8th Working Group Meeting for

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

South Coast AQMD

November 29, 2017

Update on PAR 1469

- 2nd Revision to Preliminary Draft Staff Report and Draft Rule released November 17, 2017
- Public Hearing for PAR 1469 moved from January to February 2, 2018
  - Provides additional time to complete source testing for Tier II Hexavalent Chromium-Containing Tanks and for stakeholders to provide comments
  - Extended public comment period to December 15, 2017
- Summary of PAR 1469 provided to Stationary Source Committee on November 17, 2017
  - Board Members asked staff to work with stakeholders to seek alternatives to hexavalent chromium use and requirements for fugitive emissions
  - A second briefing to Stationary Source Committee in January 2018
- Public Workshop scheduled for December 7, 2017

Key Issues from Most Recent Comment Letter from the Metal Finishing Association

- The Metal Finishers Associations of California submitted a draft comment letter on November 13, 2017 on PAR 1469
  - Chrome Tank Test Data – “Concerned that major rulemaking and policy decisions are being based on inconsistent data and little scientific support”
  - Fugitive Emissions – “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”
  - Ambient Monitoring Near Metal Finishers – “Concerned about the use of ambient air monitoring (and fence line limits) for rulemaking and enforcement purposes”
  - Prohibition of Air Sparging – “…since Tier II tanks are already subject to air pollution controls, source testing and emissions limits, there is no justification to prohibit air sparging in such tanks”

Key Issues from Most Recent Comment Letter from the Metal Finishing Association (continued)

- Additional comments :
  - Freeboard height requirements – "…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"
  - Permanent Total Enclosures (PTE) – "…does not believe PTEs are necessary to control potential Tier II tanks…buildings, housekeeping and BMPs would be sufficient"
  - Building Enclosures – comments relating to:
    - Limitations on building openings
    - Closing openings near sensitive receptors
    - Closing roof openings within 30 feet of tanks
    - Prohibition on rooftop ventilation
    - Monthly building inspections

Update on Additional Source Testing

- Current PAR 1469 is recommending a temperature of 140º F for Tier II Tanks Hexavalent Chromium-Containing Tanks
- At Working Group #7, staff presented information that showed:
  - Hexavalent chromium emissions do not occur below 140º F
  - Hexavalent chromium emissions do occur above 170º F
- Industry stakeholders requested that SCAQMD conduct additional source testing to determine if a temperature higher than 140º F can be used to define Tier II Tanks
- SCAQMD staff conducted additional source tests at 150°F and 160°F on November 2nd and 14th using an alodine tank
- Results are pending analysis

Key Revisions to PAR 1469 Rule Language Since 10/20/17

Definitions (c)

- BUILDING ENCLOSURE
  - Revised to "… be free of breaks~~, cracks, or gaps,~~ or deterioration that could cause or result in fugitive emissions
- ENCLOSURE OPENING
  - Revised to recognize that stacks for add-on air pollution control devices subject to this rule or stacks that exclusively vent products of combustion from heaters or burners are not considered enclosure openings

Definitions (c) (continued)

- FUGITIVE EMISSIONS:
  - Revised definition:
    - *Emissions generated from the operations at the owner or operator's facility, including solid particulate, gas or mist, potentially containing hexavalent chromium that becomes airborne by natural or man-made activities*
  - Revised definition addresses comments regarding:
    - Hexavalent chromium emissions originating from sources outside of the facility such as construction or demolition projects or another hexavalent chromium emitting facility

Requirements for Air Sparging (d)(3)

- Previous proposed rule language prohibited the use of air sparging unless required for a military specification
- Input from stakeholders:
  - Other product and customer specifications may require air sparging
  - Potential emissions from air sparged Tier II tanks will be controlled with an add-on air pollution control device as required by PAR 1469 (h)(4)
- Retained existing rule language:
  - *No hexavalent chromium electroplating or chromic acid anodizing tank shall be air sparged when electroplating is not occurring, or while chromic acid is being added*
- Any Tier II Hexavalent Chromium-Containing Tank will need to demonstrate compliance with emission limit during all operating conditions including air sparging

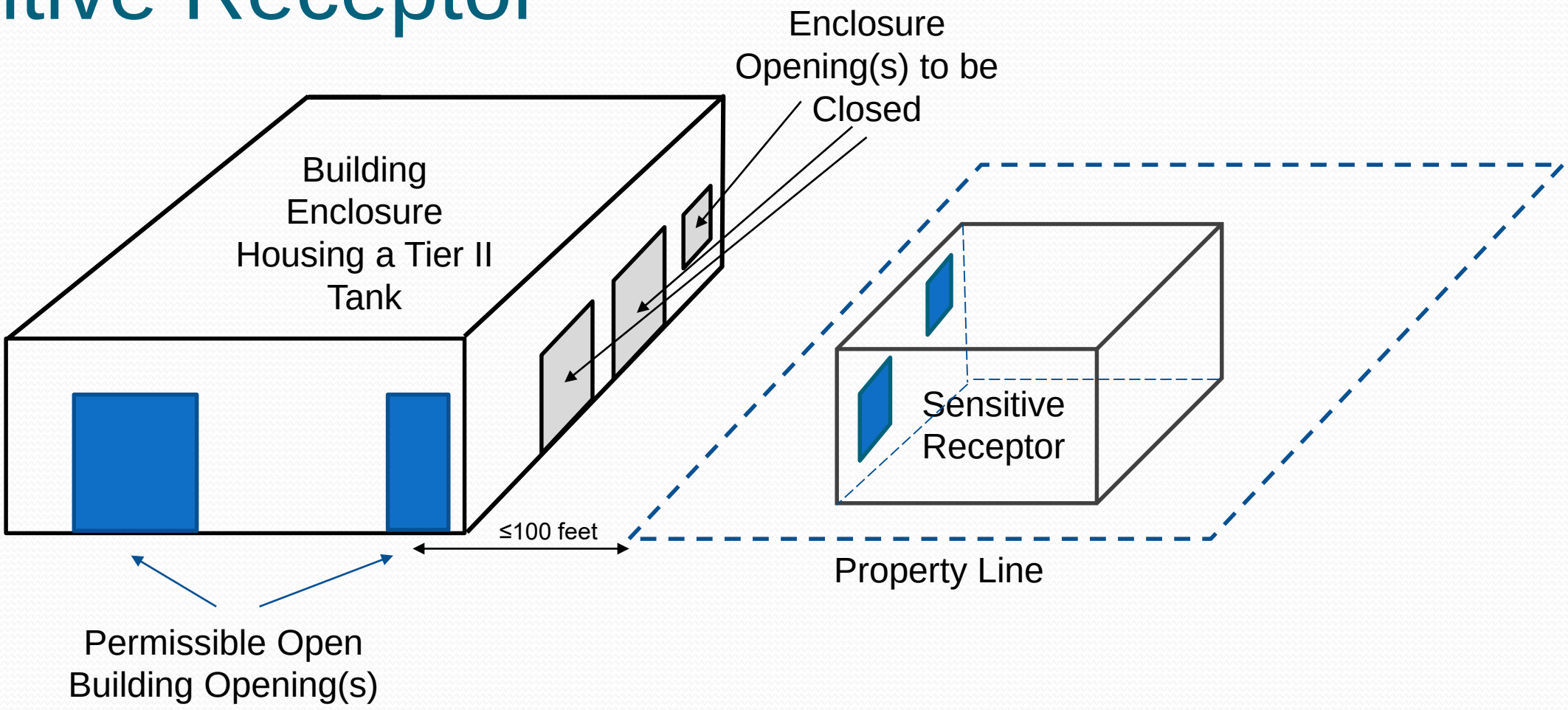
Requirements for Freeboard Height (d)(4)

- Previous version of PAR 1469 included a provision that required an 8” free board height for Tier I or Tier II tanks that undergo physical modifications
- Input from stakeholders:
  - Automatic lines are programmed to be at specific depth
  - Reprogramming for one tank may cause the need to reconstruct the entire operating line
- Considering revising PAR 1469 to base the freeboard height on the Industrial Ventilation 29th Edition 13.70.1 Tank Design Ventilation Considerations which recommends:
  - Liquid level to be 6” to 8” (150 to 200 mm) below top of tank with parts immersed

Building Enclosures (e) – Closing of Opening near Sensitive Receptors

- Since the 7th Working Group Meeting, staff has received questions regarding provisions for building openings
- SCAQMD staff has determined which openings are required to be closed and incorporated them into the revised requirements
- Revised Paragraph (e)(3)
  - Except for the movement of vehicles, equipment or people, close any building enclosure opening or using any of the methods listed in subparagraph (e)(2)(A) through (e)(2)(E), that <u>directly faces and opens towards a sensitive receptor, school, or early education center that is located within 100 feet, as measured from the property line of the sensitive receptor, school, or early education center to the building enclosure opening</u>

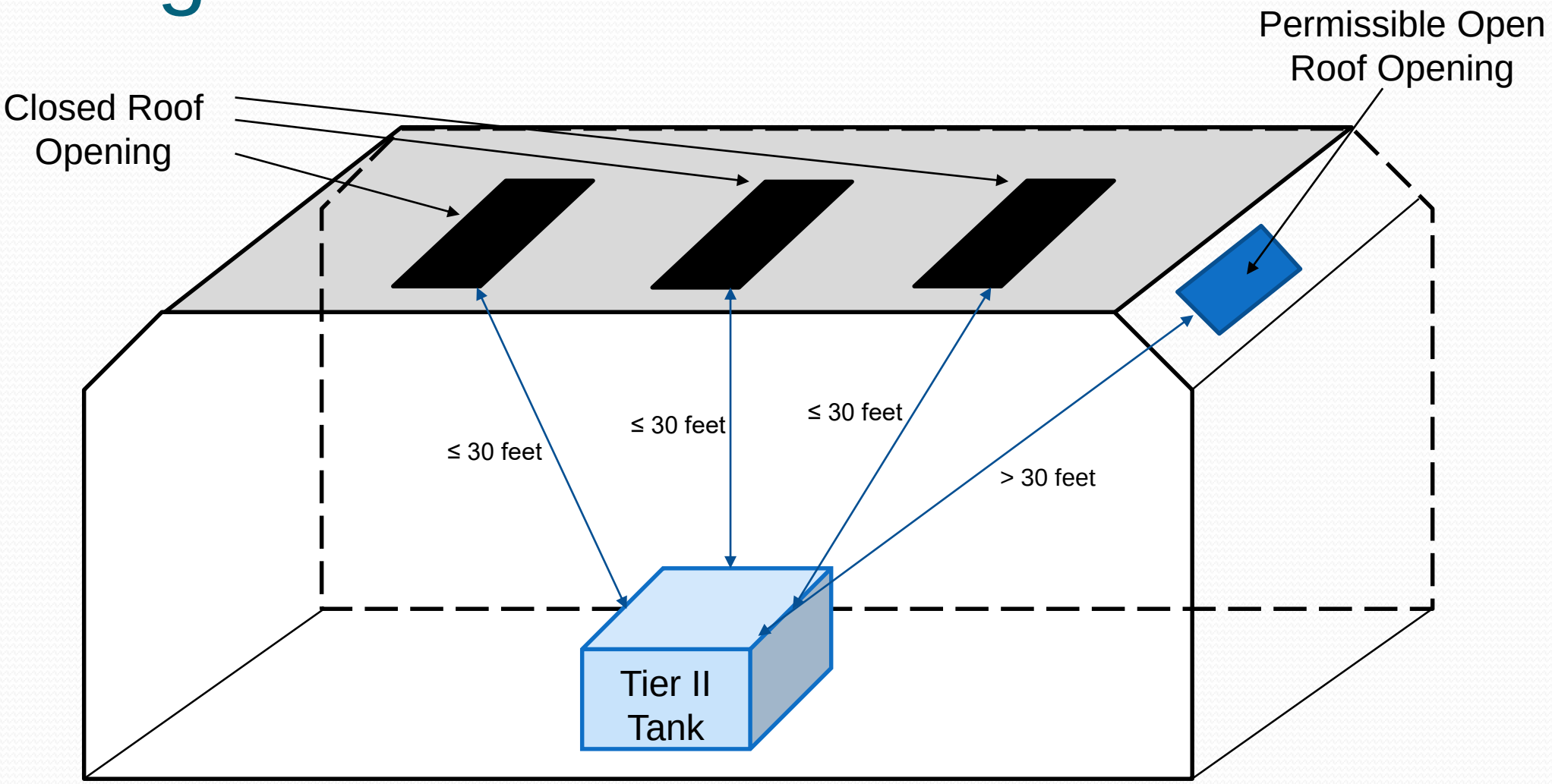
Example of Closing Openings near Sensitive Receptor



Building Enclosures (e) – Closing of Roof Openings

- Revised PAR 1469 to require that all enclosure openings in the roof that are directly located within 30 feet from the edge of any Tier II Hexavalent Chromium-Containing Tank be closed
  - Removed provision that also required Tier I Hexavalent Chromium-Containing Tank because very low emission potential tank not electrolytic, air sparged, or heated
- Clarification
  - Enclosure openings in the roof exclude stacks for burners and add-on air pollution control devices subject to the rule
  - Staff looking at additional rule language to acknowledge other stacks, such as those venting non-Rule 1469 tanks and how they relate to enclosure openings

Building Enclosures (e) – Closing of Roof Openings



Building Enclosures (e) – Ventilation Equipment in Roof

- Previous rule language required removal of devices installed in the roof that pulls air from the building enclosure to the outdoor air
- Facilities commented that this is necessary to provide air exchanges for workers; closing would not be an option
- Proposed rule language has been revised to allow operators to continue using ventilation equipment if it is vented to an add-on air pollution control device that is fitted with at least HEPA
  - No source test required
  - Must maintain filters as specified by the manufacturer

Emission Standards for Tier II Hexavalent Chromium-Containing Tanks (h)(4)

- Added Tier II Hexavalent Chromium-Containing Tank (excluding chromium electroplating and chromic acid anodizing) emission standards:
  - Existing facilities – 0.0015 mg/amp-hr, if any of the tanks vented by the add-on air pollution control device are electrolytic
  - New facilities – 0.0011 mg/amp-hr, if any of the tanks vented by the add-on air pollution control device are electrolytic
  - 0.20 mg/hr, if all tanks vented to add-on air pollution control device are not electrolytic

Determination of Tier II Tank Emission Rate of 0.20 mg/hr

- SCAQMD staff used source test data from chromium electroplating and chromic acid anodizing tanks to establish emission limit for Tier II tanks
- Staff reviewed 80 source tests conducted from 1999-2016
- 20 source tests were not used because:
  - Source test was from a stack that is venting multiple tanks
  - Amperes used during the source test was not representative of normal operations
- Average emission rate for remaining 60 source tests was 0.18 mg/hr
- Tier II emission standard of 0.20 mg/hr is feasible because
  - Hexavalent chromium concentration of Tier II tanks typically lower than electroplating and anodizing tanks

Source Testing Requirements and Test Methods (k)

- Revised source testing provisions to allow use of screening source test if the owner or operator conducted a source test after October 24, 2009
- Source tests conducted after October 2009 were conducted to:
  - Meet current emission requirements for electrolytic tanks
  - Using a 3-run source test
- If facility fails screening source test, must conduct full 3-run source test
- Emissions screening test still provides a quantitative measurement of emissions from the stack
- Emission screening test will reduce the source test cost by up to 50%
- Staff is contemplating a provision for when multiple Tier II tanks are controlled by one add-on air pollution control device

Parameter Monitoring (m)

- Input from stakeholders
  - Option to use a flow meter to verify capture of an add-on air pollution control device
- Revised requirements to allow two different methods to verify capture

Location	Parameter Monitored	Units
Push Manifold (for push-pull systems)	Static Pressure	Inches of Water
Collection Manifold or ***Any Location within the System Using a Flow Meter***	Static Pressure or ***Volumetric Flow Rate***	Inches of water or ***Actual Cubic Feet per Minute***
Across Each Stage of the Control Device	Static Pressure	Inches of Water

Hexavalent Chromium Phase-Out Plan (u)

- Input from stakeholders:
  - Technically feasible to eliminate the use of hexavalent chromium from certain operations using available alternative processes
  - Alternatives will require additional time beyond the timeframe to meet Tier II emission standards
  - Approval by prime aerospace companies includes quality assurance testing to meet required specifications – process can take several years and possibly longer
- Added a provision in PAR 1469 that allows additional time to phase-out hexavalent chromium, provided a Hexavalent Chromium Phase-out Plan is submitted and specific provisions are met

Elements of Hexavalent Chromium Phase-Out Plan

- Commitment that the facility will permanently eliminate or reduce hexavalent chromium to below the concentration of a Tier I Hexavalent Chromium-Containing Tank
- A description of the method by which hexavalent chromium concentration will be permanently eliminated or reduced from the subject tank(s)
- A list of milestones to allow the facility to reduce or eliminate hexavalent chromium by the completion date
- Date of final completion not to exceed 2 years from approval of Hexavalent Chromium Phase-Out Plan
- Completion date of each of the milestones
- A list of all control measure that will be implemented for the subject tank(s) until the hexavalent chromium-concentration is eliminated or reduced

Post-Approval of Hexavalent Chromium Phase-Out Plan

- The owner or operator shall implement the approved plan and shall submit a monthly progress report to the Executive Officer by the 5th of each month indicating the progress of the previous month
- If the owner or operator does not eliminate or reduce hexavalent chromium by the final completion date or the Executive Officer denies a Hexavalent Chromium Phase-Out Plan, the owner or operator shall
  - Submit complete application for add-on air pollution control device within 30 days of when the facility knew, or should have known, it could not meet the completion date
  - Install the add-on air pollution control device(s) no later than 180 days after a Permit to Construct

Next Steps and Key Dates

- Finalize source testing results for Tier II Hexavalent Chromium-Containing Tanks
- Public Workshop – December 7, 2017 at SCAQMD Headquarters
- Close of public comments December 15, 2017
- Set Hearing – January 5, 2018
  - Draft rule language and draft staff report will be available at least 30 days before Governing Board Meeting
- Stationary Source Committee – January 20, 2018
- Governing Board Meeting – February 2, 2018

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