views with environmental and safety agencies in an open and informal setting.
Responses to Comment Letter from Industrial Environmental Coalition Orange County
(submitted 11/8/17)

4-1 Response: The economic impacts resulting from compliance with PAR 1469 are analyzed in the Socioeconomic Impact Assessment.

4-2 Response: The requirements for freeboard height have been removed from PAR 1469.

4-3 Response: The proposed requirements for permit application submittals relating to controls on Tier III Tanks are 180 days, 365 days, and 545 days after rule adoption for chromic acid anodizing, hard chrome plating, and decorative chrome plating facilities, respectively. PAR 1469 allows sufficient time for preparation of a permit application that considers the required research, plan, and design for the air pollution control system. Once a complete permit application is received, the facility and SCAQMD permit engineering staff typically continue discussions to work out issues or design changes prior to issuance of a SCAQMD Permit to Construct.

4-4 Response: Please see Response to Comment 1-1.
From: Jim Meyer [mailto:jmeyer@aviation-repair.com]
Sent: Friday, November 10, 2017 11:43 AM
To: Eugene Kang <EKang@aqmd.gov>; Neil Fujiwara <nfujiwara@aqmd.gov>; Susan Nakamura <SNakamura@aqmd.gov>
Subject: PAR 1469 Comments

Please consider the following comments regarding the proposed rule 1469.

Please consider a modification to the rule requiring two doors at a facility not be open simultaneously. We think the rule could be reasonably modified (improved) by:

1. Allowing facilities which are not near sensitive receptors to have doors open. This provides a further incentive to locate facilities away from sensitive receptors. It should be a policy goal to create positive incentives for locating plating businesses away from sensitive receptors. By creating positive incentives, you can influence plating businesses to move away from schools.
2. Allowing the doors to be opened at facilities where plating tanks are more than 30 feet from a door.
3. Allowing facilities which generate less than 20 million amp hours annually to open the doors.
4. Allowing facilities to open doors when they are not actively plating.
5. Allow the doors to be opened if the facility has constructed baffles to block a cross-draft.

Our reasoning is as follows:

1. If and when it is windy, operators will voluntarily choose to close the doors because they do not want dust to contaminate their tanks.
2. If a business is not near a sensitive receptor, there is no bad consequence of opening the doors.
3. If plating tanks are not near doors, there is much less likelihood that opening doors would enable fugitive emissions. 30 feet is a reasonable distance.
4. Tanks vented to HEPA’s which are able to pass smoke tests are not generating fugitive emissions.
5. Employee health should be considered in the rule making. Temperature and humidity can rise dramatically inside a plating facility on warm days. Heat is a health issue. It is inefficient to air condition the buildings because of the HEPA’s. Opening doors is a reasonable method to assure employee safety.

The point is that the “doors” rule accomplishes very little at some facilities at a cost that is high in terms of employee health and safety.

We are also concerned that the section of the rule that “prohibits operations of any devices in any roof opening which pull air from the building enclosure to the outdoor air” is going to cause problems with previously permitted operations. We have a set of AQMD permitted tanks containing various stripping, etching, pre-treatment, and cleaning solutions (no chrome) which are vented through hoods to a blower and stack on our roof. These hooded tanks are near chrome plating tanks but the chrome tanks have pollution controls so there should not be a concern about fugitive emissions. We have been operating safely with the current setup for decades, without complaint, not near sensitive receptors. We cannot operate without the permitted tanks that vent to the roof. We do not know what you would require to solve the issue but it seems expensive. At a minimum, our line should be grandfathered and be allowed to change if necessary for work needs.
We use air sparging while plating and have always used air sparging. Sparging is essential to successfully plate the inner diameters of cylinders associated with landing gear systems, flight controls, and thrust reversers. These are flight critical aircraft components and the quality of the plating should not be sacrificed when the sparging mist is being captured by the HEPA system in any case. We plate at night with the doors closed and no one in the building, the HEPA system with push pull headers captures the sparging mist. Regarding the need to prove the need to sparge with a Mil-Spec, we would hope that SAE specs, or specs from major OEMs would suffice for proof as we serve predominately the commercial aircraft industry. We do not know why suppliers that support the military would get advantaged in an area that has to do with flight safety.

It is un-necessary to increase the frequency of source tests. Our HEPA system has proved efficient for two decades with wide gaps between source tests. We actively maintain the system. Requiring additional frequent scrutiny of source controls that have already worked to cut emissions by 99% (per AQMD data) is un-necessary and massively expensive. It is hard to understand what the motivation is to change the frequency of source testing when the impetus for the rule change was generated at facilities without adequate source controls. Imposing this requirement will force industry consolidation resulting in fewer small businesses (with low amp hours) and more of the types of facilities where you are observing the issues. This additional testing seems counterproductive. We suggest this is an area you should consider source test frequency requirements as a function of proximity to sensitive receptors. Facilities which are not near sensitive receptors should need fewer source tests than facilities near sensitive receptors. This is another area of the rule where you can create a positive incentive to locate away from sensitive receptors.

The attempt to regulate grinding in the rule is inconsistent because it applies only to rule 1469 facilities. Most grinding is not conducted in rule 1469 facilities. Is it intended to apply to both “wet” grinding and “dry” grinding? Would the rule apply to grinding conducted in a separate building on the same property?

The AQMD has explained in each meeting that the reason for updating the rule is due to conditions observed at ANODIZING facilities and HEAT TREATING facilities. We do not perform anodizing nor do we perform heat treating and yet we find that nearly every proposed rule change will increase our regulatory burden and expense.

We have operated within the regulations and without public complaints for over a decade in this location. AQMD rule making should take into account that small facilities which are located in heavy industrial zones that are not near sensitive receptors and that do have state of the art pollution control systems (HEPA) should not be excessively burdened by a rule change like this. The need for rule change was driven by different types of businesses in a different type of location and the rule changes should have been focused on the differences which caused the problems in those locations. There is nothing wrong with the existing frequency of source tests. There is nothing wrong with air sparging in HEPA controlled tanks. Opening doors for employee comfort in a heavy industrial zone is reasonable considering the major cancer risks in those zones are not Hex Chrome. The pollution controls we have invested in have proven valuable to society in the LA Basin. Threatening the health of employees (door rule), decreasing plating quality (sparging), and adding burden (source test frequency) to compliant small businesses will only result in negative impacts on Southern California.
We would appreciate your acknowledgement of receiving these comments and your consideration of implementing these thoughts in the final rule.

Jim Meyer
Aviation Repair Solutions, Inc.
1480 Canal Ave
Long Beach, Ca. 90813
562-437-2825
Responses to Comment Letter from Aviation Repair (submitted 11/17/17)

5-1 Response: Allowing facilities that are not near sensitive receptors to have doors open does not address concerns for fugitive dust settling outside the buildings on other land uses accessible to the public that are not defined as a sensitive receptor, such worker receptors in industrial zones. Ambient monitors have shown that closing a door to eliminate cross-draft can reduce the ambient concentration of hexavalent chromium by more than 75 percent. The commenter also states that some facilities may voluntarily choose to close doors if it is windy in order to avoid dust contaminating tanks, however, other facilities may choose to keep them open, absent a requirement to close them. Tanks vented to HEPA filters which are able to pass smoke tests are allowed to demonstrate that point source emissions are being captured from a tank at the time of the test, but this test is only required once every 180 days and the system can become fouled before the next test is conducted. Requirements for closing doors will provide additional assurance that potential process fugitives from these situations are not escaping the building enclosure between smoke tests. Since facilities with over 500,000 amp-hours annually are already recognized by Rule 1469 and the CARB ATCM for chrome plating as a high throughput facility, it is not reasonable to exempt facilities that generate less than 20 million amp-hours annually.

Regarding considerations for employee health, PAR 1469 includes a provision that allows facilities to implement alternative requirements to closing doors and other building enclosure provisions if PAR 1469 conflicts with OSHA, CAL-OSHA or local municipal code requirements for worker safety.

5-2 Response: PAR 1469 requires closure of all enclosure openings in the roof that are located within 15 feet from the edge of any Tier II or Tier III Tank, except enclosure openings in the roof that are used to allow access for equipment or parts, or provide intake air or circulation air for a building enclosure that does not create air velocities that impact the collection efficiency of a ventilation system for an add-on air pollution control device. Powered devices in the roof opening that are located within this distance can continue to operate if the air is vented to HEPA filters. Provisions for openings in a roof have been modified throughout the rulemaking process. Please refer to paragraph (e)(3) for more information.

5-3 Response: The prohibition on air sparging that was a part of the first proposal for PAR 1469 has been removed.

5-4 Response: Rule 1469 currently requires a one-time source test for the life of the air pollution control device. Periodic source testing is necessary to quantitatively confirm that hexavalent chromium emissions measured at the stack of the control device are in compliance with emission rate limits of
the rule. Consequently, PAR 1469 includes a periodic source testing requirement. Staff acknowledges the cost of these source tests so PAR 1469 allows existing controlled tanks to use a source test that meets specific criteria and conducted after January 1, 2009 to comply with the initial source test requirement of PAR 1469. Other reductions to source testing costs include allowing emissions screening tests (source test consisting of one run) versus triplicate tests for source tests conducted after the initial source test. Facilities that operate in full compliance with specific requirements for qualitative and quantitative assessments of control equipment will also be allowed to move to a once every five years testing schedule for facilities with permitted throughput of more than 1,000,000 amp-hrs/yr and once every seven years for facilities with permitted throughput of less than 1,000,000 amp-hrs/yr, so long as they remain compliant with said requirements. By only requiring periodic source testing for facilities that are located near sensitive receptors, stack emissions can settle out on other land uses accessible to the public that are not defined as a sensitive receptor, in addition to worker receptors in industrial zones.

5-5 Response: Both Rule 1469 and the CARB ATCM for chrome plating currently include requirements for grinding operations conducted at chrome plating and anodizing facilities. Regarding grinding operations, existing provisions require that a physical barrier separates grinding areas within a facility from the hexavalent chromium electroplating or anodizing operation. Grinding conducted in a separate building on the same property of a Rule 1469 facility would still be subject to grinding requirements of the rule, however, having this grinding area located in a separate building would comply with the existing requirement for installation of a physical barrier. PAR 1469 adds an exemption to grinding requirements of the rule if the grinding is conducted under a continuous flood of metal removal fluid.

5-6 Response: Please see Responses to Comments 5-1 through 5-5. The impetus for development of PAR 1469 includes the discovery of tanks that were previously unknown to be a source of hexavalent chromium emissions and cross-draft conditions in buildings that house both chrome plating and chromic acid anodizing operations. Observations made during site visits conducted by staff include building conditions that resulted in the escape of fugitive dust at all types of chrome plating facilities and not just chromic acid anodizing facilities.
November XX, 2017

Mr. Wayne Nastri
Executive Officer
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Re: Comments from Metal Finishers Association - Proposed Amended Rule 1469 and Preliminary Draft Staff Report, Working Group Meeting #7

Dear Mr. Nastri:

The Metal Finishers Association ("MFA") represents over 130 companies throughout Northern and Southern California, which comprise a diverse industrial base of metal finishing and related businesses that employ thousands of workers. Its members provide necessary products and services to manufacturers in various other industries, including automotive, consumer products, industrial, energy, aerospace and numerous others. In particular, a large segment of our membership provide mission critical parts and components for military aircraft, satellites, telecommunications, defense and the like. In addition, well over 90% of the MFA membership meet the federal definition of Small Business with fewer than 150 employees, and are typically private family businesses or otherwise small closely held companies.

Representatives of the MFA, including legal counsel and technical experts, have been actively engaged with AQMD staff since the beginning of the recent rulemaking process earlier this year. MFA members and its representatives have also attended all seven (7) public working group meetings, including, the most recent meeting held on October 26, 2017 (referred to as "Working Group Meeting #7"), plus participated in numerous other meetings with the AQMD’s legal counsel, economic experts and rule development staff. In addition, the MFA and its representatives attended and testified at the Public Hearing on this rule development which was held on November 1, 2017. This comment letter addresses the issues raised at the Working Group Meeting #7, recent public hearing, PAR 1469 rule language and Preliminary Draft Staff Report.

1.0 PRELIMINARY DRAFT STAFF REPORT

While the MFA reserves the right to modify or supplement these comments based on subsequent AQMD presentations, at this time, the following summarizes our primary concerns and comments for the Preliminary Draft Staff Report dated October 2017 (Staff Report):

(1) Chrome Tank Test Data – The Staff Report presents the collected emission test data from the various metal finishing facilities as being supportive of the rule amendments (Page 1-14 to 1-17). As we have noted on numerous occasions, the MFA remains concerned that major rulemaking and policy decisions are being based on inconsistent data and little scientific support, especially when it concerns a potential requirement of add-on control devices and other costly measures for currently unregulated tanks.
Wayne Nastri, SCAQMD - Proposed Amended Rule 1469
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As a general matter, the Staff Report fails to qualify these field test data as being extremely limited for purposes of this rule development, but instead, presents the data as complete and scientifically supported which is misleading. For example, PAR 1469 defines a Tier I tank with hexavalent chrome content of 1,000 ppm, however there is insufficient field data indicating there are any significant emissions at such a low threshold. Quite the contrary, there were only 2 or 3 emissions data points collected for unregulated tanks between 32,000 and 60,000 ppm hexavalent chromium, and yet a far lower limit of 1,000 ppm is being proposed as the Tier I applicability threshold. As another example, PAR 1469 defines a Tier II tank as a Tier I tank with an operating temperature exceeding 140°F; however, there is virtually no tank temperature data collected for tanks operating below 190°F with the exception of one tank at 170°F which was not a chrome tank, but rather a nickel acetate seal tank. As a consequence, there is no data whatsoever that supports an operating temperature of 140°F as being significant factor of fugitive hexavalent chrome emissions from applicable tanks, and yet, this temperature level was established as the Tier II applicability threshold. These are only a couple examples of the “cart being in front of the horse” when it comes to this particular rule development. From the beginning, the MFA has been concerned that this rule development (and associated enforcement activities) have largely been an exercise to selectively find evidence that supports a certain theory rather than objectively gathering data in a scientific manner and drawing appropriate conclusions. Due to these concerns and others, the proposed rule has the potential to be tremendously burdensome for industry while having little to no significant effect on emissions.

(2) Fugitive Emissions – While the emissions test data from unregulated tanks has been very limited, there has also been insufficient demonstration that fugitives from such tanks are being significantly exhausted from buildings, nor that add-on control devices are necessarily required for such tanks. Under existing Rule 1469, the applicable emission limits for existing chromium electroplating and chromic acid anodizing tanks is 1,500 ng/amp-hr, which is typically measured after add-on control devices such as High Efficiency Particulate Air (HEPA) systems. These add-on control devices are generally mounted on rooftops through a single exhaust stack with forced ventilation. Rather than relying on assumptions, AQMD needs to base its regulatory policy and rulemaking on validated scientific data that demonstrates significant fugitive emissions are actually being discharged from buildings through roof vents, doors, windows and other openings. Thus far, any substantial scientific data making such demonstration for fugitive emissions is lacking. Quite the contrary, based on statements from the AQMD source testing staff during the working group meetings, it appears that measured fugitive emissions through rooftop vents from unregulated tanks are far below any measurements at the tank surface by several orders of magnitude, even without any add-on control devices. Based on the data gathered thus far, the fugitive emissions from the unregulated sources exiting the building would be considerably less than the emissions from the existing permitted sources. Accordingly, the elimination of all fugitive emissions from metal finishing operations would do little, if anything, to reduce ambient air concentrations of hexavalent chromium, particularly considering that metal finishing emissions of hexavalent chromium represent less than one percent of the total hexavalent chromium emissions according to the U.S. EPA National Emissions Inventory.

(3) Ambient Monitoring Near Metal Finishers – The Staff Report presents the ambient monitoring data of hexavalent chromium around five (5) metal finishers in the cities of Newport Beach, Paramount, Long Beach and Compton (Page 1-8 to 1-10). Air toxics enforcement actions against these facilities have referenced a hexavalent chromium concentration of 1 ng/m³ as a fence line (or near fence line) threshold for enforcement purposes. For the facilities in Newport Beach and Paramount, the Staff Report indicates average high ambient readings for hexavalent chromium of 3.5 to 11.0 ng/m³, which were subsequently reduced to 0.25 to 0.40 ng/m³. The Staff Report indicates the Long Beach facility had average hexavalent chrome readings from 0.4 to 0.9 ng/m³, which are below the enforcement threshold of 1 ng/m³. As we have noted on numerous occasions, the MFA continues to remain concerned about the use
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of ambient air monitoring (and fence line limits) for rulemaking and enforcement purposes, and have raised legitimate issues of flawed assumptions, unreliable data, contributing sources, prohibitive costs and inconclusive results. Nevertheless, the AQMD continues to selectively utilize such unreliable ambient monitoring data to unfairly target metal finishers, and support its enforcement and rulemaking efforts. Moreover, the AQMD continues to rely upon an unsubstantiated 1 ng/m³ hex chrome standard that is not supported by the current science for enforcement purposes, including, orders for facility shut down and business curtailment. Based on testimony of affected small businesses, it is clear the AQMD’s continued use of such unreliable air monitoring data is having significant adverse economic impacts, including, loss of customers, decreased business volumes and employee layoffs.

2.0 PROPOSED RULE AMENDMENTS

The AQMD presented proposed rule language dated October 20, 2017, which included rule applicability, definitions, general requirements, housekeeping and best management practices (BMPs). While the MFA reserves the right to modify or supplement these comments based on subsequent AQMD presentations, the following summarizes our primary comments at this time:

(1) Rule Applicability - As explained by AQMD staff, PAR 1469 would apply to chromium electroplating, chromic acid anodizing tanks and associated chrome tanks. Based on our understanding, those facilities which do not operate chromium electroplating or chromic acid anodizing tanks would not be subject to PAR 1469, although they may operate tanks with chromium for other purposes. In addition, those tanks which are not associated with chrome plating or chrome anodizing would also not be subject to PAR 1469. If our understanding is correct, this rule applicability for PAR 1469 is consistent with existing Rule 1469 regarding applicable tanks, so the MFA has no further comment.

(2) Definition of “Building Enclosure” - The MFA requests that PAR 1469 (c)(11) is changed as follows, which removes rule ambiguity and minimizes wide interpretation by AQMD enforcement officers for possible issuance NOVs: “BUILDING ENCLOSURE means a permanent building, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. that is free of breaks, cracks, or gaps, or deterioration that could cause or result in fugitive emissions.”

(3) Definition of “Modification” - As previously noted, the MFA is concerned that efforts by regulated facilities to comply with rule requirements may be construed as a “modification” or otherwise trigger permit actions and New Source Review (NSR). A few examples of BMPs, housekeeping and other control measures under PAR 1469 which may trigger NSR are (a) relocating tanks farther away from roof vents, (b) installing covers to existing tanks, (c) adding polyballs or other mechanical fume suppression, (d) replacing air sparging with mechanical agitation; (e) installing or upgrading pressure gauges, flowmeters or other required monitoring devices; or (f) installing a total enclosure around existing tanks. Consequently, the MFA requests PAR 1469 (c)(40) is changed to include the following additional exclusions from the definition of “Modification”:

“...Routine maintenance and/or repair shall not be considered a physical change. A change in the method of operation of equipment, unless previously limited by an enforceable permit condition, shall not include:

iv. The removal of air sparging as a method of agitation;

v. The addition of mechanical agitation as a method of agitation;

vi. The addition of polyballs or other mechanical fume suppression;

vii. Installation of covers for applicable tanks;”

Metal Finishers Association of Southern California
viii. The relocation of applicable tanks within a facility.
ix. Installing or upgrading pressure gauges, flowmeters or other required monitoring devices;
xi. Installing a total enclosure around existing tanks;

(4) Tier I Hexavalent Chromium Tanks – PAR 1469 (c)(58) proposes a threshold of 1,000 ppm of hexavalent chromium content to qualify Tier I tanks. As we have noted, there is insufficient scientific support and test data that justifies such an extremely low concentration threshold for Tier I tanks. Tier I should only apply to those tanks which exhibit the highest potential for hexavalent chrome emissions, and therefore exclude all other tanks from regulatory applicability, such as, chromate conversion tanks, dye tanks, cleaner and de-smut tanks, etch, neutralization, passivation, dilute chromate seal and rinse tanks. Based on the limited test data presented by the AQMD, and since there is no minimum chrome concentration to qualify a Tier II tank, there needs to be a much higher hex chrome threshold for Tier I tanks. In this regard, the MFA proposes the following definition for Tier I tank:

PAR 1469 (c)(58) - TIER I HEXAVALENT CHROMIUM-CONTAINING TANK means a tank permitted as containing a hexavalent chromium concentration of 5,000 parts per million (ppm) or greater.

(5) Tier II Hexavalent Chromium Tanks – PAR 1469 (c)(59) proposes a Tier II tank applicability for a Tier I tank with: (a) minimum operating temperature of 140°F; (b) conducts air sparging; or (c) is electrolytic. The MFA is concerned that there is no minimum hex chrome concentration to qualify a Tier II tank. In addition, there is no scientific support nor test data that justifies 140°F temperature threshold for Tier II applicability, which is extremely low. Based on the Staff Report, the minimum temperature threshold for Tier II tank applicability should be 190°F, which captures tanks operating near the boiling point of water. The temperature threshold of 140°F is not supported technically, scientifically or otherwise. Lastly, the MFA remains concerned about air sparging restrictions as well, which are discussed further below. In this regard, the MFA proposes the following definition for Tier II tank:

PAR 1469 (c)(59) - TIER II HEXAVALENT CHROMIUM-CONTAINING TANK means a TIER I HEXAVALENT CHROMIUM-CONTAINING TANK that meets the following criteria:

(A) Has an operating temperature above 190 degrees Fahrenheit; or
(B) Uses air sparging as an agitation method; or
(C) Is electrolytic.

(6) Prohibition of Air Sparging – PAR 1469 (d)(3) prohibits any a Tier II tank from air sparging as a method of agitation after 180 days of rule adoption, unless proof of a military specification is submitted within 30 days, and there is written approval from the Executive Officer. Since Tier II tanks are already subject to air pollution controls, source testing and emission limits, there is no justification to prohibit air sparging in such tanks. Further, metal finishers require the flexibility to meet changing market demands, prime contractor specifications and customer requirements at all times, whether military or other markets. The requirement of a military specification and written prior approval from the AQMD will handcuff many metal finishers from chasing new business, quoting potential jobs, satisfying existing customers and running their businesses. Moreover, seeking prior AQMD approval will certainly be a speculative and likely time consuming process. As a consequence, this prohibition creates substantial business risk with little environmental benefit, which should be removed from PAR 1469.
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(7) **Freeboard Height** – PAR 1469 (d)(4) would require a minimum freeboard height of 8” for applicable Tier I and II tanks, which are newly installed (or modified) after the rule adoption date. The freeboard height requirement would not apply to existing tanks prior to rule adoption. As noted previously, the MFA opposes a freeboard height requirement for existing, new or modified applicable tanks, as it has not been demonstrated that a minimum freeboard height results in any meaningful emission reductions. In general, facility operators are already incentivized to maintain a tank freeboard to preserve product quality and minimize chemical losses. To manage a different freeboard height for different tanks would create significant compliance issues for facility operators while providing minimal environmental benefit.

(8) **Building Enclosures** – PAR 1469 (e)(1) through (e)(9) specifies numerous building enclosure requirements for both Tier I and Tier II tanks, which the MFA offers the following comments:

a) **Limitation on Building “Openings”** – As per PAR 1469(e)(1), the MFA opposes the 3% surface area limitation on the number of openings in building enclosures, such as doors, windows, roll up doors and others. Over the course of the prior 6 months of rule development and workshops, a specific surface area or other limitation on building openings has never been presented nor studied by the AQMD staff, and is not supported by any scientific or other evidence in the record.

b) **Closure of Openings within 100 feet of Sensitive Receptor** – As per PAR 1469(e)(2), the MFA requires additional flexibility in the requirement to close all building openings within 100 feet of a sensitive receptor, school or early education center. This requirement is vague as it may be interpreted to (a) include buildings without chrome tanks; (b) prohibit passive roof vents which are otherwise permissible; and (c) prohibit openings which could be closed with overlapping plastic strip curtains, vestibules, automated roll up doors or alternative means to minimize fugitives which are otherwise permissible under PAR 1469 (e)(3). The MFA requests additional clarity in this requirement, and the above flexibility as similar to PAR 1469 (e)(3).

c) **Close Roof Openings within 30 feet** – PAR 1469 (e)(4) requires the closure of all roof openings located within 30 feet above the edge of any Tier I or Tier II Tank. The MFA fails to see the purpose of this requirement, since Tier I tanks are not considered high emitting tanks under the rule, and Tier II tanks are required to have add-on controls. As a consequence, the MFA requests that this provision be removed.

d) **Prohibition on Rooftop Ventilation** – PAR 1469 (e)(5) prohibits any device in any roof opening that pulls air from building enclosures for Tier I and Tier II tanks. The MFA is concerned that such a broad prohibition on building ventilation will create uncomfortable, and likely unsafe, working conditions for employees within such enclosures. Moreover, as we have noted in prior working group meetings, the AQMD source test staff has indicated measured fugitive emissions through rooftop vents are far below any measurements at the tank surface by several orders of magnitude, even without any add-on control devices. Consequently, such a broad prohibition on rooftop ventilation for building enclosures are not warranted.

e) **Breaks, cracks, gaps and deterioration** – PAR 1469 (e)(6) and (7) specifies monthly inspections, and a 72 hour repair of “breaks, cracks, gaps and deterioration” of building enclosures. There is no clear definition of “breaks, cracks, gaps and deterioration” in the rule, and unlikely that a clear definition is possible. As a consequence, the MFA opposes these inspection and repair requirements, given the vagueness of “breaks, cracks, gaps and deterioration”, and a high risk of wide interpretation by AQMD enforcement officers for issuance of NOVs.

Metal Finishers Association of Southern California
(9) Source Testing - PAR 1469 (k)(3) will require initial compliance source test for all facilities within 120 days from rule adoption, and then every 36 months thereafter. Alternatively, an emissions screening of a single test run may be conducted every 36 months in lieu of a full source test. The MFA requests the following changes:

   a) For existing facilities, the MFA believes one (1) year should be allowed for the initial compliance source test;
   
   b) Any compliant source test within the last 5 years (September 1, 2012) may be used to demonstrate compliance with the initial compliance test;
   
   c) If the facility already has a compliant source test on record with the SCAQMD beyond 5 years, the initial compliance test should be an emission screening; and
   
   d) Emission screenings be conducted every five (5) years thereafter, not every 3 years.

(10) Capture Efficiency Testing – PAR 1469 (k)(6) specifies routine slot velocity and smoke testing for applicable tanks with add-on control devices every 6-months, respectively. In particular, PAR 1469 specifies that a facility must “shut down” all chrome electroplating and anodizing lines, if such capture tests show a deviation of +/- 10% from the most recently approved AQMD source test or emission screening. The MFA is very concerned of such stringent limitations and shut down requirement, given the numerous factors that could impact these capture test results, such as, equipment sensitivity, testing locations, personnel handling and others. 10% is a very small margin for error which would be difficult to ensure compliance, could result in unnecessary equipment shut downs, and lead to triggering the on-ramp for a Permanent Total Enclosure (PTE) pursuant to PAR 1469 (t).

(11) Permanent Total Enclosures (PTEs) – PAR 1469 (t) specifies a trigger for PTEs for Tier II tanks based on (a) failure of a source test within 48 months; or (b) more than one incident of failure of smoke and/or slot velocity measurements. If triggered, PAR 1469 requires permit applications for a PTE within 90 to 180 days, and construction of the PTE within 12 months. In general, the MFA does not believe that PTEs are necessary to control potential Tier II tanks, as we anticipate the use of buildings, housekeeping and BMPs would be sufficient control measures. As we have noted, the use of PTEs can also be very costly and difficult to implement, especially for facilities that were not originally designed or constructed to accommodate PTEs for existing tank operations. Due to a small margin of failure and issues noted above for smoke and slot velocity testing requirements, it is too easy for a PTE to be triggered under the proposed rule. For all these reasons, the MFA requests that a PTE on-ramp requirement be removed from the proposed rule.

(12) Notification of Incidents – PAR 1469 (p)(4)(A) requires a regulated facility to notify the AQMD within “one hour” of any failed smoke test, failed source test, exceedance of a permitted amper-hour limit or malfunction of a non-resettable ampere-hour meter. Further, PAR 1469 (p)(4)(B) requires corrective action and a written report within seven (7) days of notification. The MFA believes these proposed notification requirements are redundant, as existing AQMD Rule 430 already covers the reporting of such incidents that result in rule or permit violations.

(13) Parametric Monitoring – PAR 1469 (m)(1)(D) adds a new requirement that the operator “shall ensure any velocity within 10 feet” of a Tier II tank with an add-on control device is “less than one-tenth of the collection slot velocity as specified in the most recent successful source test.” The MFA requests that this proposed requirement be removed as it is unclear what purpose it serves. Moreover, due
Wayne Nastri, SCAQMD - Proposed Amended Rule 1469
November XX, 2017

to its vagueuness, the requirement would be subject to wide interpretation by AQMD enforcement and likely lead to NOVs.

(14) Surface Tension Testing – PAR 1469 (a)(4)(D) proposes a “daily” surface tension test for 20 consecutive days, and then every 3rd day thereafter, provided there is no violation of surface tension requirements. As noted previously, the MFA opposes such rigorous testing frequency since the current requirement of weekly surface tension testing is sufficient to ensure compliance. Moreover, there is insufficient data which warrants a more frequent testing requirement.

(15) Housekeeping – The MFA supports housekeeping measures for applicable tanks under the amended rule with few exceptions. However, the MFA opposes daily cleaning of applicable tanks and operational areas, as currently proposed in PAR 1469 (f)(4), as this places an undue burden on metal finishers. The current cleaning requirement is once per week, which we believe is sufficient housekeeping for applicable operations.

(16) Water Spraying – The MFA supports Best Management Practices (BMPs) for applicable tanks under the amended rule with few exceptions. Regarding the proposed limitations on using water sprays as currently proposed in PAR 1469 (g)(2), the MFA does not believe such limitations are necessary. Given the water spray typically occurs over rinse tanks, and that neither the parts nor rinse tank will have significant amounts of chrome laden liquid.

(17) Compressed Air Cleaning or Drying – Regarding the proposed limitations on using compressed air cleaning or drying within 15 feet of a Tier I or Tier II tank as currently proposed in PAR 1469 (g)(7), the MFA does not believe such limitations are necessary. At this point in the process, any residual rinse water on finished parts will have negligible amounts of hexavalent chrome, if any.

(18) Add-on Control Devices for Tier II Tanks – PAR 1469 (h)(4) specifies add-on control devices for Tier II tanks, and proposes a hex chrome emission limit which is to be determined. As noted above, the MFA questions the need for add-on control devices for Tier II tanks, based on the limited and inconsistent emission data collected for chrome tanks and rooftop vents. Irrespective, if an emission limit will be adopted, the MFA opposes an emission limit for Tier II tanks that would be lower than the current hex chrome emission limits specified by Table 1, which are currently applicable to existing tanks. The current state of pollution control technology has not significantly changed since the prior amendments to Rule 1469, and therefore any lower emission limits would not be justified.

The MFA and its representatives look forward to continued discussions on the amended rule with the AQMD. Thank you and we look forward to your response.

Sincerely,

Wesley Turnbow
President

cc: Barry Groveman, Musick Peeler
Ryan Hiete, Musick Peeler
Susan Nakanura, SCAQMD (via email only)
Kurt Wiese, SCAQMD (via email only)

Metal Finishers Association of Southern California
Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 11/XX/17

6-1 Response: Please see Response to Comment 1-1.

6-2 Response: Please see Response to Comment 1-2 and 1-12.

6-3 Response: Please see Response to Comment 1-7. The use of 1 ng/m³ in recent Orders for Abatement were established based on the impacts of the subject facilities’ hexavalent chromium emissions on the nearest sensitive receptors. PAR 1469 does not include such a standard.

6-4 Response: The applicability of PAR 1469 is to facilities performing chromium electroplating and chromic acid anodizing. Proposed rule requirements are specific to tanks at these facilities. If facilities that do not perform chromium electroplating or chromic acid anodizing have process tanks that contain chromium, these other facilities are not subject to the requirements of PAR 1469. However, they are subject to Rule 1426, and under a future rulemaking for PAR 1426, additional requirements may be needed.

6-5 Response: PAR 1469 includes a definition for building enclosure under paragraph (c)(11). The language regarding breaks, gaps, cracks and deterioration was removed from the definition.

6-6 Response: Please see Response to Comment 2-1.

6-7 Response: Please see Response to Comment 2-6.

6-8 Response: The comment refers to Tier II Tanks. Most of these tanks are now considered Tier III Tanks, with an intermediate designation of Tier II for tanks that meet the definition of paragraph (c)(58). Please see Response to Comment 2-7.

6-9 Response: The prohibition on air sparging that was a part of the first proposal for PAR 1469 has been removed.

6-10 Response: The requirements for freeboard height have been removed from PAR 1469.

6-11 Response: The concept for the requirement for a 3.5% threshold for openings as a percentage of building envelope is based on EPA Method 204. PAR 1469 requires the lower 3.5% threshold, relative to the 5% allowance for a PTE under EPA Method 204, since building enclosures are not required to be kept under negative pressure and vented to APC systems. PAR 1469 requires housekeeping and best management practices such as limiting cross-draft and prohibiting openings facing nearby sensitive receptors or
schools to minimize exposure to sensitive populations in nearby communities.

6-12 Response: Paragraph (e)(3) has been modified to allow the requested flexibility as allowed under paragraph (e)(2). Additional clarification has been added under subdivision (e) to specifically state that the provisions apply to building enclosures where Tier II or III Hexavalent Chromium Tanks are operated. Paragraph (e)(3) requires enclosure openings that directly face and open toward the nearest sensitive receptor, with the exception of a school, that is located within 100 feet to be closed. In addition, paragraph (e)(3) requires enclosure openings that directly face and open toward the nearest school within 1,000 feet to be closed.

6-13 Response: The proposal has been revised to allow openings that are not within 15 feet from a Tier II or III Tank. PAR 1469 requires closure of all enclosure openings in the roof that are located within 15 feet from the edge of any Tier II or Tier III Hexavalent Chromium Tank, except enclosure openings in the roof that are used to allow access for equipment or parts, or provide intake air or circulation air for a building enclosure that does not create air velocities that impact the collection efficiency of a ventilation system for an add-on air pollution control device. Tier I Tanks are not subject to the requirements of subdivision (e). The modified language for these requirements is included in paragraph (e)(4).

As an alternative to permanently closing openings, facility owner/operators have the option of venting those openings through HEPA controls.

6-14 Response: Please see Response to Comment 6-13. PAR 1469 only requires that roof openings within 15 feet of the edge of a Tier II or III Hexavalent Chromium Tank be closed or equipped with HEPA filtration. The SCAQMD staff consulted with CAL-OSHA, and it was determined that no requirement in PAR 1469 conflicts with a requirement of OSHA or CAL-OSHA. PAR 1469 includes a provision that allows facilities to implement alternative requirements to closing doors and other building enclosure provisions if PAR 1469 conflicts with OSHA requirements for worker safety.

6-15 Response: Since the comment was submitted, paragraphs within subdivision (e) have been renumbered. Paragraphs (e)(5) and (e)(6) have been modified to add clarity. Paragraph (e)(5) references repairs for a breach. The proposal includes a definition for building enclosure under paragraph (c)(11). Provisions to inspect the building enclosure for breaks, cracks, gaps, and deterioration have been removed from PAR 1469.

6-16 Response: Source testing requirements have been modified since this comment was received. PAR 1469 has been changed to require a subsequent source test after the initial sources test every 60 months (five years) for facilities with
permitted throughput of more than 1,000,000 amp-hrs/yr and every 84 months (seven years) for facilities with permitted throughput of less than 1,000,000 amp-hrs/yr, provided all capture efficiency tests conducted by the owner or operator within 48 months of the most recent successful SCAQMD-approved source test did not result in a failed measurement, requiring a tank to be shut down and all applicable inspection and maintenance requirements (specified in Appendix 4) were conducted. PAR 1469 allows the use of a source test conducted after September 1, 2015 to be used to demonstrate compliance with the initial source test requirement. In addition, an emissions screening test is allowed in lieu of a full source test, if the previous source test was conducted after January 1, 2009.

6-17 Response: Please see Response to Comment 2-12.

6-18 Response: Please see Response to Comment 1-11.

6-19 Response: Please see Response to Comment 2-13.

6-20 Response: The referenced subparagraph has been removed from the PAR 1469 rule proposal.

6-21 Response: Please see Response to Comment 2-15.

6-22 Response: Please see Response to Comment 1-9.

6-23 Response: Please see Response to Comment 1-10.

6-24 Response: Please see Response to Comment 2-18.

6-25 Response: Please see Response to Comment 2-20.
VERNE’S CHROME PLATING, INC
1559 W. EL SEGUNDO BLVD.
GARDENA, CALIF. 90249

Neil Fujiwara
AQMD

You invited me to call you, to discuss my concerns about upcoming changes with rule 1469. I thought it was better put in writing, for your consideration.

I am probably the smallest decorative chrome plating shop in your control area. I have one small plating line consisting of 1 cleaning tank, 1 copper, 1 nickel, and 1 chrome tank. I also have the necessary strip and water tanks to make it work. That’s it. My entire facility is in a 50 foot by 60 foot building. We are in your less than 20,000 amp-hour per year category for the chrome tank, using only a fraction of that!

Starting in 1980 I once peaked at 8 full time employees. This small shop is still providing a living for 3 families, but just barely now. I hope you will be making exceptions for small existing business like mine.

My 3 main concerns are as follows:

1. Ventilation restrictions......The cleaner tank and the nickel tank consist of about 1300 gallons, at about 150 degrees. They give off a lot of heat and harmless steam. To make the workplace bearable, 2 small fans move air out the back of the building, drawing cooler dry air in the front. If you take that away, the heat and humidity will make working here impossible. Cal-OSHA has fined me for not wearing goggles, armpit length gloves, aprons, and full body coverings. We will be dropping from heat exhaustion here. You want no ventilation within 30 feet of the chrome tank. My entire plating area is 19 by 48 feet. Everything is within 30 feet of everything.

2. A cover on the chrome tank....If you want a cover when NOT in use, no problem, but what is the point of that? I can not operate the tank with a cover on it. A decorative shop puts 10 parts in the chrome tank then turns on the current. The smallest parts come out first, then power is increased, then mid size parts come out, then power is increased, then larger parts come out, then power raised to full on the last part. That will throw plating in a low current density area. This can NOT be done under a cover. I can’t do parts one at a time, covering and uncovering with each tiny part.
3. Raised platforms changed to fiberglass.....I have wood walkways, covered in roofing paper. I am a 100% dry floor shop with NO spillage of solutions (chrome or otherwise) on my floors or wood platforms. Any inspector can easily see this. Parts from my chrome tank go directly to a drag out tank adjacent to the chrome tank with plastic shielding preventing even a drop from hitting the floor, or wood platforms. Forcing a change over to fiberglass will accomplish nothing, and be a huge expense, not warranted by the minimal income this business can continue to produce.

Please consider restrictions on all new construction, but allow the few of us left in this business to continue for the little time we have left. Attrition will solve your decorative chrome plating problem in just a few more years.

Ronald L Verne
Verne’s Chrome Plating, Inc.
Responses to Comment Letter from Verne’s Chrome Plating, Inc (submitted 12/1/17)

7-1 Response: Please see Response to Comments 6-13 and 6-14. Openings that would provide ventilation within the building include the allowance for openings totaling 3.5% of building enclosure envelope. PAR 1469 also includes a provision that allows facilities to implement alternative requirements to closing doors and other building enclosure provisions if PAR 1469 conflicts with OSHA, CAL-OSHA or local municipal code requirements for worker safety.

7-2 Response: Chrome plating tanks are already required to be controlled by an air pollution control technique such as the use of chemical fume suppressants or add-on air pollution controls. Tank covers are allowed as a control option for Tier II Tanks. However, electroplating and chromic acid anodizing tanks are required to be controlled by an air pollution control technique as identified in PAR 1469.

7-3 Response: PAR 1469 does not require that walkways be constructed of fiber glass and allows for walkways that are made of wood.

7-4 Response: SCAQMD typically establishes requirements for both new and existing facilities in order to address emissions from both sources. PAR 1469 applies to both existing and new facilities.
From: Bruce Greene [mailto:Bruce.Greene@hmfgroup.com]
Sent: Friday, December 1, 2017 3:23 PM
To: Eugene Kang <EKang@aqmd.gov>
Cc: Susan Nakamura <SNakamura@aqmd.gov>
Subject: Hixson Metal Finishing - PAR 1468 Comments

Eugene,

Please see attached for Hixson's comments on PAR 1469. Your consideration of these would be greatly appreciated.

If you have any questions or comments, please feel free to contact me.

Thanks

Bruce Greene
Environmental/Health & Safety

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829 Production Place
Newport Beach, CA 92663
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PAR 1469 Analysis

(c)(30) – Fugitive Emission – The definition indicates any emission that could “Potentially” contain hex chrome. Technically that could be almost anything. Concrete dust, concrete mix, dirt, diesel emissions, etc. As this is used throughout the rule this could potentially led to inspectors widening the scope to the entire facility or even construction areas. This has been addressed in the revised rule.

(c)(35) – Low Pressure Spray Nozzle – if contained within a tank (spray rinse tank) this should not be required. A new definition of a Spray rinse tank may be required if this is exempted. A spray rinse tank is a tank that uses one or more nozzles to pre-rinse parts to remove a majority of the plating/anodizing solution from the parts. The parts are then rinsed in an immersion rinse tank.

(c)(56) – Tank Process Area – Would a PTE be considered the nearest wall of a building enclosure. We have a Tier II tank that is within 1 foot of the wall of a PTE. If that wall is not considered a Building Enclosure wall the tank process area would extend 30 feet out into a racking and oven drying area. If the PTE is considered a building wall, call it be added to the definition? This has been clarified to include a PTE.

(c)(62) – Weekly – Can weekly be changed to once per calendar week? This has changed to calendar week.

(d)(3) – Air Sparging – We feel that if the tanks are vented to air pollution controls and within a PTE with negative air, the prohibition on air sparging should be lifted. This has been changed to allow air sparging if vented to a pollution control device.

(d)(4) – Freeboard Height – We feel that the freeboard height should be allowed to be at 4 inches if the tanks are ventilated to air pollution controls and are within a PTE with negative air. No exception for PTE has been added. Also, has there been a determination as to the 6-8 inches.

(e)(1), (e)(2), and (e)(3) – These requirements should be waived if all Tier I and Tier II processing tanks are in a PTE with negative air. We still feel that these requirements should be waived if the tanks are within a PTE. Would the ultimate goal to be that all processing tanks are contained within a PTE. Would this not provide an incentive to do so.

(e)(8) – OSHA requirements. There are some additional requirements such as building and fire codes that may also have to be addressed. These should be added if possible.

(f)(1) – Storage – I think the intent of this section was to make sure that the chromic acid power/flake is stored in closed containers in an enclosed building/structure but as written this could make all materials that contain chromium (Paint, Concrete mix, Paint Racks, Paint filters, Stainless steel, even painted/processed parts awaiting shipment etc.) be required to be stored in a closed container inside a enclosed storage area. This could, technically, allow an inspector to expand the scope of the rule to many other processes.
(g)(1)(b) – Dragout – in manually operated process line some dragout will always be present. We have installed drip trays between the tanks that will catch all dragout and return it to the tanks. We have also installed catch pans in the walkways that would catch any dragout that may fall to the floor. These catch pans are equipped with drains that lead to our waste treatment system so that can be easily cleaned at the end of each shift. Would this setup be in compliance with this rule section? Also, this section seems to contradict sections (f)(3) and (f)(4) that gives a 1 hour maximum for clean up and a daily clean up requirement. – Drip tray or containment device has been added.

(g)(7) – Use of compressed air – This requirement should be exempted if the tanks and drying operation are within a PTE with negative air. – PTE exemption has been added.

(h)(4)(A) – What if the scrubbed tanks are a combination of electrolytic and non-electrolytic? What standard applies? Would this require 2 separate source tests?

(h)(4)(A)(ii) – mg/hr – This is still to be determined. Any idea on the requirement? – Added a requirement of 0.2 mg/hr. This limit does not seem to take a number of factors into account such as tank size (square feet of surface area), the CFM of the pollution control equipment or the number of tanks being vented. Would it be better to determine a limit based on mg/dscf.

(h)(4)(B)(ii) – The section has a reference back to the same section, I think this is a typo and should reference back to (h)(4)(B)(ii).

(h)(4)(C) – This section seems to allow an exemption for scrubbers on tier II tanks as long as it meets the 0.0015 mg/amph or 0.20 mg/hr, is this the case?

(h)(5) – Ventilation Design – Our control equipment has already been designed, permitted and installed. We assume that our systems, as long as they pass source test would be in compliance with this requirement. – Can we add in this section “or if approved by the Executive Officer”?

(k)(2)(B) – Source Testing for covered Tier II tanks – This seems to contradict section (h) that indicates that you need to prove that emissions are below 0.0015 mg/amph or 0.20 mg/hr. How can you accomplish this without an initial source test?

(k)(3)(A) – Source Tests – Could the 36 month time period be extended if all process tanks are contained in a PTE with negative air? Since we have completed source tests prior to adoption of the rule when would the next 36 months be? On the anniversary date of the source test, 3 years after we receive results or 3 years after adoption of PAR 1469? – Can we please get some more information when the clock starts ticking on the 36 months? We should have all of our source tests complete by rule adoption, is the timeline 36 months after rule adoption or 36 months from the testing date?

(k)(3)(B) – Source Tests – Since we have already completed source testing that was approved by the district, we assume that we would be in compliance with this section? – Can “or if approved by the Executive Officer” be added
(k)(3)(C)(iii)(C) – These emission standards have not yet been determined. Please see section [h][4][A](iii) above.

(k)(4)(A) – Source Test Protocol. Sorry not sure what this section means. Can we please discuss?

(k)(6)(A)(ii)(Table 4) – Push Air Manifold Pressure TBD. Any additional info? This appears that it will be tied to the source test. Is this correct?

(m)(1)(C)(Table 5) – This means a gauge needs to be installed at each push header. Still not totally clear but this seems to mean that a pressure gauge will have to be installed in each push header and an anemometer will have to be installed at some point in the duct work of the pollution control system. Is this correct?

(m)(1)(D) – How is this to be measured? We also feel this requirement should be waived if the processing tanks are within a PTE with negative air. Not Addressed. We would still not be able to pass this section of the rule in general plate without removing the tank or dialing back the CFM on the PTE. We still feel there should be an exemption for a PTE.

(n)(2) – Indicates mechanical fume suppressants and refers to table 4-2 of appendix 4. There is no requirement in the table for polyballs. There is a requirement in section (o)(4)(E) of the rule and this requires daily inspection.

(o)(4)(C) – Pressure Measurements – What applicable pressure measurements is this referring too? Table 5 subdivision (m) – Push air. Velocity and Static pressure of scrubber. Could it be added that we could measure FPM in order to comply?

Appendix 3 – Ongoing Compliance Report – Will a new report be provided by AQMD? Yes

Appendix 4 – Table 4-1, Collection Slots and Air Manifolds – There still is a requirement for all the holes in the push air manifold to be tested once per month with an anemometer. I thought this changed for a gauge to measure the header and additional measurements every 180 days. I think this applies to the velocity of the inlets on the hoods for the scrubber. Not the individual holes in the push air header. Is this correct?

Appendix 8, section 3 – Testing Conditions – The smoke test now has to be conducted with parts being processed in the tank. Can this be stated in a way that would allow for test panels, racks or scrap parts can be used. Actual parts may not always be available.

Appendix 10 – Smoke tests – Does AQMD have a recommendation on the smoke devise to use since the Tel-Tru sticks and no longer available. We have been using the Drager Air Flow Tester. Will this be compliant? No information was provided.
Responses to Hixson Metal Finishing Comment Letter, submitted 12/1/17

8-1 Response: The definition for fugitive emissions has been modified under PAR 1469 paragraph (c)(28), as follows: “...emissions generated from the operations at the owner or operator’s facility, including solid particulate matter, gas, or mist, potentially containing hexavalent chromium that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack.”

8-2 Response: The definition of low pressure spray nozzles is included in PAR 1469 paragraph (c)(34) and the allowable usage for low pressure spray nozzles is included under paragraph (g)(2) as follows: “...the owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall not spray rinse parts or equipment that were previously in a Tier II or Tier III Hexavalent Chromium Tank unless the parts or equipment are fully lowered inside a tank where the overspray and the liquid is captured inside the tank ...”.

8-3 Response: A tank process area was clarified under paragraph (c)(55) to be: “...the area in the facility within 15 feet of any Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) and any associated process tanks, or to the nearest wall in a building enclosure or permanent total enclosure, whichever is closer”.

8-4 Response: The definition for weekly is: “...at least once every seven calendar days”. PAR 1469 does not amend this definition.

8-5 Response: The requirement to prohibit air sparging has been removed from PAR 1469.

8-6 Response: The requirements for freeboard height have been removed from PAR 1469.

8-7 Response: The requirements of paragraph (e)(1), in particular the allowable enclosure openings as a percentage of the building envelope are applicable to both building enclosures and PTEs. The requirements of paragraphs (e)(2) and (e)(3) are applicable only to building enclosures; not to PTEs. Please also see Responses to Comments 18-6 and 18-7.

8-8 Response: Paragraph (e)(6) has been modified to recognize possible conflicting requirements by OSHA, CAL-OSHA or other municipal codes or agency requirements directly related to worker safety. This modified language requires notification to the Executive Officer of requirements “...that cannot be complied with due to conflicting requirements set forth by the federal Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (CAL-OSHA), or other municipal codes or agency requirements directly related to worker safety”.

Appendix A A-56 August 2018
8-9 Response: The requirement to store other substances that may contain hexavalent in a closed container in an enclosed storage area when not in use is an existing requirement. PAR 1469 did not amend the requirement. This requirement only pertains to materials that are used in the process of chromium electroplating or chromic acid anodizing, not to concrete or stainless steel.

8-10 Response: Paragraph (g)(1) has been revised to allow liquid to be captured by a drip tray or other containment device. The requirement under paragraph (f)(3) requires spills to be cleaned up or contained using a drip tray within one hour. The commenter’s arrangement of drip trays and catch pans would be sufficient to contain spills that fall on the drip trays and are directed to the catch pans. However, spills that are not captured by the drip trays are required to be cleaned up within one hour. The language of paragraph (f)(4) requires surfaces potentially contaminated with hexavalent chromium to be cleaned weekly.

8-11 Response: Paragraph (g)(6) has been reworded to read: “...the owner or operator shall not conduct compressed air cleaning or drying operations within 15 feet of any Tier II or Tier III Hexavalent Chromium Tank(s) unless: A) A barrier separates the compressed air cleaning or drying operation from the compressed air cleaning or drying operation. A tank wall may function as a barrier as long as parts are compressed air cleaned or dried below the lip of the tank; or B) Compressed air cleaning or drying operations are conducted in a permanent total enclosure.” Therefore, compressed air cleaning is allowed in a PTE.

8-12 Response: PAR 1469 requires that existing facilities that vent both electrolytic and non-electrolytic tanks to an air pollution control device to comply with either a 0.0015 mg/amp-hr or 0.0011 mg/amp-hr limit based on whether the facility is existing or new. An owner or operator would need to only conduct one source test per air pollution control device.

8-13 Response: PAR 1469 clause (h)(4)(A)(iv) was modified based on stakeholder feedback to allow an emission rate based on the surface area of tanks for larger ventilation systems. The surface area is based on Tier III Tanks and other tanks required to be controlled by the SCAQMD Permit to Operate.

8-14 Response: Clause (h)(4)(B)(ii) references subparagraph (h)(4)(B), which specifies the schedule for when permit applications for add-on air pollution control systems must be submitted.

8-15 Response: PAR 1469 allows owners or operators to demonstrate that non-electroplating or non-anodizing Tier III Tanks uncontrolled emissions are less than the emissions limits specified in paragraph (h)(4). An owner or operator who successfully demonstrates that uncontrolled emissions are less than the applicable emission standards are not required to vent the emissions.
from the subject tank to an add-on air pollution control device. This does not include chromium electroplating or chromium anodizing tanks that will be required to comply with paragraph (h)(2) or (h)(3).

8-16 Response: The capture velocity specified in the most current edition (i.e., at the time the SCAQMD permit application was deemed complete by SCAQMD) of *Industrial Ventilation, A Manual of Recommended Practice for Design*, are considered to be the minimum allowable velocity for design of an air pollution control system. As such, Executive Officer discretion is not necessary in this paragraph.

8-17 Response: An initial source test is required pursuant to subparagraph (k)(3)(A).

8-18 Response: Please see Response to Comment 2-11.

8-19 Response: A source test which was previously approved by SCAQMD may be used satisfy the initial source test requirement if conducted after January 1, 2015.

8-20 Response: The emission limits in the comment are identified in subdivision (h). Please also see Response to Comment 8-13.

8-21 Response: The allowable push air manifold pressure is based on the pressure range determined during the source test.

8-22 Response: PAR 1469 will require a static pressure gauge to monitor the push manifold pressure. A flow meter or static pressure gauge will be required in the duct work of the air pollution control system to monitor static pressure or airflow velocity.

8-23 Response: This requirement has been removed from PAR 1469. Regarding the comment on an exemption from parameter monitoring within a permanent total enclosure (PTE), PAR 1469 requires all parameter monitoring irrespective of whether the tank is located within a PTE.

8-24 Response: The requirements of Table 4-4 are specific to Inspection and Maintenance requirements for sources using chemical or mechanical fume suppressants.

8-25 Response: PAR 1469 allows pressure to be measured in inches of water column and airflow velocity measured in actual cubic feet per minute.

8-26 Response: A new Ongoing Compliance Status and Emissions Report is provided in Appendix 3 of PAR 1469.

8-27 Response: The requirements for Inspection and Maintenance Requirements are shown in the table below in Response to Comment 8-28.
8-28 Response: Table 4-2 in Appendix 4 has been modified to require the tank to be tested during typical operating conditions.

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

8-29 Response: Staff does not make a recommendation for the smoke device to use during smoke tests.
December 8, 2017

Wayne Nasti, Executive Director
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Proposed Amended Rule 1469, Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Mr. Nasti,

The Los Angeles County Department of Public Health (DPH) appreciates this opportunity to comment on the Proposed Amended Rule 1469 regarding hexavalent chromium emissions from hexavalent chromium electroplating and chromic acid anodizing operations. We support the South Coast Air Quality Management District’s (SCAQMD) policy and enforcement efforts over the last year to reduce chromium emissions in the Los Angeles Basin. In October 2016, SCAQMD discovered that Anaplex, a chromium electroplating facility in the City of Paramount, was responsible for ambient chromium emissions up to 400 times higher than those reported for other urban areas in Los Angeles. SCAQMD and DPH coordinated their enforcement efforts to require Anaplex to reduce its chromium emissions to below 1 ng/m³. In this case, swift abatement action was necessary due to the well-known carcinogenicity of hexavalent chromium and proximity of residential areas. Hexavalent chromium compounds have been shown to cause lung cancer in humans when inhaled at high concentrations for long periods of time.

DPH is concerned that the potential for elevated hexavalent chromium emissions extends well beyond the borders of the City of Paramount and concentrates in communities already facing many other social, economic and environmental burdens. There are a total of 87 chromium electroplating and chromic acid anodizing operations with SCAQMD permits in Los Angeles County, and the majority of these are located in the most burdened areas of Los Angeles, as shown by the red shading in the attached map. The Proposed Amended Rule 1469 presents a golden opportunity for facilities to institute the necessary emission controls and prioritize the health of surrounding neighborhoods and
Consistent with recent European Union legislation, ban hexavalent chromium for decorative purposes.

Periodic fenceline air monitoring to facilitate continued assessment of ambient hexavalent chromium emissions across Los Angeles County.

Prior to using chemical fumes suppressants that do not contain perfluorooctanesulfonic acid (PFOS), which were banned in the Federal NESHAPs Rule, comprehensive toxicity assessments must be completed and demonstrate the safety of the proposed alternative chemicals. Available toxicity assessments by the Office of Environmental Health Hazard Assessment raised serious concerns about the safety of these chemicals (see attached). It is essential these alternative chemicals not be relied upon as a means to control emissions of hexavalent chromium in plating tanks unless and until their safety has been demonstrated.

The current version of the proposed rule provides for additional protections for schools situated within 100 feet from a plating facility. While we support additional protections for schools and other sensitive land uses in proximity to plating facilities, we believe the distance of 100 feet is insufficient. These additional protections are warranted for any sensitive population in close proximity to emissions of hexavalent chromium.

Establish a mandatory consultative process with the California Division of Occupational Safety and Health’s (Cal/OSHA) to ensure adequate worker protection.

Considering both the toxicity of hexavalent chromium and the proximity of chromium facilities to Los Angeles County residents, we urge the SCAQMD to ensure that the Proposed Amended Rule 1469 requires the best technology available to prevent chromium emissions from impacting local air quality.

Sincerely,

Cyrus Rangan, M.D., F.A.A.P., F.A.C.M.T.
Director, Toxicology & Environmental Assessment
Environmental Health Division, Department of Public Health

Enclosures: (2)
Chrome Plating & Chrome Anodizing Facilities in Los Angeles County

CalEnviroScreen 3.0 Composite Pollutant Scores

- 0.0%
- 0.1% - 42.0%
- 42.1% - 74.0%
- 74.1% - 100.0%
- No Data

- Chromium 6 Facilities

Source: Office of Environmental Health Hazard Assessment (OEHHA) and California Environmental Protection Agency (CalEPA). The composite score was calculated using the latest available environmental pollution scores. Census tracts were obtained from the US Census Bureau. The composite score was updated in 2017.

Created by the Office of Health Assessment and Epidemiology, OEHHA, 10/10/2017.
Responses to County of Los Angeles Department of Public Health (Cyrus Rangan)  
Comment Letter, submitted 12/8/17

9-1 Response: Implementation of PAR 1469 will reduce hexavalent chromium emissions from tanks that are currently not regulated. In addition, provisions for building enclosures, parameter monitoring, and periodic source testing will help to reduce exposure to hexavalent chromium to nearby communities. PAR 1469 includes limitations and restrictions for facilities located near sensitive receptors. Examples include:
1. Close any building enclosure opening that directly faces and opens towards a sensitive receptor, located within 100 feet, or a school located within 1,000 feet;
2. Ensure a new facility is not located within 1,000 feet from the boundary of a sensitive receptor, a school under construction, or any area that is zoned for residential or mixed use;
3. Expedited requirement to construct a permanent total enclosure (if triggered), if property line of the electroplating or anodizing facility is within 500 feet of the property line of any sensitive receptor or school; and
4. Prior to approval of alternative compliance method for emissions control, demonstrate that the facility is at least 25 meters from a sensitive receptor.

9-2 Response: PAR 1469 incentivizes facilities that make an early commitment to phase out hexavalent chromium from their process by delaying requirements to install add-on air pollution controls on Tier III Tanks. If hexavalent chromium is phased out according to the approved phase-out plan, the facility will not incur costs for controls as they will no longer be required to install add-on air pollution controls. There are certain applications for decorative plating where it is necessary to use hexavalent chromium for quality or appearance, or to meet a customer specification tied to a long-term contract. The adoption resolution for PAR 1469 will have a commitment to conduct a study on alternatives to hexavalent chromium. Please refer to Chapter 1 for more information on the European Union’s hexavalent chromium ban.

9-3 Response: Although ambient monitoring provisions are not included in PAR 1469, a separate rule for ambient monitoring is on SCAQMD’s Rule Forecast for 2018. PR 1480 – Air Toxic Metals Monitoring will provide a comprehensive approach to monitoring of air toxics at all facilities emitting toxic air contaminants, not only hexavalent chromium emitting facilities. Therefore, it is more appropriate to consider monitoring within the context of PR 1480 instead of within PAR 1469. Please also see Response to Comment 1-7.
9-4 Response: Under the existing requirements of Rule 1469, certain facilities with low throughput are allowed to use a certified wetting agent chemical fume suppressant as the sole means of control instead of installing air pollution control equipment. PAR 1469 includes provisions which require SCAQMD and CARB to conduct tests to determine if these non-PFOS wetting agent chemical fume suppressants can be certified.

Beginning July 1, 2021, facilities may only add a wetting agent chemical fume suppressant that is certified based on a revised process conducted by SCAQMD and CARB. This date will allow sufficient time for facilities to implement alternatives, manufacturers to potentially reformulate chemical fume suppressants, and SCAQMD staff to certify the wetting agent chemical fume suppressant.

Staff has added a provision that the Executive Officer in consultation with CARB may certify an alternative to a wetting agent chemical fume suppressant that is as equally effective as a certified chemical fume suppressant pursuant to paragraph (l)(2) of PAR 1469. This approach will allow facilities to use an alternative to a wetting agent chemical fume suppressant if emissions testing conducted by SCAQMD demonstrates that the alternative is as equally effective as a certified wetting agent chemical fume suppressant. Additionally, the owner or operator of a facility that opts to use an alternative to a wetting agent chemical fume suppressant will be required to comply with permit conditions that are specified during the certification process.

The alternative to a wetting agent chemical fume suppressant would be available to only the smallest plating facilities that are currently allowed to use chemical fume suppressants. This approach will provide a cost savings, given that SCAQMD staff will conduct the necessary emissions testing. Also, similar to the use of certified chemical fume suppressants, no further emissions testing would be required, provided the operator complies with the conditions of the certification of the alternative.

PAR 1469 proposes to allow the continued use of certified wetting agent chemical fume suppressants during the revised certification process to protect workers in chromium electroplating and chromic acid anodizing facilities that may otherwise be exposed to emissions of hexavalent chromium from electrolytic tanks operated without APC systems. Chemical fume suppressants are a proven and highly effective method of reducing emissions from electroplating operations, thereby protecting workers from emissions of hexavalent chromium, a known human carcinogen.

The following documents submitted by the commenter as an attachment to the comment letter were considered during the rule development process:

9-5 Response: PAR 1469 provides distance protections for both schools and sensitive receptors. For example, under paragraph (e)(3), facilities are required to close any building enclosure opening that directly faces and opens towards the nearest school that is located within 1,000 feet, as measured from the property line of the school to the building enclosure opening, except for the movement of vehicles, equipment or people. The same requirement applies to sensitive receptors located within 100 feet.

9-6 Response: Mandatory consultations are not established in rules. However, staff has been in communication with Cal-OSHA in regard to issues such as indoor heat and the appropriate ventilation air required for chromium electroplating and chromic acid anodizing facilities. As a practice, staff communicated with Cal-OSHA as well as other agencies, as necessary, during the rulemaking process.

9-7 Response: Best available control technology for point source controls of hexavalent chromium from electroplating tanks, chromic acid anodizing tanks, and Tier III Tanks with the potential for significant emissions includes a collection hood under negative pressure, vented to air pollution control with a final control stage equivalent to HEPA controls or better. This is the level of control proposed by PAR 1469.
December 11, 2017

Mr. Neil Fujiwara
Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Comments on SCAQMD Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Mr. Fujiwara:

Valley-Todeco, Inc. (Valley-Todeco) is pleased to submit the following comments on the November 17, 2017 preliminary draft rule language of South Coast Air Quality Management District’s (SCAQMD) Proposed Amended Rule (PAR) 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations. Our California operations include a facility in Sylmar, California that would be directly impacted by PAR 1469.

Valley-Todeco is a wholly-owned subsidiary of Arconic Inc. (NYSE: ARNC). Arconic creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power. Through the ingenuity of our people and cutting-edge advanced manufacturing techniques, we deliver these products at a quality and efficiency that ensure customer success and shareholder value.

Valley-Todeco is generally supportive of the SCAQMD’s effort to develop an amended regulation to provide additional control of hexavalent chromium emissions from chromium electroplating and chromic acid anodizing operations to ensure that ambient air concentrations of hexavalent chromium remain protective of human health and the environment. We appreciate SCAQMD’s continued interest in developing sound regulations that protect public health and the environment while minimizing unnecessary regulatory burdens on industry and offer the following comments to the SCAQMD for its consideration into the final amended Rule 1469.
1.0 Include a definition for buffing, grinding and polishing operations
PAR 1469 contains several requirements for buffing, grinding and polishing operations, including housekeeping requirements and best management practices. Valley-Todeco is concerned that, without a definition, the current interpretation of buffing, grinding and polishing activities and operations could be overly broad. For example, references to “clean, using an approved cleaning method, floors within 20 feet of a buffing, grinding, or polishing workstation” and “conduct all buffing, grinding, and polishing operations within a building enclosure” (emphasis added) could be interpreted that activities unrelated to chromium electroplating and chromic acid anodizing would be subject to these requirements, e.g. a maintenance area grinder for grinding a piece of angle iron or the grinding on a weld that has just been completed. These examples are clearly not within the stated purpose of the rule.

Therefore, Valley-Todeco recommends that PAR 1469 be revised by adding a definition for buffing, grinding, and polishing operations to read as follows:

BUFFING, GRINDING, OR POLISHING means the buffing, grinding or polishing of parts that have gone through a process that includes one or more Tier I or Tier II Hexavalent Chromium-Containing Tanks.

2.0 Include a definition for associated process tank
PAR 1469 makes numerous references to 'associated process tank' but this term has not been defined. Associated process tanks are considered within the definition of a Tank Process Area, must be operated within a building enclosure under section (e), and are included in the BMP requirements of section (g). The Preliminary Draft Staff Report identifies several types of non-electroplating and non-anodizing tanks that can contain elevated levels of hexavalent chromium that could become a source of significant emissions\(^1\). Such tanks have been addressed in PAR 1469 through the 1000 ppm hexavalent chromium concentration threshold for Tier I and Tier II tanks and Valley-Todeco supports this. However, there are other tanks identified in the Preliminary Staff Report (Tables 1-1 through 1-4) that are associated with the overall process but which contain no or very low concentrations of hexavalent chromium and could not be a significant source of hexavalent chromium emissions. Some associated process tanks may even be located away from the main area of tank operations. Placing the same requirements on these tanks as Tier I Hexavalent Chromium-Containing Tanks would be an undue burden for little or no environmental benefit.

Valley-Todeco believes that PAR 1469 needs to include a definition of the term 'associated process tank' to exclude those tanks that are not located near a Tier I or Tier II Hexavalent Chromium Containing Tanks where there would be a higher potential for cross contamination, i.e. not located within a tank process area.

Therefore, Valley-Todeco recommends that PAR 1469 be revised by adding a definition for associated process tank to read as follows:

ASSOCIATED PROCESS TANK means a tank that is located within a Tank Process Area but which is not a Tier I or Tier II Hexavalent Chromium-Containing Tank.

3.0 Clarify the operation of devices in building enclosure openings that exhaust to the outdoor air
Section (e)(5) of PAR 1469 prohibits the operation of any device in a building enclosure opening in the roof that pulls air from the building enclosure and exhausts to the outside air unless the air is vented to a HEPA filter equipped air pollution control device. Valley-Todeco believes that the requirement needs to be clarified to specifically exclude air conditioning systems that pull air from the building enclosure and return air back to the building enclosure.

Therefore, Valley-Todeco recommends that section (e)(5) of PAR 1469 be revised to read as follows:

(5) Prohibit operation of any device in any building enclosure opening in the roof that pulls air from the building enclosure to the outdoor air unless the air is vented to an add-on air pollution control device that is fitted with HEPA filters. Roof-mounted air conditioning systems that return air back to the building enclosure are excluded from this requirement.

4.0 Clarify the areas subject to daily cleaning
Section (f)(4) of PAR 1469 requires daily cleaning for surfaces within an enclosed storage area, open floor area, walkways around Tier I and Tier II Hexavalent Chromium-Containing Tanks, as well as any other surfaces that may become potentially contaminated. While ‘enclosed storage area’ is defined and ‘walkways around the Tier I and Tier II Hexavalent Chromium-Containing Tanks’ can be readily interpreted, the term ‘open floor area’ is not defined in PAR 1469 or described in the Preliminary Draft Staff Report, and can be interpreted differently by different people. To avoid potential compliance issues as to what constitutes ‘open floor area’, Valley-Todeco believes that this term needs to be clarified within the description of the housekeeping requirements of section (f)(4).

Therefore, Valley-Todeco recommends that section (f)(4) of PAR 1469 be revised to read as follows:

(4) Clean, using an approved cleaning method, surfaces within the enclosed storage area, open floor area within the tank process area, walkways around the Tier I or Tier II Hexavalent Chromium-Containing Tank(s), or any surface potentially contaminated with hexavalent chromium or surfaces that potentially accumulate dust at least daily.

5.0 Clarify that the edition of ACGIH’s Industrial Ventilation manual that must be adhered to is the edition that is the most current edition at the time that a permit application for air pollution control equipment is deemed complete by SCAQMD
Section (h)(5) of PAR 1469 requires that air pollution control techniques are operated at the minimum hood induced capture velocity specified in the most current edition of
the *Industrial Ventilation, A Manual of Recommended Practice for Design*, published by the ACGIH. Valley-Todeco is concerned that the requirement as currently written could result in the minimum capture velocity becoming a moving target where a facility would have to purchase (not free!) a copy of each new edition of *Industrial Ventilation, A Manual of Recommended Practice for Design* to determine if the minimum capture velocity requirement has changed. Furthermore, as written the PAR would appear to require facilities to upgrade the ventilation system and controls if there is a change to the capture velocity requirements specified in the Manual, and it is unclear how quickly these upgrades would be required. Valley-Todeco believes that the minimum capture velocity requirement should be based on the edition of *Industrial Ventilation, A Manual of Recommended Practice for Design* which is in effect at the time that a permit application for air pollution control equipment is deemed complete by the SCAQMD. This approach is consistent with other SCAQMD regulations, such as the recently adopted Rule 1430.

Therefore, Valley-Todeco recommends that section (h)(5) of PAR 1469 be revised to read as follows:

(5) Ventilation Design and Operation for Air Pollution Control Techniques  
The owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall operate air pollution control techniques required under subdivision (h) and (i) at the applicable minimum hood induced capture velocity specified in the most current edition of the *Industrial Ventilation, A Manual of Recommended Practice for Design*, published by the American Conference of Governmental Industrial Hygienists-, at the time a permit application is deemed complete with the SCAQMD.

6.0 Delete the requirement for ensuring that air velocity within 10 feet of a controlled Tier II Hexavalent Chromium Containing Tank is less than one-tenth of the collection slot velocity of the more recent successful source test.

Section (m)(1)(D) requires that "any air velocity within 10 feet of a Tier II Hexavalent Chromium-Containing Tank vented to an add-on pollution control device is less than one-tenth of the collection slot velocity as specified in the most recent successful source test." However, the SQMD has provided no specifics on how this monitoring is to be accomplished, i.e. at what frequency, at how many locations, etc. in either PAR 1469 or in the Preliminary Draft Staff Report². Valley-Todeco is concerned that lack of specific instructions on how to determine compliance with this requirement will result in different interpretations by facilities and SCAQMD inspectors and result in unnecessary compliance issues. PAR 1469 contains requirements for a building enclosure and prevention of cross currents under section (e), for qualitative and quantitative assessment of capture efficiency under section (k)(6), and for static and velocity pressure monitoring under section (m)(1)(C). Collectively, these requirements should provide sufficient assurance for the proper capture of emissions at a Tier II

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² Preliminary Draft Staff Report, Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations, November 2017
Hexavalent Chromium-Containing Tank and make the poorly defined requirement of section (m)(1)(D) superfluous. Therefore, Valley-Todeco recommends that section (m)(1)(D) be removed from PAR 1469.

7.0 Clarify the surface tension measurement frequency for existing facilities already subject to this requirement

Current Rule 1469, at section (g)(2), requires "...Surface tension shall be measured daily for 20 operating days, and weekly thereafter as long as there is no violation of the surface tension requirement. If a violation occurs, the measurement frequency shall return to weekly for 20 operating days, and weekly thereafter." Section (m)(2)(A) of PAR 1469 retains the daily monitoring requirement for 20 operating days, but changes the weekly monitoring requirement to "every third operating day thereafter, but not less than once per week."

Valley-Todeco seeks clarification from the SCAQMD that sources currently subject to Rule 1469, and which have previously completed daily surface tension measuring for 20 days, will only be required to change the measurement frequency from weekly to every third operating day but not less than once per week under PAR 1469. And, that there is not an expectation to redo the daily measuring for 20 days just because of the measurement frequency change from weekly to every third operating day proposed in PAR 149.

Conclusion

Valley-Todeco appreciates the opportunity to comment on PAR 1469. We are hopeful that our comments will help SCAQMD to further improve PAR 1469 and create a final amended rule that incorporates flexible and cost-effective compliance provisions for all affected facilities.

Should you require clarification or further discussion of our comments, please contact Dean Richardson (Valley-Todeco’s Environmental Engineer) at dean.richardson@arconic.com or (818) 364-6062.

Sincerely,

Kristin March
Director of Operations
Valley Todeco, Inc.
Arconic Fastening Systems and Rings
Kristin.March@arconic.com
Responses to Valley-Todeco, Inc. (MFASC) Comment Letter, submitted 12/11/17

10-1 Response: The definition suggested in the comment does not capture all buffing, grinding and polishing operations of concern. In particular, it does not include products containing hexavalent chromium that are buffed, ground, or polished that do not go through a Tier I, Tier II or Tier III Tank.

10-2 Response: A definition for ‘Associated Process Tank’ has been added to the proposal as follows: Associated Process Tank means any tank in the process line of a Tier I, Tier II, or a Tier III Hexavalent Chromium Tank.

10-3 Response: The requirement under paragraph (e)(4) has been modified to require closure of all enclosure openings in the roof that are located within 15 feet from the edge of any Tier II or Tier III Tank. Please see Response to Comment 6-13. It is not the intent of this paragraph to include roof mounted air conditioners that return cooled air back into a building.

10-4 Response: Please see Response to Comment 1-9. Regarding the comment on “open floor area”, this language exists in the current version of Rule 1469. No clarifications to this language are proposed.

10-5 Response: The language for paragraph (h)(6) has been modified to read: “The owner or operator of a facility shall operate air pollution control techniques required under subdivisions (h) at or above the applicable minimum hood induced capture velocity specified in the most current edition (i.e., at the time the SCAQMD permit application was deemed complete by SCAQMD) of Industrial Ventilation, A Manual of Recommended Practice for Design, published by the American Conference of Governmental Industrial Hygienists”.

10-6 Response: The referenced subparagraph has been removed from PAR 1469.

10-7 Response: Please see Response to Comment 2-15.

10-8 Response: Thank you for your comment. The SCAQMD staff has worked with stakeholders throughout the rulemaking process to develop a proposal that is health protective and with consideration of cost impacts.
December 15, 2017

Mr. Eugene Kang
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Re: Public comments to Proposed Amended Rule 1469—Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing

Dear Eugene:

RadTech International hereby reiterates the comments we have made public workshop on proposed amended rule (PAR) 1469. RadTech is the association for the advancement of Ultraviolet/Electron Beam/Light Emitting Diodes (UV/EB/LED) technology. We represent over 800 members nationwide and have sister chapters worldwide. Our processes are environmentally friendly and generate essentially zero VOC emissions. Our technology has been recognized by the district and board members have been very supportive of our industry.

Some of our member companies have products that do not contain chrome. Thus, we would urge the district to provide incentives to companies who choose to reformulate their process and eliminate emissions of Hexavalent Chrome. The current overly prescriptive monthly reporting requirements for facilities who choose to phase-out chrome from their operations will be an impediment to the district’s stated goal of reducing emissions of Hexavalent Chrome. As mentioned during the workshop, facilities who choose to eliminate toxics should be encouraged and supported to do so. Adding yet another regulatory process as a condition for conversion, is not helpful to businesses or to the district. We suggest that the frequency of the reporting be changed from twelve times per year to twice per year. Staff’s concern with ensuring facilities are making progress with the conversion process, is addressed by the requirement for facilities to file a Compliance Plan to the district. The Plan would already have timelines in place and any undue delay would be covered under the Compliance Plan.
Additionally, much testimony was heard from small and medium sized businesses, regarding the financial hardships they face in meeting the requirements of PAR 1469. We urge the district to partner with our industry and the regulated community and provide financial support for conversion to chrome-free projects. The district has typically focused on funding mobile source projects and stationary sources have not seen their fair share of assistance. We are hopeful that our industry can participate in recent funding opportunities being considered by the district. Toxic emission reductions are a key component of Assembly Bill 617 (Garcia) and any financial support the district can provide will not only benefit the business community but also the environment and help the district meet its mandates.

We appreciate your attention to these issues and look forward to a productive rulemaking effort.

Sincerely

Rita M. Loof
Director, Environmental Affairs

Cc: Wayne Nastri, SCAQMD Board
Responses to Comment Letter from RadTech International (submitted 12/15/17)

11-1 Response: PAR 1469 has been modified to require a default quarterly frequency for progress reports relating to Hexavalent Chromium Phase-Out Plans, and also provides flexibility for approval of different reporting frequencies as determined by the Executive Officer.

11-2 Response: Please see Response to Comment 9-2. If the non-PFOS chemical fume suppressants are not certified, SCAQMD staff will seek funding to help affected facilities with the costs of installation of add-on pollution control systems.

Staff has added a provision that the Executive Officer in consultation with CARB may certify an alternative to a wetting agent chemical fume suppressant that is as equally effective as a certified wetting agent chemical fume suppressant pursuant to paragraph (l)(2) of PAR 1469. This approach will allow facilities to use an alternative to a wetting agent chemical fume suppressant if emissions testing conducted by SCAQMD demonstrates that the alternative is as equally effective as a certified wetting agent chemical fume suppressant. Additionally, the owner or operator of a facility that opts to use an alternative to a wetting agent chemical fume suppressant will be required to comply with permit conditions that are specified during the certification process.

The alternative to a wetting agent chemical fume suppressant would be available to only the smallest plating facilities that are currently allowed to use chemical fume suppressants. This approach will provide a cost savings, given that SCAQMD staff will conduct the necessary emissions testing. Also, similar to the use of certified wetting agent chemical fume suppressants, no further emissions testing would be required, provided the operator complies with the conditions of the certification of the alternative.
From: Alan Olick [mailto:alanlick@aol.com]
Sent: Friday, December 15, 2017 11:04 PM
To: Neil Fujiwara <nfujiwara@aqmd.gov>; ekang@aqmd.gov.
Subject: Re: Update: Delay for PAR 1469

Hi Neil and Eugene;

Please try to read my letters to the AQMD concerning my recent NOV's.
I feel we are being treated unfairly and I was just required to pay additional monies
for a new source test and hiring a new testing company to repeat the same test
to certify our chrome tank which now one instead of two. The place my company is in seems to have no cure as it appears that even the
new approved fume suppressant might not be allowed. We have spent about $80,000.00 on testing our two chrome plating tanks and
many man hours of set up and clean up. Please can you help us to cancel the recent NOV's?
I will have to close our chrome plating and my customers will send their plating
to Mexico.
I will do whatever it takes to keep on the good side of the AQMD.

Thank You
Alan Olick
MFASC board member for 30 years.
President of Brite Plating and General Plating
1313 Mirasol St
Los Angeles, Ca. 90023

Alan Olick
alanlick@aol.com
Responses to Comment Letter from Brite Plating and General Plating (submitted 12/15/17)

12-1 Response: PAR 1469 proposes to revisit the certification of the currently certified wetting agent chemical fume suppressants. Under the current proposal, beginning July 1, 2021, facilities may only add a wetting agent chemical fume suppressant to a Tier III Tank that is certified based on a revised process conducted by SCAQMD and CARB. The date was chosen to allow sufficient time for facilities to implement alternatives, manufacturers to potentially reformulate chemical fume suppressants, and SCAQMD staff to certify the chemical fume suppressants. The request to cancel the referenced Notices of Violations (NOVs) in the comment has been forwarded to SCAQMD’s enforcement and legal staff. SCAQMD rules staff does not have the ability to cancel NOVs.
--------- Original message ---------
From: Robina <robinazwuol@earthlink.net>
Date: 12/7/17 2:22 PM (GMT-08:00)
To: Eugene Kang <EKang@aqmd.gov>, Susan Nakamura <SNakamura@aqmd.gov>
Subject: Please share comment- "Listen Only" Call-in

Dear Susan & Eugene,

Extremely disappointing to note that the "call-in" is listen only, especially in the fires which makes traveling challenging.

Below, is the link to the Madrid Statement that I hope can be distributed to all of the 1469 Workshop participants.

I hope that you can share our deep concerns with those today that we are extremely concerned about the Fume Suppressants because of their high persistence, bioaccumulation potential and extreme toxicity. The communities we work with cannot allow these toxic emissions to continue, especially when engineered controls are available.

We are committed to working with AQMD and industry to locate funding sources to assist in transitioning to engineered controls. Sources we are investigating include, but are not limited to the California Pollution Control Financing Authority.

It is unfortunate that we cannot voice these concerns on this call, and would have attended in person today, were it not for the fires.

Please kindly share these comments with all participating in person, on the call, or other 1469 Workshop participants who also may have been impacted by the fires and unable to attend today.

Respectfully,

Robina Suwol
Founder & Executive Director
California Safe Schools
818.785.5515 office
www.calisafe.org

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---Original Message---
From: Robina [mailto:robinasuwool@earthlink.net]
Sent: Thursday, December 7, 2017 2:49 PM
To: Eugene Kang <EKang@sqmd.gov>; Susan Nakamura <SNakamura@sqmd.gov>
Cc: dcapjane@aol.com; delamoactioncommittee@gmail.com; shabakahru@yahoo.com; aguirrefel@gmail.com
Subject: Additional Concerns include: 100 ft. from sensitive receptors

Susan and Eugene,

I would also like to be on record for expressing serious concerns surrounding the recommendation of 100 feet from sensitive receptors. We are unclear what process and protocols were used to determine 100 feet, when most sensitive receptors are more in the 200-300 foot range.

Protecting our most vulnerable is our highest priority, and the 100 feet proposal does not provide sufficient protection.

Thank you very much for your consideration, and please kindly share this comment with the entire 1469 Workshop attendees today, and others who may not be able to attend. Thank you so much.

Respectfully,

Robina Suwool
Founder & Executive Director
California Safe Schools
818.785.5515 office
818.261.7965 cell
www.calisafe.org

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Responses to Robina Suwal Email, submitted 12/7/17

13-1 Response: Throughout the rule development process, the SCAQMD staff has held 13 Working Group Meetings. All Working Group Meetings that were held at SCAQMD’s headquarters in Diamond Bar had a call-in number where people could conference into the meeting and dialogue with staff. Unlike Working Group meetings, Public Workshops only have a “listen only” ability when held in the auditorium. This was also indicated on the Notice of Public Workshop.

13-2 Response: Staff did not receive a link to the Madrid Statement as indicated in the comment. It is not SCAQMD’s policy to distribute non-SCAQMD materials to attendees at the Public Workshop.

13-3 Response: The Public Workshop Presentation included information from OEHHA’s memos regarding the toxicity of the non-PFOS chemical fume suppressants. See also Response to Comment 9-4.

13-4 Response: If no non-PFOS chemical fume suppressants is certified, SCAQMD staff will seek funding to help the affected facilities with the costs of installation of add-on pollution control systems.

Staff has added a provision that the Executive Officer in consultation with CARB may certify an alternative to a wetting agent chemical fume suppressant that is as equally effective as a certified wetting agent chemical fume suppressant pursuant to paragraph (l)(2) of PAR 1469. This approach will allow facilities to use an alternative to a wetting agent chemical fume suppressant if emissions testing conducted by SCAQMD demonstrates that the alternative is as equally effective as a certified wetting agent chemical fume suppressant. Additionally, the owner or operator of a facility that opts to use an alternative to a wetting agent chemical fume suppressant will be required to comply with permit conditions that are specified during the certification process.

The alternative to a wetting agent chemical fume suppressant would be available to only the smallest plating facilities that are currently allowed to use chemical fume suppressants. This approach will provide a cost savings, given that SCAQMD staff will conduct the necessary emissions testing. Also, similar to the use of certified wetting agent chemical fume suppressants, no further emissions testing would be required, provided the operator complies with the conditions of the certification of the alternative.

13-5 Response: Refer to Response 13-1. The comments received via email are included in the Staff Report and responded to. The comment is part of the public record and is available to the public as a result.
13-6 Response: A sensitive receptor means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing. In addition to limiting enclosure openings within 100 feet of a sensitive receptor, PAR 1469 includes a requirement to install a permanent total enclosure under certain conditions for facilities located within 1,000 feet of a sensitive receptor.
February 2, 2018

Mr. Wayne Nastri
Executive Officer
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Re: Comments from Metal Finishers Association - Proposed Amended Rule 1469 and Preliminary Draft Staff Report, Working Group Meeting #9

Dear Mr. Nastri:

The Metal Finishers Association ("MFA") represents over 130 companies throughout Northern and Southern California, which comprise a diverse industrial base of metal finishing and related businesses that employ thousands of workers. Its members provide necessary products and services to manufacturers in various other industries, including automotive, consumer products, industrial, energy, aerospace and numerous others. In particular, a large segment of our membership provide mission critical parts and components for military aircraft, satellites, telecommunications, defense and the like. In addition, well over 90% of the MFA membership meet the federal definition of Small Business with fewer than 150 employees, and those are typically private family businesses or otherwise small closely held companies.

Representatives of the MFA, including legal counsel and technical experts, have been actively engaged with AQMD staff since the beginning of this rulemaking process. MFA members and its representatives have also attended all nine (9) public working group meetings, including, the most recent meeting held on January 4, 2018 (referred to as "Working Group Meeting #9"), plus participated in numerous other meetings with the AQMD’s legal counsel, economic experts and rule development staff. In addition, the MFA and its representatives attended and testified at Public Hearings on this rule development which were held on November 1, 2017 and December 7, 2017. This comment letter addresses information presented in PAR 1469 rule language and Preliminary Draft Staff Report dated January 19, 2018 ("Staff Report"), and public meetings held to date. The MFA reserves the right to modify or supplement these comments based on subsequent AQMD presentations, draft rules and other information.

1.0 RECENT DEVELOPMENTS AND IMPORTANT ISSUES

(1) PFOS Alternatives – Over the past decade, the MFA has been active on the research and rulemaking of PFOS alternatives at the federal and state level, and is very concerned about any suggested “phase out” of such alternatives for PAR 1469. As the SCAQMD is aware, many metal finishers depend upon the use of certified non-PFOS suppressants for regulatory compliance, which are currently allowed under the existing Rule 1469. Moreover, many of the smallest metal finishers depend solely upon such non-PFOS suppressants for compliance in lieu of add-on controls. Based on recent developments, the Staff Report indicates the SCAQMD and CARB is currently researching potential toxicity concerns with
such non-PFOS suppressants, such as, fluorotelomer alcohol (FTOH), fluorotelomer sulfonate (FTSA), perfluorohexanoic acid (PFHxA), perfluorohexane sulfonate (PFHxS) and others. Based on these reviews, the Staff Report indicates the SCAQMD has determined the toxicity for these chemicals are largely inconclusive, including any potential carcinogenic effects. Further, with the exception of FTOH, OEHHA did not develop interim Reference Exposure Levels (iRELs) for these PFOS alternatives. In the case of FTOH, there are no proposed cancer potency factors, and its iREL for chronic impacts is several times higher than hexavalent chromium. As a consequence, the MFA does not believe the suggested “phase out” of such PFOS alternatives are warranted until such time there is convincing scientific evidence these chemicals pose an equal or greater risk to public health than the compound which it is controlling, hexavalent chromium. In our view, the benefits of reducing hexavalent chromium emissions far outweigh the inconclusive findings of potential toxicity risks from these PFOS alternatives.

(2) **Tier I Hexavalent Chromium Tanks** – PAR 1469 (c)(58) proposes a threshold of 1,000 ppm of hexavalent chromium content to qualify Tier I tanks. As we have noted, there remains insufficient scientific support and test data that justifies such a low concentration threshold for Tier I tanks. Tier I should only apply to those tanks which exhibit the highest potential for hexavalent chromium emissions, and therefore exclude all other tanks from regulatory applicability. At this time, the Staff Report does not present sufficient test data to justify such a low concentration limit for Tier I tank applicability.

(3) **Tier II Hexavalent Chromium Tanks** – PAR 1469 (c)(59) proposes several categories of Tier II tank applicability based on minimum operating temperature and hexavalent chromium concentration. The SCAQMD presentation from Working Group #9 indicates a tank with as little as 100 ppm of hexavalent chromium would be a significant emission source. Further, the Staff Report concludes a tank that operates as low as 140°F with greater than 1,500 ppm would yield similar or greater amount of emissions. To support its conclusions, the Staff Report provide test data on Table 1-5 (shown below).

<table>
<thead>
<tr>
<th>Table 1-5: SCAQMD Sampling of Various Temperatures</th>
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</thead>
<tbody>
<tr>
<td><strong>Tank Type</strong></td>
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</tr>
<tr>
<td>Alodine Tank</td>
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<td>2</td>
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<td>AVG</td>
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<td>Alodine Tank</td>
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<td>3</td>
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<tr>
<td>AVG</td>
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</tbody>
</table>

As shown in Table 1-5, the Staff Report provides only six (6) data points from a single tank at two (2) operating temperatures (150°F and 160°F) and hexavalent chromium concentrations of 347 and 333 ppm, respectively. From this very limited sample size, the Staff Report averaged 3 data points per tank, and then concludes, "At 150°F, 0.20 mg/hr would be exceeded when tank hexavalent chromium concentrations exceed 1,780 ppm. At 160°F, would be exceeded when tank hexavalent chromium concentrations exceed 673 ppm." Further, based on this same data set, the SCAQMD presentation from Working Group #9 further indicates a tank with as little as 65 ppm of hexavalent chromium could be a
Wayne Nastri, SCAQMD - Proposed Amended Rule 1469
January 31, 2018

significant source of emissions. The Staff Report appears to make a direct linear correlation of hexavalent chromium concentration and temperature based on this limited sampling data to support its conclusion that Tier II add-on controls are warranted.

The MFA disagrees with the SCAQMD stated conclusions and findings for the proposed Tier II tank categories. First, it is clear the proposed Tier II tank categories are based on very little test data, which are not statistically significant. Second, the Staff Report does not provide any evidence that the proposed Tier II tanks would result in any meaningful or significant emissions outside of a building enclosure. Quite the contrary, as we have noted in prior working group meetings, the AQMD source test staff has indicated measured fugitive emissions through rooftop vents are far below any measurements at the tank surface by several orders of magnitude, even concerning tanks with higher temperatures and concentrations. Third, the above test results are “theoretical” emissions, as the source test results do not take into account various operational effects, such as tank covers, mechanical suppressants, limited operating schedules, tank sizes, etc. Moreover, given that PAR 1469 already proposes severe restrictions on building enclosures, including 3% openings, no cross-draft, limited ventilation and other requirements, such minor emissions (if any) from such proposed Tier II tanks would be sufficiently contained inside a building enclosure, and further add-on controls would not be necessary.

Additionally, even though the SCAQMD proposed some revisions for larger airflows on larger tanks, the standard of .20 mg/hr still appears to be an inappropriate standard because it is essentially a mass load and is not scalable for different sized tanks and operations.

(4) Cost Estimates for APCD – The MFA has been collecting data on the cost of installing HEPA systems over Tier II tanks. Our economist is working closely with SCAQMD staff and will release his findings shortly. The cost per CFM is showing to be around $20. The MFA believes that the early estimates from the SCAQMD January 4, 2018 meeting are unrealistically low.

(5) Capture Efficiency Testing – PAR 1469 (k)(6) specifies routine slot velocity, pressure of push air manifolds and smoke testing for applicable tanks with add-on control devices every 6-months. In particular, PAR 1469 specifies that a facility must “shut down” all chrome electroplating and anodizing lines, if such tests show a deviation of +/- 10% from the most recently approved AQMD source test or emission screening. The MFA remains concerned of such stringent limitations and shut down requirement, given the numerous factors that could impact these capture test results, such as, equipment sensitivity, testing locations, personnel handling and others. 10% is a very small margin for error which would be difficult to ensure compliance, could result in unnecessary equipment shut downs, and ultimately lead to triggering to costly Permanent Total Enclosure (PTE) requirements pursuant to PAR 1469 (q).

(6) Ambient Monitoring Near Metal Finishers – The Staff Report continues to present the ambient monitoring data of hexavalent chromium around metal finishers in the cities of Newport Beach, Paramount, Long Beach and Compton. Air toxics enforcement actions against these facilities have referenced a hexavalent chromium concentration of 1 ng/m³ as a fence line (or near fence line) threshold for enforcement purposes, which we have consistently argued is not supported by the current science. As noted on numerous occasions, the MFA have raised legitimate issues of flawed assumptions, unreliable data, lack of established protocols, use of monitoring equipment not supported by the manufacturer for the purpose for which it has been used, contributing sources, prohibitive costs and inconclusive results relating to this ambient air monitoring data. Based on testimony of affected small businesses during this entire rulemaking, it is clear the AQMD’s continued use of such unreliable air monitoring data will have significant adverse economic impacts, including loss of customers, decreased business volumes and
employee layoffs. To date, the ambient monitoring at many metal finishing facilities are still ongoing for at least 6+ months, and over a year in few cases. Based on the extensive amount of ambient samples collected, the hexavalent chromium emissions data remains largely inconclusive for any regulatory purposes, and further, would not pass scientific or legal scrutiny in nearly all cases.

2.0 PROPOSED KEY AMENDMENTS

(7) Building Enclosures – PAR 1469 (e) specifies numerous building enclosure requirements for both Tier I and Tier II tanks, which the MFA remains concerned on several issues:

a) Limitation on Building “Openings” – As per PAR 1469(e)(1), the MFA opposes the 3% surface area limitation on the number of openings in building enclosures, such as doors, windows, roll up doors and others. Over the course of the prior 6+ months of rule development and workshops, a specific surface area or other limitation on building openings has never been presented nor studied by the AQMD staff, and is not supported by any scientific or other evidence in the record. At a minimum, the MFA does not believe the 3% limit for building enclosure should be stricter than EPA Method 204 (Permanent Total Enclosure), which provides for 5% of total surface area.

b) Close Roof Openings within 15 feet – PAR 1469 (e)(4) requires the closure of all roof openings located within 15 feet above the edge of any Tier II Tank. The MFA fails to see the purpose of this requirement since Tier II tanks are required to have air pollution controls and meet allowable emission limits. As a consequence, the MFA requests that this provision be removed.

c) Prohibition on Rooftop Ventilation – PAR 1469 (e)(5) prohibits any device in any roof opening that pulls air from building enclosures for Tier I and Tier II tanks. The MFA is concerned that such a broad prohibition on building ventilation/exhaust will create uncomfortable, and likely unsafe, working conditions for employees within such enclosures. Moreover, as we have noted in prior working group meetings, the AQMD source test staff has indicated measured fugitive emissions through rooftop vents are far below any measurements at the tank surface by several orders of magnitude. Consequently, such a broad prohibition on rooftop ventilation for building enclosures is not warranted.

d) Breaks, cracks, gaps and deterioration – PAR 1469 (e)(6) and (7) specifies monthly inspections, and a 72 hour repair of “breaks, cracks, gaps and deterioration” of building enclosures. There is no clear definition of “breaks, cracks, gaps and deterioration” in the rule, and unlikely that a clear definition is possible. As a consequence, the MFA opposes these inspection and repair requirements, given the vagueness of “breaks, cracks, gaps and deterioration”, and a high risk of wide interpretation by AQMD enforcement officers for issuance of NOVs.

(8) Permanent Total Enclosures (PTEs) – PAR 1469 (t) specifies a trigger for PTEs for Tier II tanks based on (a) failure of a source test within a 48 month period; or (b) more than one incident of failure of color and/or slot velocity measurements within 48 month period. If triggered, PAR 1469 requires permit applications for a PTE within 180 days, and construction of the PTE within 12 months. In general, the MFA does not believe that PTEs are necessary to control potential Tier II tanks, as we anticipate the use of buildings, housekeeping and BMPs would be sufficient control measures. As we
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have noted, the use of PTEs can also be very costly and difficult to implement, especially for facilities that were not originally designed nor constructed to accommodate PTEs for existing tank operations. Due to a small margin of failure and issues noted above for the proposed testing, it is too easy for a PTE to be triggered under the proposed rule. Moreover, the proposed requirement to shut down a Tier II tank for failing the quantitative tests is sufficient to maintain compliance, and such PTE requirements are unnecessary. For all these reasons, the MFA requests that a PTE on-ramp requirement be removed from the proposed rule.

(9) Freeboard Height - PAR 1469 (d)(4) would require a minimum freeboard height based on the ACGIH Industrial Ventilation Manual for newly installed (or modified) Tier II tanks after the rule adoption date. As noted previously, the MFA opposes a freeboard height requirement for new or modified applicable tanks, as it has not been demonstrated that a minimum freeboard height results in any meaningful emission reductions. Moreover, to manage a different freeboard height for different tanks would create significant compliance issues for facility operators while providing minimal environmental benefit.

(10) Source Testing - PAR 1469 (k)(3) requires initial compliance source test for all facilities within 120 days from rule adoption, and then every 36 months thereafter. The MFA requests that subsequent source tests/screenings be conducted every 5 years after the initial test, not every 3 years.

(11) Notification of Incidents - PAR 1469 (p)(4)(A) requires a regulated facility to notify the AQMD within “one hour” of any failed smoke test, failed source test, exceedance of a permitted ampere-hour limit or malfunction of a non-resettable ampere-hour meter. Further, PAR 1469 (p)(4)(B) requires corrective action and a written report within seven (7) days of notification. The MFA believes these proposed notification requirements are redundant, as existing AQMD Rule 430 already covers the reporting of such incidents that result in rule or permit violations.

(12) Surface Tension Testing - PAR 1469 (o)(4)(D) proposes a “daily” surface tension test for 20 consecutive days, and then every 3rd day thereafter, provided there is no violation of surface tension requirements. As noted previously, the MFA opposes such rigorous testing frequency since the current requirement of weekly surface tension testing is sufficient to ensure compliance. Moreover, there is insufficient data which warrants a more frequent testing requirement.

(13) Housekeeping - The MFA opposes daily cleaning of applicable tanks and operational areas, as currently proposed in PAR 1469 (p)(4), as this places an undue burden on metal finishers. The current cleaning requirement is once per week, which we believe is sufficient housekeeping for applicable operations.

(14) Water Spraying - Regarding the proposed limitations on using water sprays as currently proposed in PAR 1469 (p)(2), the MFA does not believe such limitations are necessary. Given the water spray typically occurs over rinse tanks, and that neither the parts nor rinse tank will have significant amounts of chrome laden liquid.

(15) Compressed Air Cleaning or Drying - Regarding the proposed limitations on using compressed air cleaning or drying within 15 feet of a Tier I or Tier II tank as currently proposed in PAR 1469 (p)(7), the MFA does not believe such limitations are necessary. At this point in the process, any residual rinse water on finished parts will have negligible amounts of hexavalent chrome, if any.
Wayne Nastri, SCAQMD - Proposed Amended Rule 1469
January 31, 2018

The MFA and its representatives look forward to continued discussions on the amended rule with the AQMD. Thank you and we look forward to your response.

Sincerely,

Wesley Turnbow
President

cc: Susan Nakamura, SCAQMD (via email only)
Kurt Wiese, SCAQMD (via email only)
Barry Groveman, Musick Peeler
Ryan Hieste, Musick Peeler
Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 2/2/18

14-1 Response: PAR 1469 proposes to revisit the certification of the currently certified wetting agent chemical fume suppressants. Under the current proposal, beginning July 1, 2021, facilities may only add a chemical fume suppressant to a Tier III Tank that is certified based on a revised process conducted by SCAQMD and CARB. The date was chosen to allow sufficient time for facilities to implement alternatives, manufacturers to potentially reformulate chemical fume suppressants, and SCAQMD staff to certify the chemical fume suppressant. Please see also Response to Comment 9-4.

Until the new certification process is completed, it is premature to consider the process a “phase-out” of the currently certified non-PFOS chemical fume suppressants. That is one of several possible outcomes of the recertification process. Staff will work with CARB and the Office of Environmental Health Hazard Assessment (OEHHA), as well as other regulatory, agency, industry and public stakeholders as appropriate.

Staff has added a provision that the Executive Officer in consultation with CARB may certify an alternative to a wetting agent chemical fume suppressant that is as equally effective as a certified wetting agent chemical fume suppressant pursuant to paragraph (l)(2) of PAR 1469. This approach will allow facilities to use an alternative to a wetting agent chemical fume suppressant if emissions testing conducted by SCAQMD demonstrates that the alternative is as equally effective as a certified wetting agent chemical fume suppressant. Additionally, the owner or operator of a facility that opts to use an alternative to a wetting agent chemical fume suppressant will be required to comply with permit conditions that are specified during the certification process.

The alternative to a wetting agent chemical fume suppressant would be available to only the smallest plating facilities that are currently allowed to use chemical fume suppressants. This approach will provide a cost savings, given that SCAQMD staff will conduct the necessary emissions testing. Also, similar to the use of certified wetting agent chemical fume suppressants, no further emissions testing would be required, provided the operator complies with the conditions of the certification of the alternative.

14-2 Response: Tier I Tanks are tanks that have a hexavalent chromium concentration of 1,000 parts per million (ppm) or greater and are not considered Tier II or Tier III Tanks. Source testing of numerous process tanks has demonstrated hexavalent chromium concentrations of less than 1,000 ppm may result in emissions greater than 0.2 mg/hr, for tanks that are air sparged, rectified, or heated. Therefore, the potential exists for emissions of concern exist from tanks with hexavalent chromium concentrations greater than 1,000 ppm.
However, there are limited rule requirements imposed on Tier I Tanks, as summarized below:
1. Operate Tier I Tanks indoors (not required to be located in a building enclosure);
2. Clean surfaces around Tier I Tanks weekly; and
3. Minimize dragout around Tier I Tanks by installing drip trays.

14-3 Response: PAR 1469 includes an intermediate Tier II Tank classification that corresponds to tanks operated at temperatures between 140 and 170 degrees Fahrenheit. Tier II Tanks will be allowed to use in-tank controls, such as tank covers and mechanical fume suppressants rather than being required to vent the tank to APC systems. Regarding the comments on limited test data and linear correlation between temperature and hexavalent chromium concentration in previous versions of PAR 1469, please see Response to Comment 1-1.

14-4 Response: Cost estimates for PAR 1469 include costs for APC systems that range from $17/cfm to $23/cfm. Staff obtained capital cost estimates for installation of APC systems from several sources for this analysis. Staff has worked with the MFASC’s consultant from Environomics to validate the approach for establishing accurate cost estimates.

14-5 Response: Please see Response to Comment 2-12.

14-6 Response: Please see Responses to Comments 1-7 and 2-3. The use of the 1 ng/m³ threshold in the Orders for Abatement were supported during the Hearing Board deliberations. PAR 1469 does not include an ambient concentration limit or threshold similar to that in the Orders for Abatement.

14-7 Response: PAR requires Tier II and Tier III Tanks to be operated within a building enclosure. A building enclosure is not the same as a PTE as defined under EPA Method 204. In particular, a building enclosure is not required to be kept under negative pressure and maintain inward face velocity of at least 200 feet per minute (fpm) through all natural draft openings, as is required for a PTE.

Please also see Responses to Comments 1-2 and 6-11.

14-8 Response: The intent of the requirement to close openings within 15 feet of a Tier III Tank, whether natural draft openings or forced air openings, is to ensure that any fugitive emissions that escape the primary control at the tank surface are not emitted as fugitive emissions through a roof vent. Staff has observed Tier III Tanks located in close proximity to tanks that are operated at or near the boiling temperature of water, where there may be a transport mechanism to emit fugitive emissions from a building enclosure through an opening located directly above or very near the tank.
As an alternative to permanently closing openings located within 15 feet of a Tier II or Tier III Tank, facility owner/operators have the option of venting those openings through HEPA controls.

14-9 Response: The current proposal for PAR 1469 allows forced-air openings, provided they are at least 15 feet from the edge of a Tier III Tank. Please see Responses to Comments 6-13 and 6-14.

14-10 Response: Paragraphs (e)(5) and (e)(6) have been modified to add clarity. The proposal includes a definition for building enclosure under paragraph (c)(11). PAR 1469 removes references to breaks, cracks, gaps, and deterioration in the definition of Building Enclosure. Inspection of building enclosure focuses on a breach or large break in the enclosure and removes the references to breaks, cracks, gaps, and deterioration.

14-11 Response: Please see Response to Comment 1-11.

14-12 Response: The requirements for freeboard height have been removed from PAR 1469.

14-13 Response: Please see Response to Comment 2-11.

14-14 Response: Please see Response to Comment 2-13.

14-15 Response: The currently certified non-PFOS fume suppressants have been demonstrated to degrade at a faster rate than previously certified PFOS fume suppressants. The proposed requirement to test surface tension every third operating day was previously discussed with the stakeholders. Please also see Response to Comment 2-15.

14-16 Response: Please see Response to Comment 1-9.

14-17 Response: The proposal under paragraph (g)(2) allows for the installation of splash guards as a means of compliance with this requirement. The use of splash guards is a reasonable and cost effective solution to capturing overspray for situations where spraying of parts is necessary over a tank.

14-18 Response: Please see Response to Comment 2-18.
February 9, 2018

Mr. Neil Fujiwara
Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Comments on SCAQMD Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Mr. Fujiwara:

Valley-Todeco, Inc. (Valley-Todeco) is pleased to submit the following comments on the January 19, 2018 preliminary draft rule language of South Coast Air Quality Management District’s (SCAQMD) Proposed Amended Rule (PAR) 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations. Our California operations include a facility in Sylmar, California that will be directly impacted by PAR 1469. These comments are in addition to comments submitted on December 12, 2017.

Valley-Todeco is a wholly-owned subsidiary of Arconic Inc. (NYSE: ARNC). Arconic creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power. Through the ingenuity of our people and cutting-edge advanced manufacturing techniques, we deliver these products at a quality and efficiency that ensure customer success and shareholder value.

Valley-Todeco is generally supportive of the SCAQMD’s effort to develop an amended regulation to provide additional control of hexavalent chromium emissions from chromium electroplating and chromic acid anodizing operations to ensure that ambient air concentrations of hexavalent chromium remain protective of human health and the environment. We appreciate SCAQMD’s continued interest in developing sound regulations that protect public health and the environment while minimizing unnecessary regulatory burdens on industry and offer the following additional comment to the SCAQMD for its consideration into the final amended Rule 1469.
Include a definition for buffing, grinding and polishing activities

In its earlier comments, Valley-Todeco had expressed concern that the absence of a definition for “buffing, grinding and polishing activities” could result in an interpretation that activities unrelated to chromium electroplating and chromic acid anodizing operations under PAR 1469, e.g. grinding done for facility or equipment maintenance, should be subject to PAR 1469 requirements. Such activities are clearly outside of the stated purpose and applicability of PAR 1469 as stated in sections (a) and (b).

Based on information contained in the presentation slides of the 10th Working Group Meeting for PAR 1469, SCAQMD is considering specific conditions to address “wet” buffing, grinding and polishing activities. Valley-Todeco conducts wet grinding operations at its facility, including wet grinding of parts that have gone through chromium electroplating and chromic acid anodizing operations. The wet grinding is done under a flood of coolant that used to carry grindings away from the grinding wheel. Given the flooding coolant, there is no potential to generate particulate emissions with wet grinding. PAR 1469 section (f) already contains housekeeping provisions that include the cleanup of spilled materials and potentially contaminated surfaces. These provisions should ensure that drying and tracking of spilled coolant and grindings is prevented. Valley-Todeco is concerned that inclusion of wet grinding within the scope of buffing, grinding and polishing operations will result in additional costs for enclosures with no commensurate environmental benefit.

SCAQMD has previously considered wet grinding and maintenance grinding in its development and adoption of Rule 1430 – Control of Emissions from Metal Grinding Operations at Metal Forging Facilities and concluded that these were outside of the scope of that rule. The applicability section of Rule 1430 states “[T]his rule does not apply to metal grinding or metal cutting conducted under a continuous flood of metal removal fluid, or grinding activities conducted to maintain or repair equipment at the facility.”

Therefore, Valley-Todeco recommends that PAR 1469 be revised by adding a definition for buffing, grinding, and polishing operations to read as follows:

BUFFING, GRINDING, OR POLISHING means the buffing, grinding or polishing of parts that have gone through a process that includes one or more Tier I or Tier II Hexavalent Chromium-Containing Tanks. This does not include buffing, grinding or polishing conducted under a continuous flood of metal removal fluid or conducted to maintain or repair equipment at the facility.

Adding this definition is consistent with other SCAQMD rules and will provide the needed clarification to the intent of PAR 1469.

Conclusion

Valley-Todeco appreciates the opportunity to comment on PAR 1469. We are hopeful that our comments will help SCAQMD to further improve PAR 1469 and create a final amended rule that incorporates flexible and cost-effective compliance provisions for all affected facilities.

Should you require clarification or further discussion of our comments, please contact Dean Richardson (Valley-Todeco’s environmental manager) at dean.richardson@Arconic.com or (818) 281-5342.

Sincerely,

Kristin March  
Director of Operations  
Valley Todeco, Inc.  
Arconic Fastening Systems  
Kristin.March@arconic.com
Responses to Comment Letter from Valley Todeco (submitted 2/9/18)

15-1 Response: An exemption has been added under paragraph (r)(2) that addresses the requirements to conduct all buffing/grinding/polishing operations within a building enclosure, and to install a barrier between the buffing/grinding polishing area and tank area, when operated under a continuous flood of metal removal fluid. Please also see Response to Comment 10-1.
February 22, 2018

Eugene Kang  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, California 91765

Reference: PAR 1469 - HEXAVALENT CHROMIUM EMISSIONS FROM CHROMIUM ELECTROPLATING AND CHROMIC ACID ANODIZING OPERATIONS, COMMENTS ON PORTIONS OF JANUARY 19, 2018, DRAFT RULE

We are writing to reiterate & expand on our verbal comments at the Stationary Source meeting on February 16, 2018 on PAR 1469 and from site visits at MSI. These comments are specifically for MSI but some may have application to other plating facilities.

1. Our major difficulty with PAR 1469 is section (e) (5) “Requirements for Building Enclosures”. You & your staff have seen our facility but we are explaining our situation in more written detail so that others can understand our problem with the PAR (draft January 19, 2018).

MSI has one Hex Cr plating tank already permitted & controlled with a HEPA system. We have two small 24” x 30” chromate tanks that would qualify as a Tier II Cr tank due to T > 140 F. However, these 3 tanks are located in our Main Shop in building 1 which also contains about 180 tanks for multiple processing operations (Cd, Zn, Ni, Cu, Pb etc) all permitted under various SCAQMD rules (including R1426). Building 1 also houses our Precious Metal Department which includes about 100 tanks & is totally isolated from the Main Shop.

Building 1 is about 100’ W x 200’ L x 20’ H. It was designed & built over 50 years ago and includes ventilated skylights, convection exhaust ambient air vents, fan & motor operated exhaust ambient air vents & other roof & wall openings. MSI has added multiple other exhaust ventilation systems which exhaust through the roof for specific process tanks to remove heat, fumes, & excessive moisture from the work space.

Overall we estimate that building 1 exhausts about 200,000 cfm of air from the work space. MSI does not have the resources, nor does it make sense to add HEPA control systems to all this volume of air to capture fugitive Cr emissions from one plating tank plus two small chromate tanks.
We therefore suggest that (e) (5) be deleted or applicable only to roof exhausts within 15’ - 20’ of Tier II chrome tank.

2. Section (e) (8) is too narrow in its scope with reference to OSHA regulations. We suggest it include reference to conflicting requirements of the Universal Fire Code, Universal Building Code, Industrial Ventilation (A Manual of Recommended Practice for Design), or just good engineering practice for the design of ventilation systems for Industrial buildings utilized by the architects/mechanical engineering societies.

3. Two additional sections of PAR 1469 require some clarification/modification:

   a. Section (f) (8) “Abatement of Roof Surfaces” is totally overreaching & would be difficult to enforce fairly. We suggest (f) (8) be deleted or rewritten to simplify the requirements.

   b. Section (g) (7) “Prohibited Compressed Air” needs to be rewritten. If the intent of this provision is to prevent the compressed air cleaning from creating stray air currents around a Tier I or II tank, then change the word “areas” in the 3rd & 4th line to “tank”. If the intent is to prevent the liquid particles blown off the parts from becoming airborne or collecting on the floor, then require a shield behind the sprayed parts to stop the liquid particles.

If you need clarification of any our comments, please call me.

Sincerely,

Sam R Bell /Charles K Bell
Metal Surfaces, Inc.

Metal Surfaces, Inc. 6050 Shull Street, Bell Gardens, CA 90201 Ph: (562)927-1331 Fax 562-927-0692 www.metasurfaces.com
Responses to Comment Letter from Metal Surfaces Incorporated (submitted 2/22/18)

16-1 Response: SCAQMD staff has visited Metal Surfaces Inc. on multiple occasions throughout the rulemaking process. Although there is currently no source-specific toxics rule that prohibits the ventilation configuration at MSI, the SCAQMD staff has expressed concern that there are multiple non-Rule 1469 tanks that are currently ventilated to the ambient air. Many of these tanks will likely be covered under PAR 1426 which covers non-hexavalent chromium plating tanks such as cadmium, nickel, zinc, lead, and copper. Regarding the comment on roof vents, paragraph (e)(4) requires roof openings located within 15 feet from the edge of any Tier II or Tier III Tank to be closed or controlled. Please also see Response to Comment 6-13.

16-2 Response: Paragraph (e)(6) has been revised to allow consideration of other municipal codes or requirements directly related to worker safety. This will allow the necessary flexibility. Please also see Responses to Comment 5-1 and 18-10.

16-3 Response: Paragraph (f)(8) has been revised to apply to cutting of roof surfaces of building enclosures. Requirements include 1) that affected roof surface areas be cleaned by HEPA vacuum prior to cutting, 2) fugitive emissions be minimized by using a method(s) such as constructing a temporary enclosure and HEPA vacuuming, and 3) notifying the Executive Officer at least 48 hours prior to the commencement of any work being performed by calling 1-800-CUT-SMOG.

Regarding the comment on the intent of the requirement for compressed air cleaning, please see Responses to Comments 2-18 and 8-11.
From: Lisa Lappin [mailto:ljtutoring@gmail.com]
Sent: Thursday, February 22, 2018 11:17 PM
To: Wayne Nastri <wnastri@aeg.gov>; Susan Nakamura <SNakamura@aeg.gov>; Philip Fine <pfine@aeg.gov>; Dr. Joseph K. Lyou <jlyou@aeg.gov>; Rachel Uringa <ruringa@scng.com>; Tony Barboza <tony.barboza@latimes.com>; Jane Williams <dcapjane@aol.com>; Clerk of Board
Front PC@aeg.gov; Liza Tucker <liza@consumerwatchdog.org>; Laurie Guillen <laurieguillen1987@gmail.com>; Ho, Jessica <jo@bos.lacounty.gov>; Magdalena Guillen <bluegirl_76@hotmail.com>; Maya Golden-Krasner <mkgoldenkrasner@gmail.com>; Sonia Olmos <sonia4paramountschools@gmail.com>; Public Advisor <publicadvisor@aeg.gov>; Rebecca Plevin <rebecca.plevin@gmail.com>; Robina Suwol <calisafe@earthlink.net>
Subject: Public Comment on rule 1469

Dear Mr. Nastri and SCAQMD decision makers, the following letter was signed by 965 petitioners asking for you to put the needs of low-income communities ahead of the profits of 117 companies. Each petitioner represents many more who can not (children) or will not (adults without documentation or afraid of retaliation) sign. Why should the profit margin for 117 companies take precedence over the critical health needs of numerous communities throughout Southern CA impacted by hexavalent chromium that is endangering human lives?

The petition and its signatures sent to all of you this evening should be entered into public comment. For the record, it reads as follows:

We, the undersigned, call on Mr. Wayne Nastri, CEO of South Coast Air Quality Management District (SCAQMD), to direct staff at SCAQMD to revise wording on proposed rule 1469, chrome plating and anodizing, in order to require that the 117 companies using hexavalent chromium be required to conduct continuous outdoor ambient air monitoring and install state of the art pollution control systems including HEPA filtration and negative air with total enclosure. We can not wait for a company to fail source testing. We need these protections now!

Furthermore, we ask that SCAQMD seriously consider incentives for companies to use alternatives to the highly toxic chemical, hexavalent chromium, that is claiming the lives of innocent children whose immune systems are not strong enough to withstand the assault of these deadly chemicals. Europe has already banned hexavalent chromium for decorative uses and non essential purposes, requiring strict procedures that their defense industry must follow before getting approval for its use. We want California to join Europe in being a leader in the movement toward a less toxic environment for communities. There are solutions waiting to be discovered but your agency is not taking a lead in finding them and making them happen.

We believe that the health and safety of our children should be the priority for Southern California’s air regulatory agency. Your agency was created to protect our region from breathing toxic air. SCAQMD decision makers, we are counting on all of you to listen to our cry for help. Please do your job and put the well being of the public, especially our children, ahead of the needs and desires of a long unregulated metal industry pushing for a weakened rule. Our children are non-negotiable.

Please do your job and put the well being of the public, especially our children, ahead of the needs and desires of a long unregulated metal industry pushing for a weakened rule. Our children are non-negotiable. They are our future. Protect them Mr. Nastri.
Responses to Comment Letter from Lisa Lappin (submitted 2/22/18)

17-1  Response: Please see Response to Comment 1-7.

PAR 1469 contains additional requirements which will reduce hexavalent chromium emissions including the need to install air pollution control devices, where triggered by PAR 1469 requirements.

17-2  Response: Please see Response to Comment 9-2.

17-3  Response: Thank you for your comment. No response is necessary.
From: Bruce Greene [mailto.Bruce.Greene@hmfgroup.com]
Sent: Tuesday, February 27, 2018 10:08 AM
To: Neil Fujiwara <nfujiwara@aqmd.gov>
Cc: Eugene Kang <Ekang@aqmd.gov>; Susan Nakamura <SNakamura@aqmd.gov>
Subject: Hixon Comments on PAR 1469

Neil,

Sorry for the late email but wanted to get you our comments on the latest version of PAR 1469 prior to the meeting.

Please see attached.

If you have any questions or comments, please feel free to contact me.

Thanks

Bruce Greene
Environmental/Health & Safety

Hixon Metal Finishing
829 Production Place
Newport Beach, CA 92663
Direct: 949.722.3459
Office: 800.900.9798
www.HMFGroup.com

Supporting Flight Excellence

The data attached/enclosed may contain information (including technology and technical data) which is subject to the U.S. International Traffic in Arms Regulations (ITAR) or Export Administration Regulations (EAR). This information may not be exported, released, or disclosed to foreign persons either inside or outside the United States without first obtaining the proper U.S. export license or written authorization. The information and articles described herein may either be patented or proprietary, and the copying or reproduction thereof is prohibited without Hixon Metal Finishing’s prior written consent. In addition, the information contained in this communication may also be privileged and confidential, and is intended only for the use of the recipient(s) named above. You are hereby notified that any dissemination, distribution, or copying of this communication, or any of its contents, to any other party, is strictly prohibited. If you have received this communication in error, please return it to the sender immediately and delete the original message and any copy of it from your computer system.*
PAR 1469 Review and Comments

(c) (23) – Enclosure Opening – This indicated that stacks for add on air pollution control devices subject to this rule are not considered an enclosure opening. In our case, we have a number of ventilation hoods that draw ambient air from the processing areas in order to create the ventilation required to make the PTE. These vents are directed to a wet scrubber (no HEPA) and are within 15 feet of some Tier I and Tier II tanks. We feel that these should be exempted if used or located within a PTE and not be considered Enclosure Openings.

(c) (28) – Freeboard Height – As written, if you were using a foam blanket to control emissions, then your freeboard could be 4 – 6 inches of foam blanket along with the 8 inches that you are looking for on the freeboard. This could create a freeboard to solution level of 12 to 14 inches.

(c) (36) – Low Pressure Spray Nozzle – There should be a distinction from spay nozzles used in open space and those used inside a tank where the entire part and rack are lowered completely into the tank for rinsing.

(c) (59) – Tier II Tanks – the limit of 100 ppm at or above 160 degrees concerns me. In the past we have had some rinse tanks approach close to this limit. It would all depend upon when this tank would be sampled. There should be an exclusion of all rinse tanks since a majority of the time the tanks would be well below the 100 ppm (0 to 10 ppm from past testing).

(e) (1) – Building enclosures – if the tanks are located within a negative pressure PTE within a building enclosure or the building enclosure is a negative pressure PTE this should not be required. EPA Method 204 allows for 5% openings.

(e) (2) – Building enclosure openings – if the tanks are located within a negative pressure PTE within a building enclosure or the building enclosure is a negative pressure PTE this should not be required. EPA method 204 requires an inward flow into the building or PTE in excess of 200 fpm.

(e) (3) – Building enclosure openings facing sensitive receptors – if the tanks are located within a negative pressure PTE within a building enclosure or the building enclosure is a negative pressure PTE this should not be required. EPA method 204 requires an inward flow into the building or PTE in excess of 200 fpm.

(e) (4) – Roof Openings – We assume that these openings will not include the intakes for additional ventilation systems that are used to vent air through a wet (non-HEPA) scrubber in order to capture fugitive acid emissions and create the required ventilation for a PTE.

(e) (5) – Same as (e) (4) above

(e) (8) – This indicates prior to initial startup. What if the line is already in operation?

(f) (1) – Storage – This indicates "other substances that may contain hex chrome". Would this mean that all concrete material during any building/construction activities needs to be stored in an enclosed
storage area? Would this include stainless steel and other metals (to include parts from customers) that contain hex chrome? This should be rewritten to only pertain to materials that are used in the process of chromium plating or chromic acid anodizing.

(f) [5] – Containers – A number of times these container will be reused or recycled and per other regulations are required to be triple rinsed. This section should include rinsing/cleaning operations.

(g) [1] (A) – Automated Lines – Processing solution will be dripped onto the trays, so it would be impossible to clean in a way that no visible dust or residue on the drip trays could be seen at any time. A periodic cleaning schedule should be indicated as once per day as you have indicated in (g) [2] (A).

(h) [4] (A) (iv) and (v) – The parameters as forth in this section would still penalize a processor if there were multiple small tanks that were vented to a single scrubber. In our case the small tanks in building 3, using the requirements as indicated in section (h) [4] (A) (v) would give us an emission limit of 0.18596 mg/hr-ft² since we are above the 5,000 cfm and in a PTE. Would this not push an operator to instead install 2 smaller scrubbers that are rated less than 5,000 cfm and therefore be given an emission limit of 0.2 mg/hr-ft² per scrubber or 0.4 mg/hr-ft² total. This is gaming the system. This section also does not address how electrolytic and non-electrolytic tanks should be tested if vented to the same scrubber.

(h) [5] – Ventilation Design – If an alternative design is approved by the executive officer, the design should be allowed. Can we add at the end of the section “or as approved by the Executive Officer”

(i) [1] – Chemical Fume suppressants – Question. Can these suppressants be used on non-electrolytic tanks to comply with some provisions as indicated in Alternative Compliance Methods and those using Trivalent chromium tanks? If this is the case then this section only covers electrolytic tanks.
Responses to Comment Letter from Hixson Metal Finishing (submitted 2/27/18)

18-1  Response: The definition for Enclosure Opening has been revised and excludes stacks, ducts, and openings to accommodate stacks and ducts.

18-2  Response: The requirements for freeboard height have been removed from PAR 1469.

18-3  Response: PAR 1469 does not require low pressure spray nozzles to be utilized when the spray nozzle is used inside a tank and where the entire part and equipment are lowered completely into the tank for rinsing.

18-4  Response: A Tier II Tank is defined under paragraph (c)(58) as: “a tank that is operated or permitted to operate by the SCAQMD within the range of temperatures and corresponding hexavalent chromium concentrations specified in Appendix 10 and is not a Tier III Hexavalent Chromium Tank.” Under Appendix 10, the hexavalent chromium concentrations for a Tier II Tanks must remain in the concentration range for the specified temperature and be required to comply with paragraph (h)(4). Tanks that exceed hexavalent chromium concentration for a corresponding temperature are considered a Tier III Tank and must comply with subparagraph (h)(4)(A). The following tank concentrations define a Tier II Tank, depending on temperature:

<table>
<thead>
<tr>
<th>Temperature (° F)</th>
<th>Tier II Tank Concentration (ppm)</th>
<th>Tier III Tank Concentration (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 140 to &lt;145° F</td>
<td>≥ 5,160 to &lt;10,320</td>
<td>≥ 10,320</td>
</tr>
<tr>
<td>≥ 145 to &lt;150° F</td>
<td>≥ 2,720 to &lt;5,450</td>
<td>≥ 5,450</td>
</tr>
<tr>
<td>≥ 150 to &lt;155° F</td>
<td>≥ 1,450 to &lt;2,890</td>
<td>≥ 2,890</td>
</tr>
<tr>
<td>≥ 155 to &lt;160° F</td>
<td>≥ 763 to &lt;1,525</td>
<td>≥ 1,525</td>
</tr>
<tr>
<td>≥ 160 to &lt;165° F</td>
<td>≥ 390 to &lt;780</td>
<td>≥ 780</td>
</tr>
<tr>
<td>≥ 165 to &lt;170° F</td>
<td>≥ 180 to &lt;360</td>
<td>≥ 360</td>
</tr>
<tr>
<td>≥ 170° F</td>
<td>≥ 100 to &lt;200</td>
<td>≥ 200</td>
</tr>
</tbody>
</table>

18-5  Response: PAR 1469 requires 3.5% building enclosure openings as a fraction of the building envelope (i.e. area of walls, floor and horizontal projection of roof) for both a building enclosure and a PTE.

Please also see Response to Comment 6-11.

18-6  Response: PAR 1469 paragraph (e)(2) requires “. . .that any building enclosure openings that open to the exterior and are 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, not to exceed two hours per operating day, by closing. . .” or using a specified
method, including automated doors, overlapping plastic flaps, vestibule, airlock system, etc. This requirement is applicable only to building enclosures, not to permanent total enclosures.

18-7 Response: PAR 1469 paragraph (e)(3) requires that “Except for the movement of vehicles, equipment or people, close any building enclosure opening or use any of the methods listed in subparagraphs (e)(1)(A) through (e)(1)(E), that directly faces and opens towards the nearest: (A) Sensitive receptor, with the exception of a school, that is located within 100 feet, as measured from the property line of the sensitive receptor to the building enclosure opening; or (B) School that is located within 1,000 feet, as measured from the property line of the school or early education center to the building enclosure opening.” This requirement is applicable only to building enclosures, not to permanent total enclosures. The definition of school has been modified to incorporate early education centers and remove the reference to unimproved land at the school.

18-8 Response: Please see Response to Comment 6-13.

18-9 Response: Please see response to comment 18-8.

18-10 Response: PAR 1469 requires facilities existing or already in operation to submit the written notification that indicates a conflict between PAR 1469 requirements and OSHA, CAL-OSHA, or other municipal codes or agency requirements directly related to worker safety for review and approval no later than [30 day after Date of Rule Adoption].

18-11 Response: The requirement to store other substances that may contain hexavalent chromium in a closed container in an enclosed storage area when not in use was a previous requirement. PAR 1469 did not amend the requirement. This requirement only pertains to materials that are used in the process of chromium electroplating or chromic acid anodizing, not to concrete or stainless steel.

18-12 Response: PAR 1469 requires that housekeeping activities do not result in fugitive emissions. Containers that contain chromium-containing waste material shall be kept closed at all times except when being filled or emptied.

18-13 Response: The requirement to keep trays or other containment equipment such that the liquid is captured and returned to the tank(s), and cleaned such that there is no accumulation of visible dust or residue on the drip tray or other containment equipment. PAR 1469 adds an additional requirement of prohibiting the accumulation of residue on the drip tray or other containment equipment. Please also see Response to Comment 8-10.
18-14 Response: The emission limit under clause (h)(4)(A)(iii) is specific to air pollution control equipment that does not serve electrolytic tanks and the ventilation system has a maximum exhaust rate of 5,000 cfm or less. Clause (h)(4)(A)(iv) was added at the request of the industry, specifically to address situations where electrolytic tanks are vented to the same air pollution control as non-electrolytic tanks. As such, it was necessary to develop an emission factor that reflects emissions coming from both sources. The emission factor under clause (h)(4)(A)(iv) was developed with the input of the industry. The proposed language allows facility operators to design air pollution control for electrolytic as well as non-electrolytic tanks to provide flexibility in engineering a solution to unique issues at that facility, while meeting the rule limits.

18-15 Response: PAR 1469 has been modified to allow owners or operators to have an alternative design if approved by the Executive Officer.

18-16 Response: PAR 1469 allows facilities to utilize alternative methods to control hexavalent chromium emissions under subsection (i) with the approval of the Executive Officer.
March 01, 2018

SCAQMD
21865 E. Copley Drive
Diamond Bar, CA 91765

ATTN: Neil Fujinawa
Planning, Rule Development and Area Sources

Re: SCAQMD Rule 1469 Proposed Amendments

Thank you for the opportunity to provide comments relating to the proposed amendments to SCAQMD Rule 1469 (Hexavalent Chromium Emissions from Chromium Electroplating and Chronic Acid Anodizing Operations). Boeing requests that the following changes/clarifications be incorporated into the proposed amendments to the rule:

- Proposed Amended Rule 1469 contains a number of new requirements that appear to be in force immediately upon adoption of the proposed rule. These include the following:
  - (f)(4): Cleaning, used an approved cleaning method – Sites may have to purchase new equipment, such as HEPA vacuums, to comply with requirement.
  - (f)(6): Cleaning floors within 20 feet of buffing, grinding, or polishing workstations – Sites may have to purchase new equipment, such as HEPA vacuums, to comply with requirement.
  - (g)(2)(B): With respect to low pressure water nozzles, sites may have to purchase and install new equipment to meet requirement.
  - (g)(3): New labels for each tank will be required to reflect additional information that is specified.
  - (g)(7): Installation of barriers to separate air cleaning or drying operations from process tank lines.
  - (n): Complete revision of existing Operation & Maintenance Plans to reflect new rule requirements.
  - Appendix 4 (Table 4-1): Installation of temperature gauges and temperature data loggers will be required, as well as a new weekly inspection requirement for collection slots and push air manifolds.

A number of new requirements contained in the rule have been granted additional time to achieve compliance. Facilities must be given adequate time upon rule adoption to assure that the above-mentioned requirements, as well as other requirements contained within the proposed rule, are put into place in an orderly fashion that allows the facility to assure compliance with the final rule. The District should allow facilities 90 days from date of rule adoption to implement any new requirements contained in the proposed rule.
With respect to the proposed language in (f)(4), request that the proposed language be modified to reflect that cleaning only be performed each operating day, rather than the current “daily”.

Appendix 9 (Smoke Tests): The language in (3) Testing Conditions, does not reflect the updated language incorporated into (k)(6)(B)(7). Language in Appendix 9 (3) should be updated to reflect this language.

Boeing looks forward to continuing to work with District staff in the development of the proposed amendments to SCAQMD Rule 1469. If you should have any questions or require additional information, please do not hesitate to contact me.

William Pearce
Senior Environmental Engineer
Environmental Services
Environment, Health & Safety
Responses to Comment Letter from Boeing (submitted 3/1/18)

19-1 Response: The requirement to clean surfaces is an existing requirement under Rule 1469 (c)(4)(D) and would continue to be required under PAR 1469. As such, it is expected that facilities are currently using one or more approved methods to clean the areas described under PAR 1469 (f)(4), and no new equipment is expected to be required to clean surfaces under PAR 1469. Please also see Response to Comment 1-9.

19-2 Response: Acceptable cleaning methods to clean floors within 20 feet of a buffing, grinding, or polishing workstation include HEPA vacuuming, hand wiping with a damp cloth, and wet mopping, and alternative cleaning methods as approved by the Executive Officer. As such, PAR 1469 provides sufficient flexibility to comply using methods which do not require the purchase of new equipment and can be done immediately upon adoption of PAR 1469.

19-3 Response: A provision has been added to subparagraph (g)(2)(B) for low pressure nozzles to be used in lieu of splash guards and to allow compliance within 90 days after adoption of PAR 1469. This will provide facilities the time for purchase and installation of any new equipment necessary to meet this provision.

19-4 Response: A provision has been added to paragraph (g)(3) to allow compliance with the requirement to relabel tanks within 60 days after adoption of PAR 1469.

19-5 Response: The referenced requirement for barriers to separate air cleaning or drying operations from process tank lines is an existing requirement in Rule 1469 (c)(4)(F). The requirement has been clarified under PAR 1469 to include all tanks regulated under the proposal, including Tier II and Tier III Tanks.

19-6 Response: Paragraph (n)(9) requires a facility’s operation and maintenance plan to be revised within 90 days after rule adoption, and made available upon request to the Executive Officer to reflect the incorporation of the inspection and maintenance requirements for a device or monitoring equipment that is identified in Table 4-2 and Table 4-3 of Appendix 4.

19-7 Response: Paragraph (n)(4) has been revised to allow up to 90 days to install temperature gauges and temperature data loggers.

19-8 Response: For the requirements noted in responses to the previous comments, additional time has been provided for compliance, or an explanation has been given regarding the reasons why additional time is not necessary for compliance.

19-9 Response: The language under paragraph (f)(4) has been modified to require weekly cleaning.
19-10 Response: Appendix 9 has been amended to reflect the requested language.
March 1, 2018
Via Scan/Email and
First Class Mail

Eugene Kang
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: PAR 1469 HEXAVALENT CHROMIUM EMISSIONS FROM CHROMIUM ELECTROPLATING AND CHROMIC ACID ANODIZING OPERATIONS, ADDITIONAL COMMENTS ON PORTIONS OF JANUARY 19, 2018, AND FEBRUARY 25, 2018, DRAFT RULE

Dear Mr. Kang:

While understanding time is short, we are writing to suggest a "de minimis" provision be included in Subdivision (i) of PAR 1469 regarding small chromate tanks (Tier II or III) that are seldom utilized. For example, we have one tank that fits this description as we operate the tank less than ten (10) days per year. The rest of the year, the chromate solution is cold and covered or the solution is drummed and the tank is empty. We suspect other companies in the District may have similar situations with minimal use tanks. These tanks allow us to meet our customer’s specifications and needs. For our tank, the business volume/revenue cannot begin to justify the cost for hooding, ventilating, controlling with a HEPA system, conducting source tests, etc.

We would like to see an exemption from PAR 1469 provisions (h)(2), (h)(4), and Appendix 7 for these tanks (as an example, tanks only used up to thirty (30) production days per year) as long as all other provisions of PAR 1469, have been met. Less stringent than HEPA control technics (for instance, fume suppressants, polyballs, or other "in tank" techniques) should meet the SCAQMD objectives for this rule.
Eugene Kang  
South Coast Air Quality Management District  
March 1, 2018  
Page 2

We do appreciate the District’s consideration given to this suggestion, to the prior comments referred to in our February 22, 2018, letter, and as discussed at the 11th Working Group Meeting on February 27, 2018.

Thank you for your consideration. Please contact us with questions, suggestions, or instructions.

Sincerely,

Charles K. Bell  
Metal Surfaces, Inc.

cc: Neil Fugiwara  
Wesley Turnbow – MFASC  
Brian Ward – AAA Plating  
Samuel R. Bell – MSI  
George Petrasek – MSI  
(via scan/email)
Responses to Comment Letter from MSI Precision Engineered Plating (submitted 3/1/18)

20-1  Response:  Uncontrolled chromate tanks that are designated as Tier II or Tier III Tanks under PAR 1469 have the potential for emissions that may be significant. Therefore, the request to provide a low usage exemption based on operation of less than 30 production days per year was not included in PAR 1469.
From: Bruce Greene <Bruce.Greene@hmggroup.com>
Sent: Thursday, March 8, 2018 2:19 PM
To: Neil Fujiwara; Eugene Kang
Cc: Susan Nakamura
Subject: Hixson Metal Finishing - PAR 1469 Comments
Attachments: PAR 1469 Review and Comments_030818.docx

Neil,

Please see the attached for comments on the proposed draft rule language of Rule 1469 as provided on February 25, 2018.

If you have any comments or questions, please feel free to contact me.

Thanks

Bruce Greene
Environmental/Health & Safety

Hixson Metal Finishing
829 Production Place
Newport Beach, CA 92663
Direct: 949.722.3459
Office: 800.900.9798
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Supporting Flight Excellence

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PAR 1469 Comments

(d)(5) – I may be reading this wrong but as written this prohibits running any tier I – III process tank within a building enclosure. Shouldn’t this prohibit running a tanks unless it is within a building enclosure?

(e)(2) – Building Enclosure Openings - If the building enclosure is considered a PTE with negative air, this provision should not apply. As per EPA Method 204 a minimum of 200 fpm inward flow velocity must be maintained.

(e)(3) – Building Enclosure Openings - If the building enclosure is considered a PTE with negative air, this provision should not apply. As per EPA Method 204 a minimum of 200 fpm inward flow velocity must be maintained.

(f)(1) – Storage – As written with the words “or other substances that may contain hexavalent chromium” this would technically require all concrete, stainless steel, parts/assemblies that have been plated, liquid chromic waste, etc. to be stored in a closed container within a closed storage area. This should be more closely defined to include only make up chemicals or chemicals used in the plating process.

(g)(1)(A) – Automated Lines, Drip Trays – There is no way to completely eliminate the dripping of process solutions on the drip trays and therefore you cannot keep them clean at all time. A time interval should be provided in order to clean the trays as in once per day.

(h)(4)(A)(iii) and (iv) – The parameters as forth in this section would still penalize a processor if there were multiple small tanks that were vented to a single scrubber. In our case the small tanks in building 3, using the requirements as indicated in these sections would give us an emission limit of 0.18596 mg/hr since we are above the 5,000 CFM. Would this not push an operator to instead install 2 smaller scrubbers that are rated less than 5,000 CFM and therefore be given an emission limit of 0.2 mg/hr per scrubber or 0.4 mg/hr total. This is gaming the system. Also, as written, since 1 of my tanks is electrolytic, this would mean that the emissions from all 8 of my tanks (Tiers I, II and III since permitted) that are controlled by the scrubber would have to meet the 0.0015 mg/amp hr emission limit combined. This would allow a smaller shop that may only have 1 or 2 scrubbed tanks the same emissions limits but with far fewer operating tanks. This would also push operators not to scrub Tier I and Tier II tanks since the emission limit would be shared with all scrubbed tanks.

(h)(6) – Ventilation Design - Can the statement “or as approved by the executive officer” be added at the end

(k)(2)(c) – This refers to appendix 10. I think it should be appendix 9

(k)(6)(A)(i) – Can we add “or as approved by the executive officer” at the end

Appendix 2, line 16 – The 5% allowance should be noted if the compliance status report covers a PTE.
Responses to Comment Email from Hixson Metal Finishing (submitted 3/8/18)

21-1 Response: Paragraph (d)(5) requires “Operate any Tier II or Tier III Hexavalent Chromium Tank within a building enclosure that meets the requirements of subdivision (e)” . The intent is that all Tier I, Tier II, and Tier III Tanks must be operated within an enclosure; however, only Tier II and Tier III Tanks are subject to the building enclosure requirements as described in subdivision (e).

21-2 Response: The requirements to limit cross draft under paragraph (e)(2) are applicable only to building enclosures, not to PTEs.

21-3 Response: The requirements to close doors facing sensitive receptors and schools under paragraph (e)(3) are applicable only to building enclosures, not to PTEs.

21-4 Response: The language under paragraph (f)(1) is existing language in Rule 1469(c)(4)(A) and no amendments are proposed.

21-5 Response: The language under paragraph (g)(1) is existing language in Rule 1469(c)(4)(H)(i) and no amendments are proposed.

21-6 Response: The emission limit under clause (h)(4)(A)(iii) is specific to air pollution control equipment that does not serve electrolytic tanks. Clause (h)(4)(A)(iv) was added at the request of the industry stakeholders, specifically to address situations where electrolytic tanks are vented to the same air pollution control as non-electrolytic tanks. As such, it was necessary to develop an emission factor that reflects emissions coming from both sources. The emission factor under clause (h)(4)(A)(iv) was developed with the input of industry stakeholders. The proposed language allows facility operators to design air pollution control for electrolytic as well as non-electrolytic tanks to provide flexibility in engineering a solution to unique issues at that facility, while meeting the rule limits.

21-7 Response: Please see Response to Comment 8-16.

21-8 Response: The reference in subparagraph (k)(2)(C) has been revised in Appendix 9.

21-9 Response: Executive Officer discretion is already incorporated into this language and no further revision is required.

21-10 Response: Under PAR 1469, building enclosures as well as PTEs are required to meet a limit of 3.5% building openings as a ratio of the building envelope. Therefore, no modification to Appendix 2 is necessary.
Comment and Response to Email from Felipe Aguirre dated 3/15/18

Comment Read into the Record at 3/16/18 Stationary Source Committee Meeting

Comment: I wish to ensure AQMD places monitors at all schools that are 1500 feet from the source of hexavalent chromium such as the Heliotrope Elementary School here in Maywood which is located across the street from Cooks Induction Heating.

Response: Cook’s Induction Heating is not a Rule 1469 facility, but rather a heat treating facility that would be subject to a future rule for heat treating.