

Update on Proposed Amended Rule 1469

**Hexavalent Chromium Emissions from Chromium
Electroplating and Chromic Acid Anodizing**

Stationary Source Committee

March 16, 2018

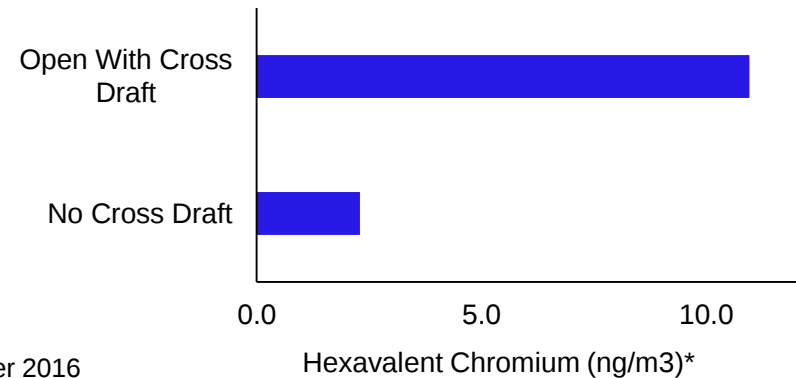


Background

- Rule 1469 regulates chromium electroplating and chromic acid anodizing tanks
- Substantial public process
 - 11 Working Group Meetings (2 in the community)
 - 3 Public Workshops
 - 3rd briefing to the Stationary Source Committee
- Community and environmental representative comments at the Set Hearing:
 - PAR 1469 should include ambient air monitoring
 - Concerns regarding permanent total enclosures
 - Lack of provision to phase-out hexavalent chromium for decorative plating
 - Schedule for addressing non-PFOS chemical fume suppressants
 - Additional protections needed for schools

We Now Know...

- Ambient monitoring near 5 facilities has shown:
 - Heated sodium dichromate seal tanks are a significant source of hexavalent chromium emissions
 - Closing building openings that eliminate a cross draft will significantly reduce ambient levels



* Ambient monitoring at Site #15 in Paramount near Anaplex November and December 2016



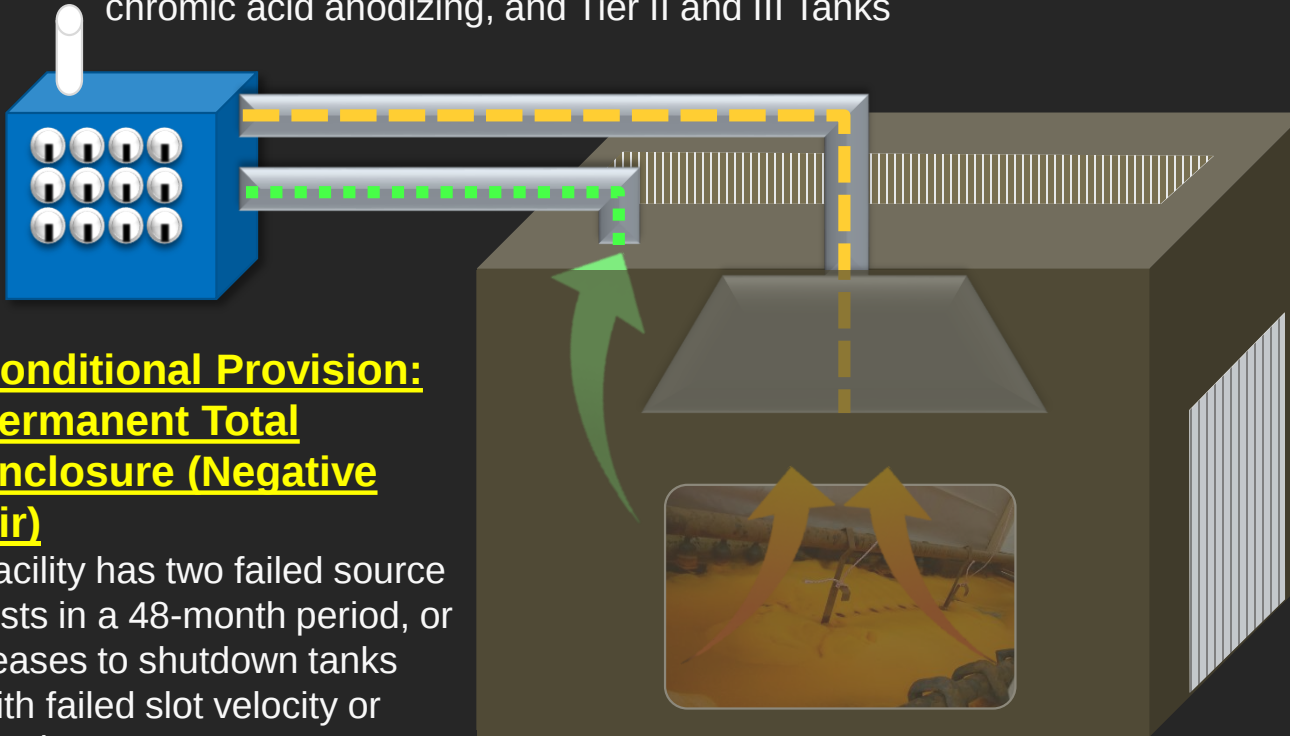
Need for PAR 1469

- Pollution controls are needed for:
 - 40 heated sodium dichromate tanks that are currently 300% above proposed emission limit
 - 76 additional tanks will need pollution controls that are well above the proposed threshold (0.2 mg/hour)
- Building enclosure requirements are needed to ensure fugitive emissions are not impacting communities
- Source testing and parameter monitoring to ensure continued compliance

PAR 1469 Approach to Control Emissions

Point Source Controls

Pollution controls for hexavalent chromium plating, chromic acid anodizing, and Tier II and III Tanks



Conditional Provision: Permanent Total Enclosure (Negative Air)

Facility has two failed source tests in a 48-month period, or ceases to shutdown tanks with failed slot velocity or smoke tests

Building Enclosure

Further reduce fugitive emissions by:

- Building enclosure envelope of 3%
- Close roof openings near tanks
- Close openings near sensitive receptors

Housekeeping and Best Management Practices

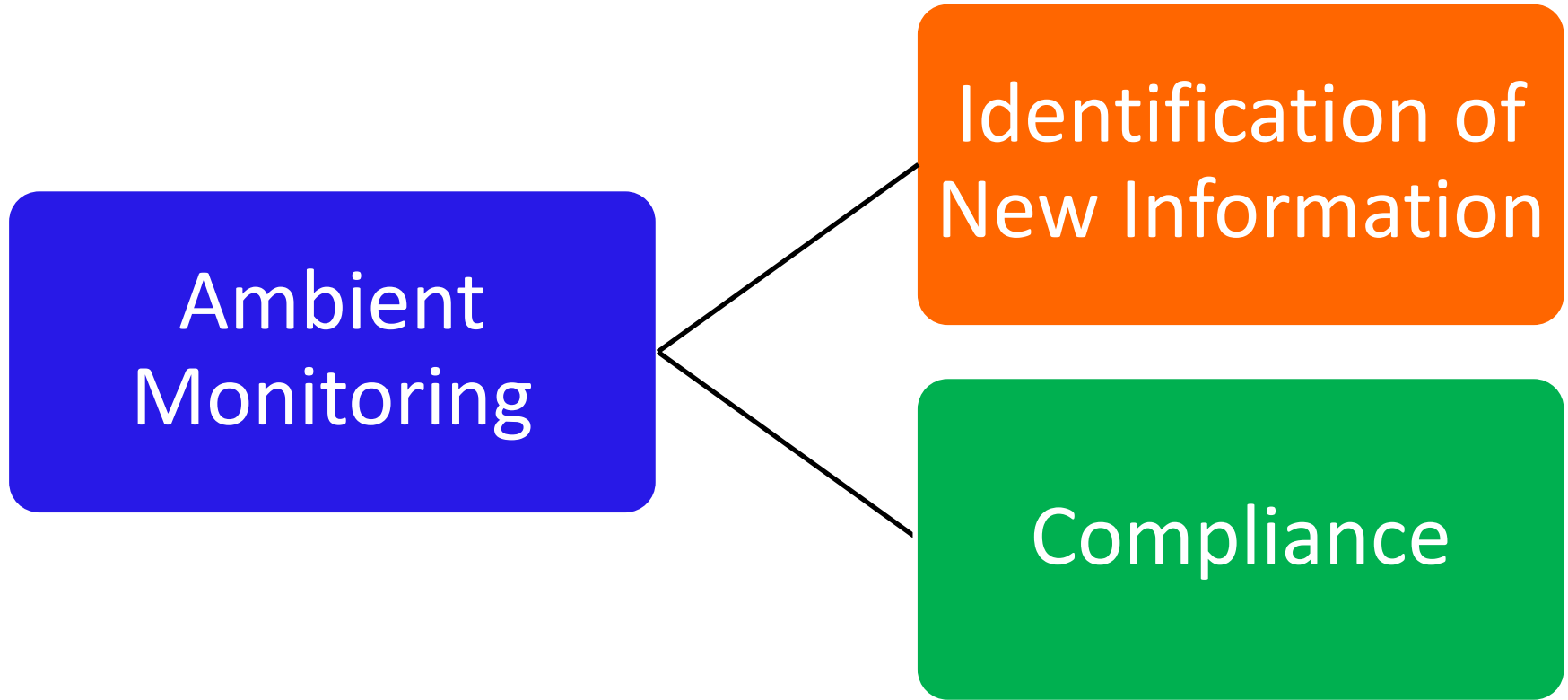
Address fugitive emissions from dragout and waste handling

Key Issue #1: Ambient Air Monitoring

- Community and environmental representatives commented that:
 - PAR 1469 should require facilities to conduct ambient monitoring of hexavalent chromium
 - Ambient monitoring would ensure that facilities are complying with Rule 1469



Ambient Monitoring



Ambient Monitoring

Identification of New Information



- Ambient monitoring and source testing at 5 facilities identified issues where additional controls are needed
- PAR 1469 addresses those issues

Compliance



- 2 to 2 ½ years to complete installation of pollution controls*
- Monitoring after installation of controls provides more complete compliance picture

* Staggered implementation schedule, assumes 6 months to approve permit

Staff Recommendation for Ambient Monitoring

- Staff proposes to address air monitoring through a separate rule; Proposed Rule 1480 – Toxics Monitoring (Fall 2018)
- Incorporating ambient monitoring in PAR 1469 would delay to September 2018, possibly longer
- Many issues need to be resolved for ambient monitoring, better addressed in Proposed Rule 1480
 - Applicability
 - Ambient threshold
 - Background concentrations
 - Resources – laboratory and third party consultants
 - Cost



Key Issue #2:

Permanent Total Enclosures

Environmental and community representatives have commented:

- PAR 1469 should not allow that a Permanent Total Enclosure have openings up to 5% of the building envelope

Staff recommendation:

- Openings are needed for air intake
- Modify PAR 1469 to limit the openings for a Permanent Total Enclosure to 3% of the building envelope



Key Issue #3: Phasing Out Hexavalent Chromium from Decorative Plating

- Environmental and community representatives have commented that:
 - PAR 1469 should ban the use of hexavalent chromium for decorative plating
 - European Union (EU) has banned the use of hexavalent chromium
 - Alternatives are available for processes such as decorative hexavalent chromium plating – not tied to a military specification
 - Funding sources available to help these facilities to transition to alternatives



Use of Trivalent Chromium for Decorative Plating

- Currently limited uses of trivalent plating
- Decorative plating is a broad category – automotive, plumbing, fixtures, sporting equipment, etc.
- EU allows industry to apply for an exemption from ban
- More equitable to address ban at state level
- PAR 1469 includes non-hexavalent chromium incentives
- Staff recommendation:
 - Include Resolution language to conduct a pilot study and technology assessment for alternatives to hexavalent chromium for all applications
 - Support statewide efforts to phase-out hexavalent chromium, where appropriate



Key Issue #4: Schedule for Chemical Fume Suppressants

- Environmental and community groups have commented that:
 - PAR 1469 should require and accelerate phase-out of current non-PFOS certified chemical fume suppressants
 - Concerned about toxicity of chemical fume suppressants
 - Allowing use in PAR 1469 can lead to multimedia cross contamination
 - Funding is available for add-on pollution controls or conversion out of hexavalent chromium

Challenges with Banning Chemical Fume Suppressants Usage



Affects Lowest Throughput Facilities

In 2003 Rule 1469 allowed use of certified chemical fume suppressants as a low-cost alternative to reduce the financial burden for smaller businesses



Chemical Fume Suppressants are Effective at Reducing Hexavalent Chromium Emissions

Emissions testing has shown chemical fume suppressants can achieve a 99% reduction in hexavalent chromium emissions



Ban Would Have Significant Cost Impacts on Smaller Businesses

Add-on air pollution controls ~\$160,000 (average)
Discontinue plating/anodizing operations or use other chemicals

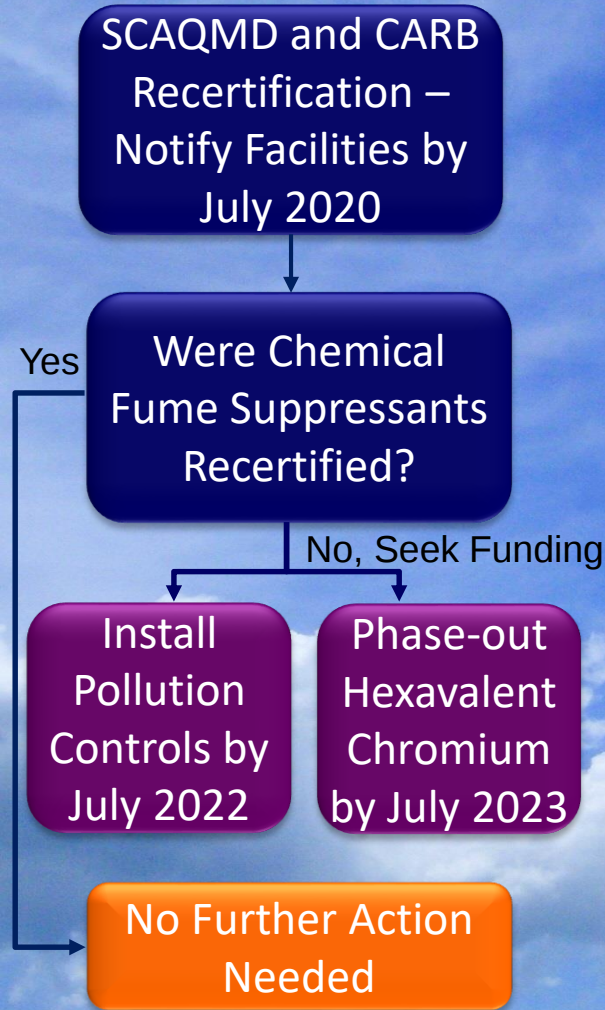


No Data on Exposure Impacts

Emissions testing is needed to understand exposure impacts of fume suppressant

PAR 1469 Requirements to Address Chemical Fume Suppressants

- PAR 1469 commits staff to further review the toxicity of chemical fume suppressants and conduct emissions testing to understand exposure impacts
- If chemical fume suppressants are not recertified, facilities required to install pollution controls or phase-out hexavalent chromium
- Staff recommendation:
 - Include Resolution language to seek funding for smaller facilities if chemical fume suppressants are not recertified to help offset costs to install pollution controls or transition out of hexavalent chromium





Key Issue #5: Additional Protections Needed for Schools

- Environmental and community groups have commented that PAR 1469 should include additional provisions for facilities near schools
- Staff recommendation:
 - Proposing two revisions to PAR 1469
 - Expand the distance from 100 to 1,000 feet where an operator must close an opening that is facing a sensitive receptor, including schools
 - Reduce the trigger for installation of a Permanent Total Enclosure from two to one instance within 48 months if a facility fails to shutdown a tank after failing parameter monitoring if the facility is within 1,000 feet of a school

Next Steps

- Staff recommends to set the Public Hearing in April 2018
- Seeking input from the Stationary Source Committee

