

# Working Group Meeting 1

### **Proposed Amended Rule (PAR) 1469**

Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Tuesday March 11, 2025 10:30 AM Zoom Meeting Link: https://scaqmd.zoom.us/j/98165845756 Dial In: (669) 900 6833 Meeting ID: 981 6584 5756

# Meeting Information

### • To speak in today's meeting:



### • For meeting materials:





### Agenda

- Introduction
- Rule Development Process
- Background on Hexavalent Chromium Emissions
- Regulatory Background
- CARB Chrome ATCM
- Next Steps

# Introduction

# South Coast AQMD

- Local air pollution control agency
  - 10,743 square miles
  - 17 million residents
  - Largest of the 35 local air agencies in CA and in the U.S.
  - Permit ~75,000 sources at ~25,000 facilities

**Cleaning The Air That We Breathe...** 

Riverside

San Bernardino

Orange

# Key South Coast AQMD Activities

SOUTH CC	DAST AIR QUALITY MANAGEMI	
	L 2016 QUALITY MANAG	EMENT PLAN
A SUL		
		MARCH 2017

#### Air Quality Management Plans

Blueprint to comply with clean air standards

	(Adopted October 9, 1998)(Amended May (Amended December)
RULE 1469.	REXAVALENT CHROMIUM EMISSIONS FROM CHROM ELECTROPLATING AND CHROMIC ACID ANODIZING OPERATIONS

#### charaniam descripting or chronic acid anadizary. Compiling half be in addition to cher applicable rules, such as Rule Soarce Review of Toxic Air Contaminants and Rule Requirements for New and Relexand Facilities Neur Schools. (2) Any person who relik, springin, offers for aux, or man sale in the Diotrict a chromium destrophating or chronic ac to.

Directional Control of the Section Section and a spin section of the Section Sect

#### Rules and Regulations

Reducing emissions from facilities or equipment

Section 8 - Operate Information 1 Facility New Society Project (1 Jugar on the Face) 1 Opera's Society & Private Information Society (Tarcelon)					1 Intel ADM Facility & America (h Agenci 2 Instancia Insee (hy 1020)	
				_		
Bectien II - Cooperant Location Address 4. Opperent Location In: C. Part Location Pre-sported gender at some instance product	C Notes ( cooker	1 Partial and Core	n't Kaling Address manning Address anno a spinner in			
Time Advant	Automa					
.CA	A3.					
1		-			*	
Crist faits TN		Court fame		- 16		
POLY 10 107		POLY	- 10	167		
		6.Nwi				
Bentler D - Application Type						
6. The Facility's: C Ant is NECLAN or Tale 1 7 Reason for Submitting Application (Substantion) (SU2)	C IN RECURN	O a Tile V	a regioner	18 i Fragier	•	
The local and the second secon			and have been all			
A feet spectra in the second spectrum	Cheventer			a a reven		
Independent (Particle Combusing)	C Master Ma			free	tage free and	
C Essenat Destin What Allers"		Autor where The I			- Automation	
C Contiasa/Ne	C Owned for			Fam. the	had any of the large in CC should all solution	
C Bastalan Cathater		dise without Prin for			desiration for the	
C Barried Sector Fand	C Ownerflag					
To Facility Parents		also albert Two Age				
	entry alt on Faring	Desta best I				
Tite V Application of Americanst Plane Is Tite V Ballet			Arrest Taxation Taxaine			
C BD.McFaily fand American E Editate Bat Das of Contraction (militage)	a Tailmated Fret Tate of				and the property of the	
1 Description of Equipment on Reason for Complexica. N	a Scarlula co		printers, him many all a being subsetliad with parts for well equipment		-	
<ol> <li>An year band thereas as per ADBU's has 100 AM (10 ampliques a law and the processing as 000000 a law 20 and to pell having aspect 000000 a law 20 and to pell having aspect</li> </ol>	<ol> <li>Fas a Rates of Relation SOL are Automatic Compty (RC) learn learner for this appropriate (This, provide RC) REA</li> </ol>					
Incise 5 - Facility Business Information	0.0 0.00					
The same of homes a being controlled a first spin	14. What is your basiness privacy SAUS (sold) Such Avapture Intented Council and a Council					
11. Are have other facilities to the SCA(MD) including assemble in the same assemble?	R. An first any schede of 12 willing					
Section F - Authorization Dignation				in epitator and	tue and united	
17. Signature of Responsible Official	18.16s of Respond	in Steal	The first to review	the participlication of the second se		
It Proc Name 21 Date						
D. Chemical Distantiant Reported free	[] Fare 48-1954	1714 1010	Mar Street		1/me Entrant	
	Plane and the	Distant			T-mercenne.	
Aller Aller Aller Aller Aller	1		and manhority			

#### Permits to Operate

Issuance of Permits to limit the amount of emissions per equipment/ facility

#### Compliance Inspections

Periodic inspections to enforce rules and permits

#### Complaint Investigations

800-CUT-SMOG

Responses to air quality concerns received from the public



#### Ambient Air Monitoring

Quantification of air quality including special studies

# Rule Development Process

## **Overview of Rule Development Process**

Working group and stakeholder meetings continue throughout process

Information Gathering and Analysis	Preliminary Draft Rule Language and Staff Report	Public Workshop	Draft Rule Language and Staff Report	Public Hearing	
We are currently here	Released 75 days before Public Hearing	Public comments on Preliminary Draft Rule	Released 30 days before Public Hearing	Public comments and Board action	

# PAR 1469 Working Group

- Comprised of stakeholders including industry, environmental groups, community members, and public agencies
- Held throughout the rule development process and open to the public

Objectives

- Build consensus and work through issues
- Opportunity for early input by stakeholders
- Develop a rule that affected facilities can implement
- Assist staff in understanding
  - Key issues and concerns
  - Industry terms, industry practices, etc.
  - Applicable technologies



# Background on Hexavalent Chromium Emissions

- all

0

# Risks from Hexavalent Chromium Emissions

- Hexavalent chromium is a Toxic Air Contaminant (TAC) that is a potent carcinogen
- Long-term inhalation of hexavalent chromium over a lifetime can:
  - Increase the risk of developing lung and nasal cancers
  - Cause or worsen certain health conditions such as respiratory tract irritation, wheezing, shortness of breath etc.
- Health risks determined by Office of Environmental Health Hazard Assessment (OEHHA)

#### Health Effects of Hexavalent Chromium

A fact sheet by CalEPA's Office of Environmental Health Hazard Assessment November 9, 2016



#### What is hexavalent chromium?

Hexavalent chromium, also known as chromium 6 (Cr6), is the toxic form of the metal chromium. While some less toxic forms of chromium occur naturally in the environment (soil, rocks, dust, plants, and animals), Cr6 is mainly produced by industrial processes. Cr6 is used in:

- Electroplating
- Stainless steel production and welding
- · Pigments and dyes
- Surface coatings
- Leather tanning

#### How are people exposed to Cr6?

Humans are exposed to Cr6 by:

- Inhalation of aerosols or particles
- Ingestion (eating and drinking)
- Skin contact

Cr6 may occur as aerosols or particulate matter in air. These can be inhaled directly or ingested after they land on soil or water. Contact with soil containing Cr6 may transfer to the hands and then to the mouth. Young children put their hands in their mouths more frequently than adults. For this reason, young children are more likely to consume contaminated soil. Children are also more active outdoors and they may have more contact with contaminated soil.

One form of Cr6, chromic acid, is created as a mist during electroplating. Workers and bystanders may inhale the mist. Chromic acid can also be absorbed through the skin. In addition, chromic acid deposited on the skin can be ingested through hand-to-mouth activities, such as eating.

### Chromium Electroplating and Chromic Acid Anodizing Operations

- Metal finishing is important for many products used daily
  - Home, kitchen, and bath fixtures
  - Machinery and industrial equipment
  - Aerospace (commercial and military)
- Chromium electroplating and chromic acid anodizing ("chrome plating") is a type of metal finishing
  - Decorative primarily aesthetic reasons
  - Functional anti-corrosion, durability
- Hexavalent chromium found in most chemical solutions used in chrome plating process



### Sources of Hexavalent Chromium Emissions at Chrome Plating Facilities

# Sources of hexavalent chromium emissions categorized as:

- Point Sources: Chrome Plating Tanks, and other tanks containing or accumulating hexavalent chromium (e.g., sodium dichromate seal or chrome strip)
  - Rectification, air sparging and heat generate emissions from these tanks
- Fugitive Sources: Dried tank solutions, uncontrolled emissions from tanks, and other materials that came in contact with hexavalent chromium





### Three Key Control Measures to Address Hexavalent Chromium Emissions

### **Point Source Controls**

Measures to reduce hexavalent chromium emissions from point sources



### **Housekeeping**

Collect and remove materials outside tank that can become fugitive emissions

#### Enclosures Minimal openings for ingress and egress to contain fugitive

contain fugitive emissions

# Regulatory Background

- a

0

# Air Quality Regulations for Chrome Plating



### **NESHAP**

(National Emission Standards for Hazardous Air Pollutants)

<u>Hard and Decorative</u> <u>Chromium Electroplating and</u> <u>Chromium Anodizing Tanks</u>

• Last amended in 2012

### **Chrome ATCM**

(Air Toxic Control Measure)

<u>California Air Resource</u> <u>Board (CARB) ATCM for</u> <u>Chromium Plating and</u> <u>Chromic Acid Anodizing</u> <u>Facilities</u>

• Last amended in 2023



### **Rule 1469**

#### (Part of Regulation XIV)

<u>Hexavalent Chromium</u> <u>Emissions from Chromium</u> <u>Electroplating and Chromic</u> <u>Acid Anodizing Operations</u>

- Last amended in 2021
- Regulatory Advisory added March 2024

# Rule 1469 Regulatory History



### Rule 1469 Universe



# CARB Chrome ATCM

# Chrome ATCM Amended in December 2023

### 2023 – Chrome ATCM

- September 2020 CARB began public rulemaking process to amend Chrome ATCM
- December 2023 Amended Chrome ATCM\* approved by Office of Administrative Law and filed with Secretary of State
- Key requirements included
  - Phase-out dates for hexavalent chromium based on tank operations
  - Incorporation of most requirements in Rule 1469 added in 2018 amendment
  - Set emission limit of 0.00075 mg/amp-hr post-controls for Functional Chrome Plating tanks achieved through add-on controls

\* https://ww2.arb.ca.gov/rulemaking/2023/chromeatcm2023

# 2023 Chrome ATCM – Key Requirements

### January 1, 2024

- New hexavalent chromium plating and anodizing facilities prohibited
- Modified Facilities underwent physical or operational changes
  - No increase in permitted amp-hrs
  - Vent all Chrome Plating Tanks at facility to an APCD
  - Meet 0.00075 mg/amphr emission limit
  - Conduct risk assessment

### January 1, 2026

- All Functional Chrome Plating tanks (i.e., Hard Chrome Plating and Chromic Acid Anodizing) meet 0.00075 mg/amp-hr emission limit through source testing
  - Source test conducted within last two years
  - Two-year periodic tests
- Building Enclosures
- Best management practices
- Housekeeping

### January 1, 2027\*

- Phase-out hexavalent Decorative Chrome Plating operations, unless tanks operated within Building Enclosures
  - \* Facility operating decorative chrome plating tanks within the required building enclosures allowed to operate until January 1, 2030

### January 1, 2039

- Phase-out Functional Chrome Plating operations pending two Technology Reviews by CARB
  - January 1, 2032
  - January 1, 2036

### Key Differences Between Rule 1469 and Chrome ATCM Beginning January 1, 2026\* Updated Slide

### <u>Rule 1469</u>

#### Functional and Decorative Chrome Plating

### Emission limits for Chrome Plating Tanks:

- 0.01 mg/amp-hr with chemical fume suppressants
- 0.0015 mg/amp-hr or 0.0011 mg/amp-hr with controls

### Periodic source testing

- Every five years if > 1,000,000 amp-hr/year
- Every seven years if  $\leq 1,000,000$  amp-hr/year
- Periodic slot velocity measurements of add on controls

\*Other differences will be discussed and presented at future meetings

### Chrome ATCM

**Functional Chrome Plating** 

Effective January 1, 2026 - Emission limits for Chrome Plating Tanks:

• 0.00075 mg/amp-hr for Chrome Plating Tanks

Effective January 1, 2026 - Periodic source testing every two years

By January 1, 2039 – Functional Chrome Plating Facilities can no longer use hexavalent chromium

#### **Decorative Chrome Plating**

By January 1, 2027 – Decorative Chrome Plating facilities without implementing building enclosure requirements can no longer use hexavalent chromium

By January 1, 2030 – All Decorative Chrome Plating facilities can no longer use hexavalent chromium

Not required to conduct periodic source test or meet emission limits for non-Chrome Plating Tanks

# Need to Amend Rule 1469

- Rule 1469 must be at least as stringent as Chrome ATCM
  - Before January 1, 2026 Rule 1469 is more stringent
  - Starting January 1, 2026 Chrome ATCM is more stringent
- If Rule 1469 is not amended, South Coast AQMD would enforce the Chrome ATCM
  - There would be backsliding of some Rule 1469 requirements
- Rule 1469 rulemaking needed to:
  - Align with Chrome ATCM
  - Streamline regulatory requirements
  - Ensure established practices are retained



Rule 1469

PAR

1469

Chrome

**ATCM** 

### Actions to Comply with Upcoming Chrome ATCM Requirements for Functional Chrome Plating Facilities

By January 1, 2026, Functional Chrome Plating facilities should take steps to<sup>1</sup>:

- Demonstrate Chrome Plating Tanks emissions do not exceed 0.00075 mg/amp-hr post-control equipment
- Conduct a source test for Chrome Plating Tanks and emissive non-Chrome Plating Tanks<sup>2</sup>, if source test is more than two years old

Scenario #1 – Chrome Plating Tanks not equipped with add-on controls or add-on controls that cannot meet 0.00075 mg/amp-hr

#### • Submit permit applications and required information to install or modify add-on controls

#### Key Steps

Key Steps

- South Coast AQMD would approve application upon review and issue a corresponding permit
- Add-on controls would be modified or installed
- Conduct source test to verify performance (see Scenario #2)

Scenario #2 - Tanks with add-on controls requiring an initial test, re-test or with source tests conducted prior to 2024 to demonstrate meeting Chrome ATCM emission limits

- Submit source test protocol for review
- Schedule and conduct source tests
- Submit source test reports

<sup>1</sup>PAR 1469 is being amended to be at least stringent as the Chrome ATCM; public process underway to solicit public input <sup>2</sup>Tank heated, air sparged, or electrolytic containing at or above a specific hexavalent chromium concentration

# Next Steps

1-1 IS

10. A. 10. 200. - 1 M.

0

251 440

# Next Steps

- Identify requirements that need to be included in Rule 1469
- Draft initial proposed rule language to present to Working Group
- Receive comments and feedback from Working Group to refine rule language



## Stay Informed

### Sign up to receive newsletter updates via aqmd.gov/sign-up

#### Sign Up

The South Coast AQMD offers periodic newsletter updates via Email on a variety of topics . Click on the Manage Subscriptions link at the bottom of the form to update your subscriptions (unsubscribe from lists, subscribe to additional lists, or change your Email address).

#### If you wish to receive daily pollution forecasts or alerts for specific pollution levels in your area, sign up for Air Alerts.

For printed copies of South Coast AQMD publications that mailed to you, please visit Subscription Services (charges may apply).

Enter the following information:

Email Address:

Re-Enter Email Address:

First Name (optional):

Last Name (optional):

Subscribe by checking the box adjacent to the E-Mail List(s) you are interested in and then CLICK on the Subscribe button below:

### Subscribe to: Rule 1469





# PAR 1469 Staff Contacts

### **Please contact staff with any questions or comments**

Min Sue Air Quality Specialist (909) 396-3241 msue@aqmd.gov

### Mojtaba Moghani, Ph.D.

Program Supervisor (WOC) (909) 396-2527 <u>mmoghani@aqmd.gov</u>

### Neil Fujiwara

Program Supervisor (909) 396-3512 <u>nfujiwara@aqmd.gov</u>

### Kalam Cheung, Ph.D.

Planning and Rules Manager (909) 396-3281 <u>kcheung@aqmd.gov</u>

### **Michael Krause**

Assistant Deputy Executive Officer (909) 396-2706 <u>mkrause@aqmd.gov</u>