Proposed Rule (PR) 1407.1
Control of Toxic Air Contaminant Emissions from Chromium Alloy Melting Operations

Working Group Meeting #10
August 6, 2020

Join Zoom Meeting
https://scaqmd.zoom.us/j/91122703505
Meeting ID: 911 2270 3505
Passcode: 389807

Agenda

- Rule Development Updates
- Previous Working Group Meeting
  - Summary
  - Stakeholder Comments
- Continuation of Rule Concepts
  - Fugitive Emission Requirements
- Next Steps

Rule Development Updates

- Facilities A and C Source Test Results are posted on South Coast AQMD Proposed Rule 1407.1 Web Page
- Public Hearing moved from November 6, 2020 to December 4, 2020

Summary of Previous Working Group Meeting

Summary

- Rule Concepts for Point Source Control Requirements
  - Proposed hexavalent chromium point source standards

Sensitive Receptor < 50 Meters (lb/hr)	Sensitive Receptor 50 – 99 Meters (lb/hr)	Sensitive Receptor ≥ 100 Meters (lb/hr)
8.9E-07	3.3E-06	4.0E-06

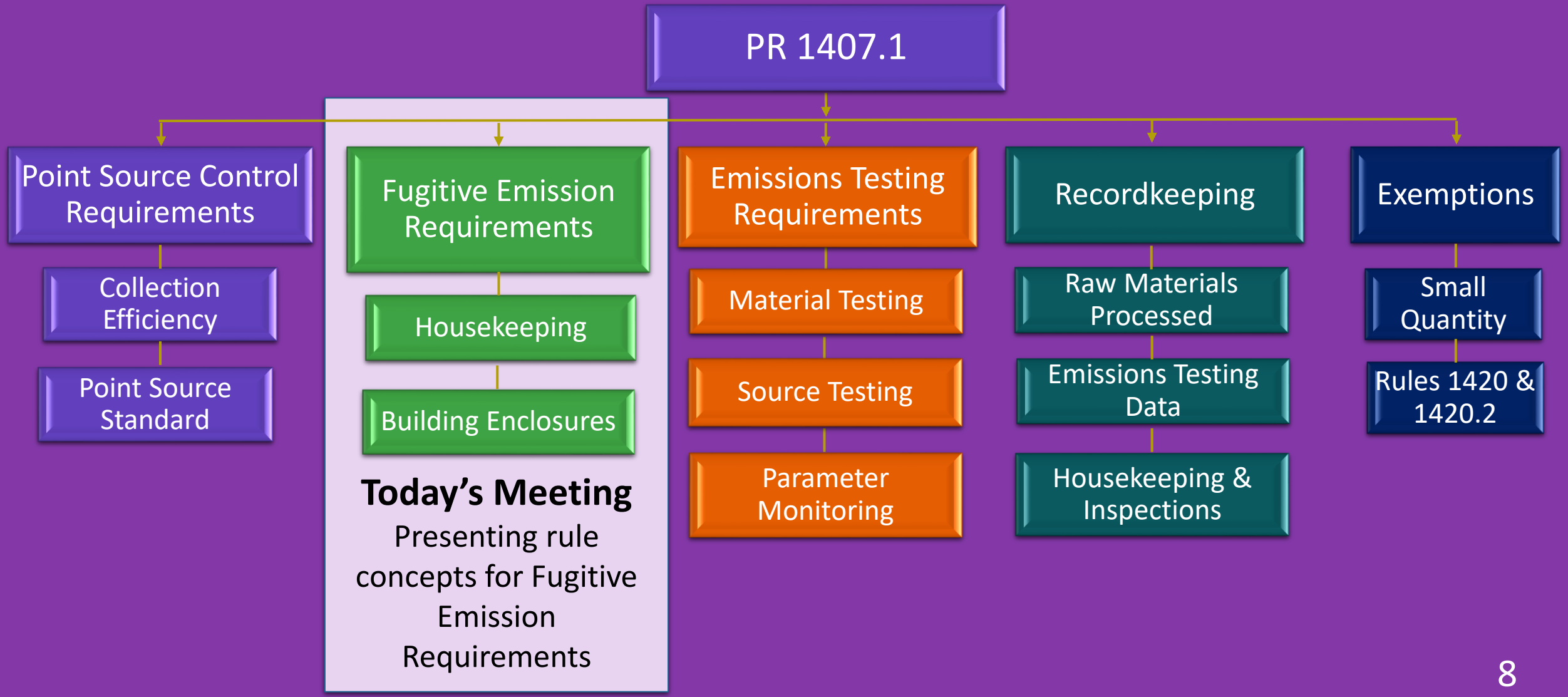
  - Collection efficiency to follow recommendations set forth in the *Industrial Ventilation: A Manual of Recommended Practice for Design* by the American Conference of Governmental Industrial Hygienists
  - Metal content limits for arsenic and cadmium for non-ferrous chromium alloy melting furnaces
    - No more than 0.002% arsenic and 0.004% cadmium

Stakeholder Comments

Stakeholder Comment	Staff Response
Will staff consider establishing a small quantity exemption?	Small quantity exemptions will be discussed in the next working group meeting
Will staff evaluate control technology and implementation costs for the more stringent proposed mass emission standard?	Cost impacts will include installation of HEPA at most facilities and installation of ULPA at the facility with a sensitive receptor < 50 meters

Rule Concepts for Fugitive Emission Requirements

General Overview of PR 1407.1



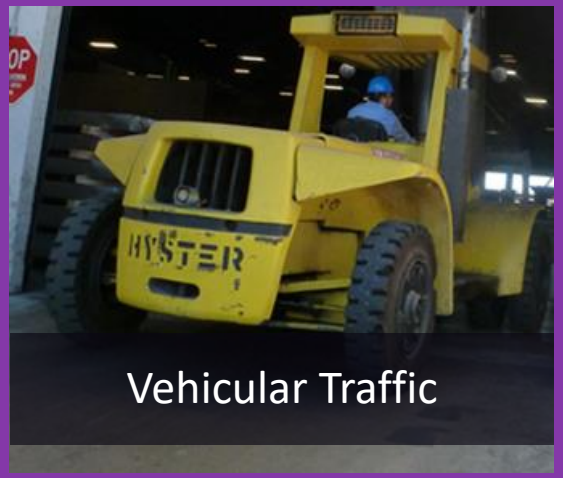
Point and Fugitive Sources

- Fugitive sources are generally those emissions that are not collected through air pollution control devices and can accumulate on surfaces in and around the facility
  - Fugitive emissions can be contained and collected and vented to pollution control devices
- Point sources are stationary sources that are generally a single identifiable emission point from which pollutants are discharged
- Point sources can also be a source of fugitive emissions
  - Emissions that do not make it to the pollution control device or are not captured through the filter media are fugitive emissions

Possible Sources of Fugitive Emissions

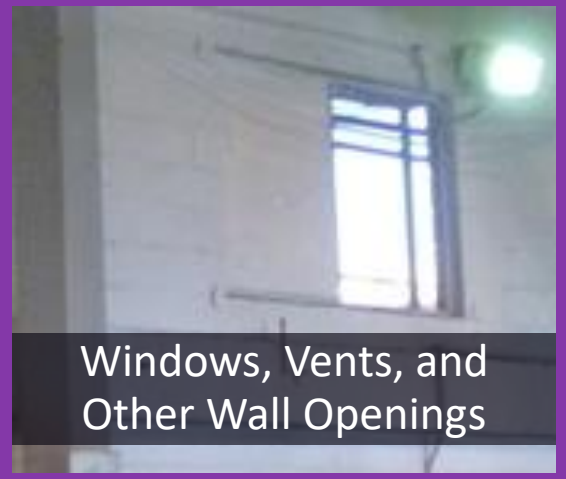

Metal Particulate Inside the Facility


Metal Particulate Outside the Facility



Vehicular Traffic


Foot Traffic


Windows, Vents, and Other Wall Openings


Large Openings for Ingress and Egress


Openings in Roof


Storage and Handling of Materials

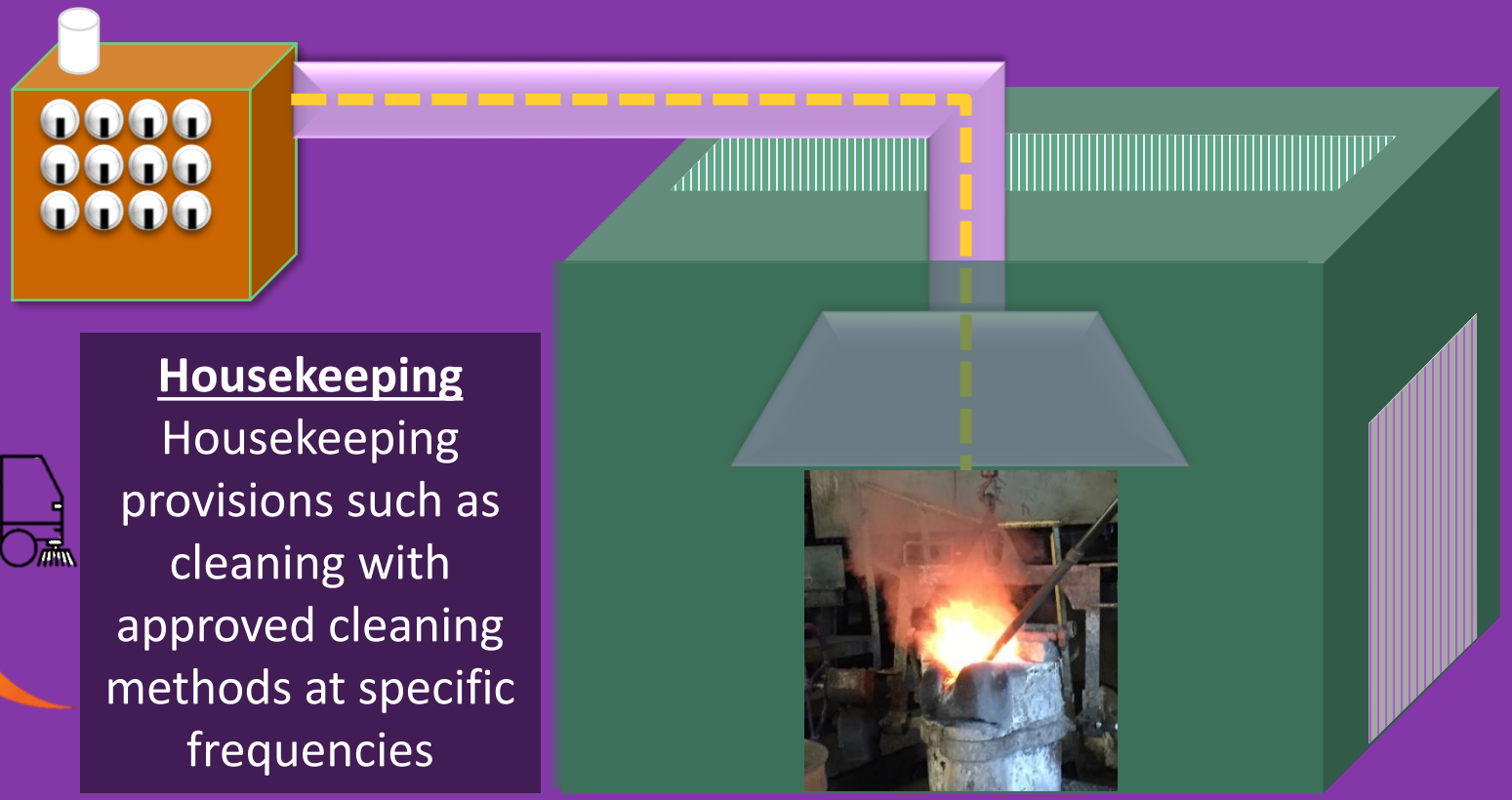
Need for Addressing Fugitive Metal Emissions

- Fugitive emissions within a building can be tracked out via foot traffic and vehicular traffic
- Cross-draft conditions within a building can contribute to fugitive emissions if airflow interferes with the collection efficiency
- Fugitive emissions can land on surfaces outside of a facility – roof tops, walkways, perimeter of facility – and can become airborne impacting surrounding community
- Fugitive emissions that land on surfaces can be re-entrained from foot traffic, vehicular traffic, wind, etc.

Approach for Addressing Fugitive Emissions

Two-pronged approach to address fugitive emissions

- Building enclosure measures to contain fugitive emissions
- Housekeeping measures to remove emissions before they can become fugitive



Housekeeping
Housekeeping provisions such as cleaning with approved cleaning methods at specific frequencies

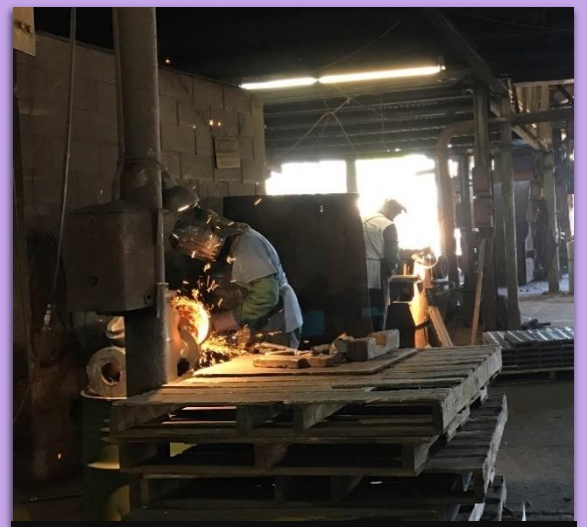
Building Enclosures
Enclosure, with methods to minimize cross-drafts

Applicable Sources for Building Enclosures and Housekeeping

- Staff proposes that building enclosures and housekeeping measures apply to all areas where chromium alloy melting operations and other metal handling activities occur

Melting

Casting



Cutting & Grinding

Material Storage

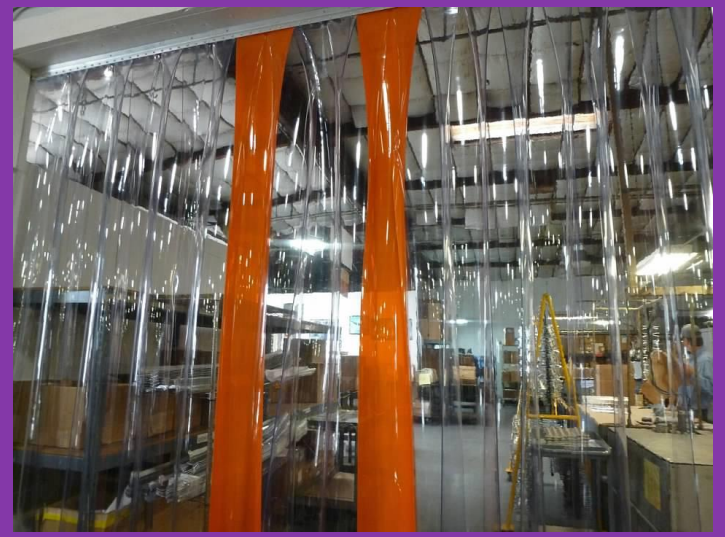
Collectively will refer to these as the “Metal Melting and Handling Operations”

Building Enclosure

- Building enclosure requirements will apply to Metal Melting and Handling Operations
  - Require that Metal Melting and Handling Operations be conducted in a building enclosure
- Building enclosure is a containment structure, completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, with limited enclosure openings to allow access
  - A room within a building enclosure with a floor, walls, and a roof is also a building enclosure
- Close all roof openings directly over metal melting operations except when moving equipment or parts through roof opening

Cross-Draft Minimization

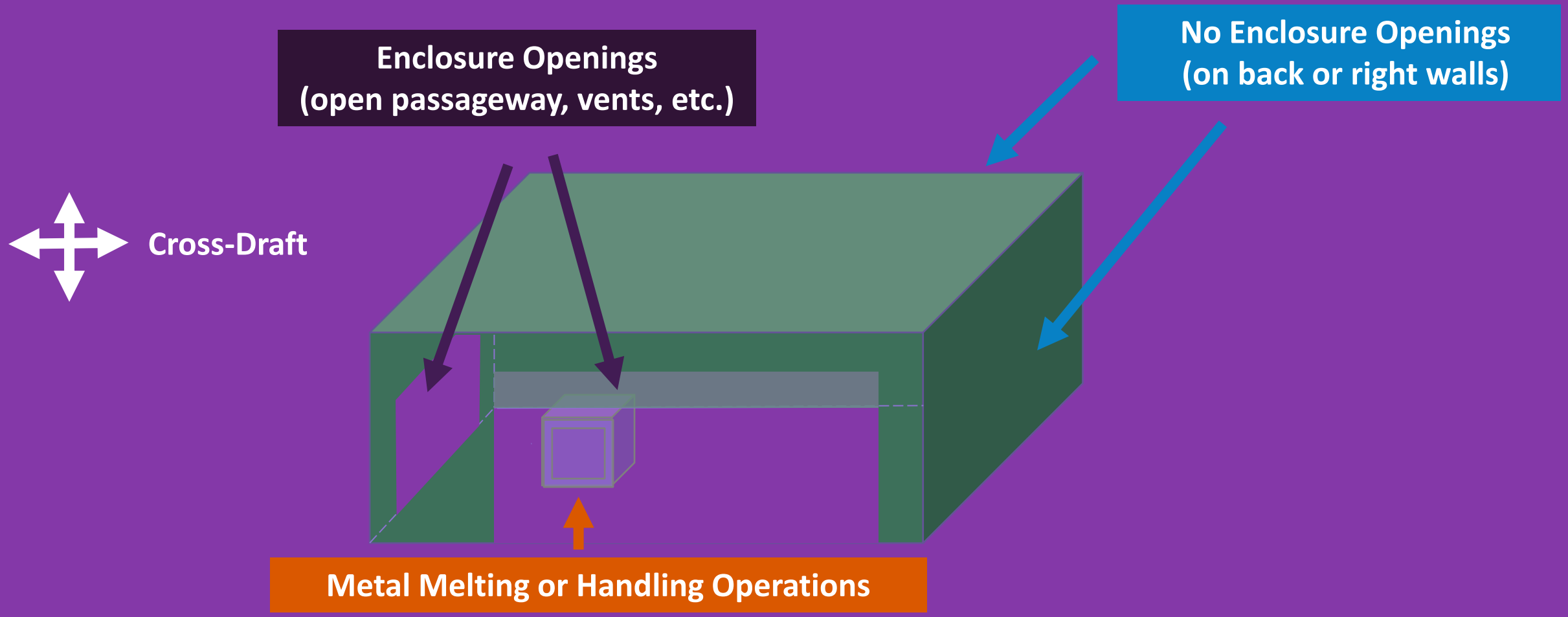
- Ensure that any building enclosure opening where Metal Melting and Handling Operations occur that is on opposite ends of the building enclosure where air movement can pass through are not simultaneously open except during the passage of vehicles, equipment or people by closing or using one or more of the following methods:
  - Automated roll-up door
  - Overlapping plastic strip curtain
  - Vestibule
  - Airlock system
  - Alternative methods approved by the Executive Officer



Importance of Minimizing Cross-Drafts

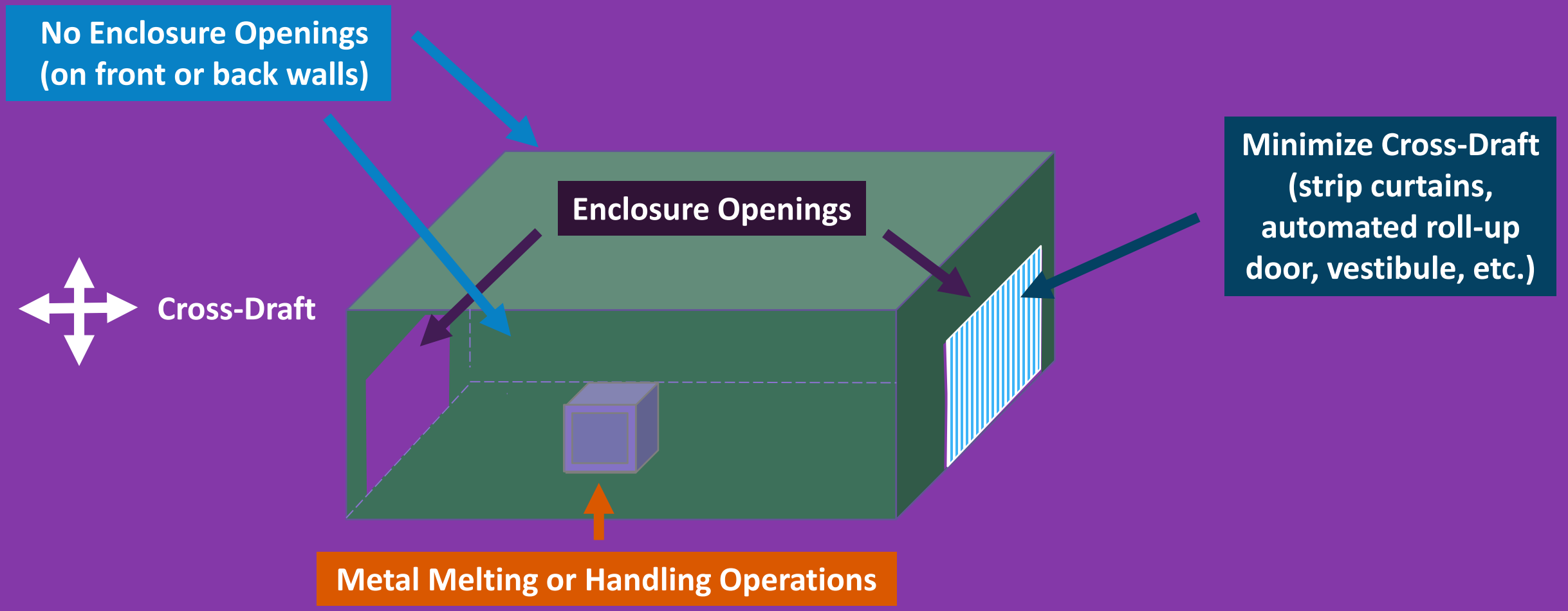
- Objective is to minimize air flow that can carry fugitive emissions from Metal Melting or Handling Operations out of the building
- Staff is not proposing a permanent total enclosure
  - Staff recognizes air flow in facility is needed for worker safety and comfort
  - Proposed concepts allow openings in building enclosure if not on opposite ends
- Examples of acceptable building enclosures with cross-draft minimization
  - Two enclosure openings
  - Three enclosure openings
  - Room within a building enclosure

Example 1: Two Enclosure Openings at Non-Opposing Ends



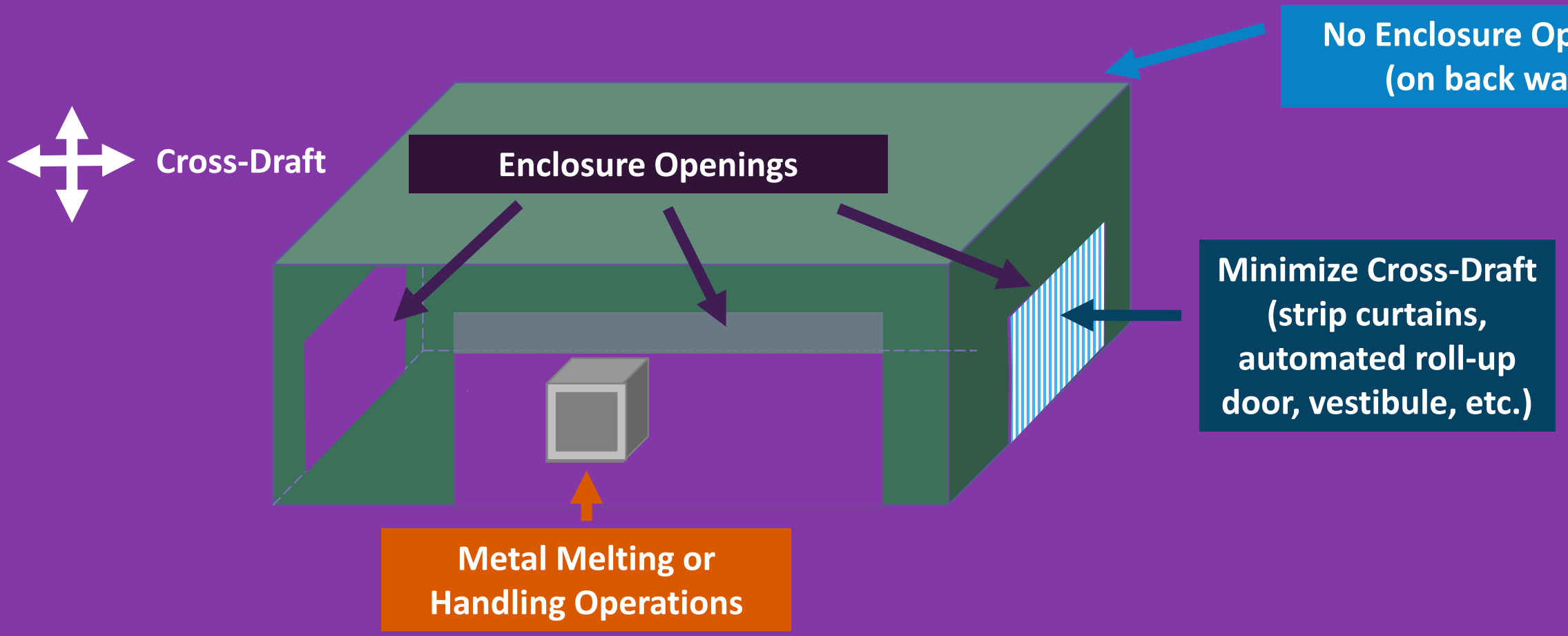
No additional cross-draft minimization required

Example 2: Two Enclosure Openings at Opposing Ends



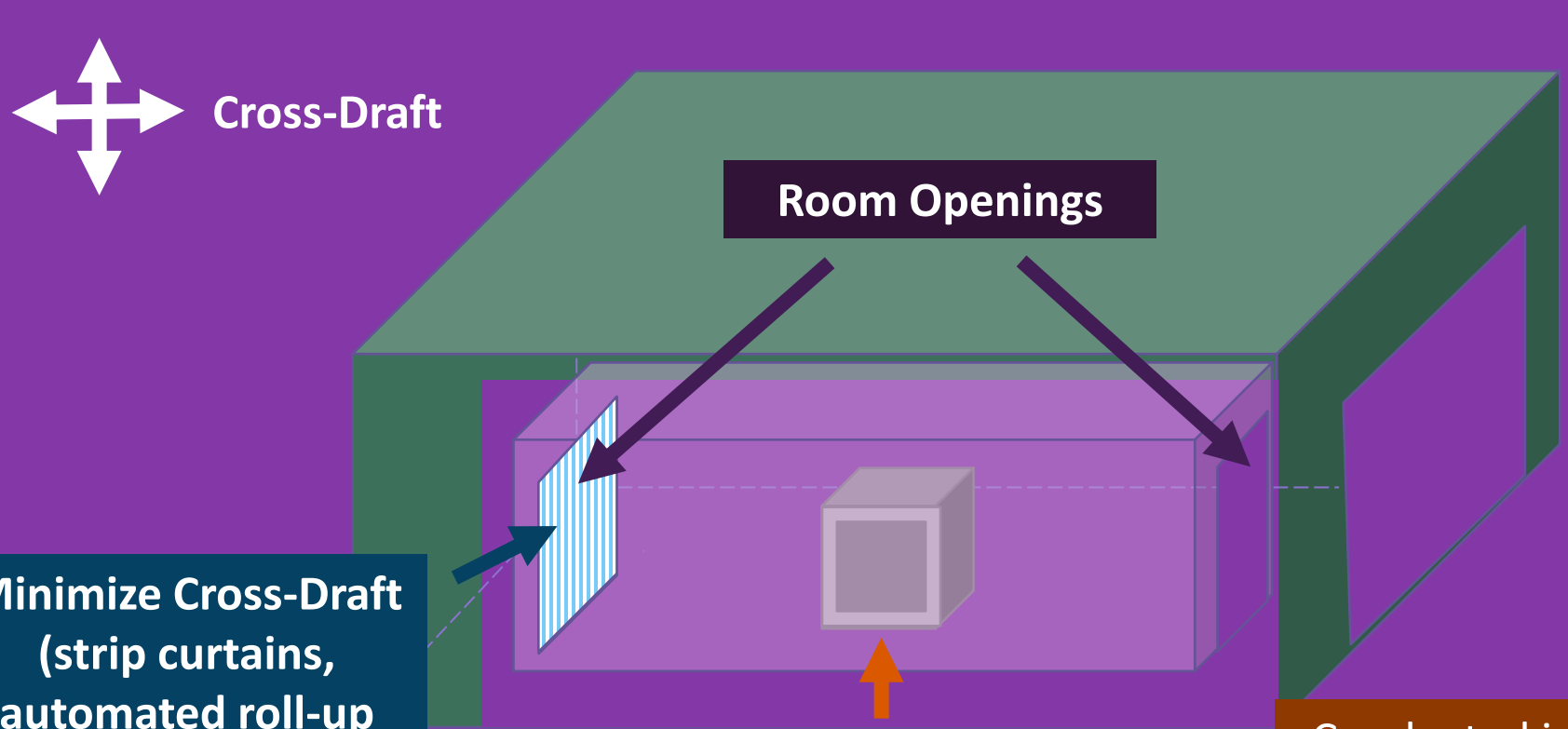
Need to minimize potential cross-draft through enclosure openings on right and left walls

Example 3: Three Enclosure Openings with Two on Opposing Ends



Need to minimize potential cross-draft through enclosure openings on right and left walls

Example 4: Room within a Building Enclosure



Need to minimize potential cross-draft through openings on right and left walls of room within building enclosure

Building Enclosures and OSHA Requirements

- If building enclosure requirements conflict with OSHA requirements, owner or operator can submit a Building Enclosure Compliance Plan
- Building Enclosure Compliance Plan should explain why there is a conflict and what alternative measures facility could implement to meet the same objective
- Similar to provisions in Rule 1407

Housekeeping Provisions in Toxic Rules

- Housekeeping measures are effective at reducing fugitive emissions when conducted routinely and using methods that minimize dispersion of fugitives
- Housekeeping measures will apply to Metal Melting and Handling Operations
- PR 1407.1 housekeeping provisions will be based on provisions included in other toxic rules that have been recently amended or adopted
  - Approved cleaning methods
  - Routine cleaning
  - Cleaning spills
  - Waste collection and storage

Approved Cleaning Methods

- Approved cleaning methods:
  - Wet wash
  - Wet mop
  - Damp cloth
  - Low pressure spray nozzle
  - HEPA vacuum
  - Other alternative method as approved by the South Coast AQMD
- Prohibit dry sweeping and compressed air cleaning in areas where Metal Melting and Handling Operations are conducted

Routine Cleaning – Daily and Weekly

Frequency	Clean Using an Approved Cleaning Method
Daily	All floor areas within 20 feet where: • Metal melting and casting operations are conducted • Metal grinding or cutting operations are conducted, unless conducted under continuous flow of metal removal fluid
Weekly	All floor areas within 20 feet where: • Raw materials and finished products are placed or stored • Emission control device dedicated to metal melting, casting, grinding, or cutting operations • Sand handling equipment • Metal-containing wastes from casting sand and housekeeping activities are stored, disposed of, recovered or recycled and material collected from emission control devices • Entrance/exit points of an enclosed storage area or building enclosure that houses melting, casting, grinding, or cutting operations

Additional Routine Cleaning

Frequency	Clean Using an Approved Cleaning Method
Quarterly	Inspect collection vents, openings, and ducting of emission control devices, and clean or repair if necessary
Semi-Annually (Every 6 Months)	All floor areas of the facility outside of the building enclosure and where there is foot or vehicular traffic moving any metal or metal-containing waste such as raw materials, finished products, slag, dross, casting sand, waste from housekeeping activities, etc.
Annually	Entire facility, including enclosure corners and areas where metal-containing dust may deposit and not covered by routine cleaning provisions
Biennially (Every 2 Years, Summer)	All roof areas of the building enclosure

Additional Housekeeping Requirements

- Clean-up following maintenance or repair activities
- Storage and transport of metal-containing materials
- Emission control devices and exhaust stacks

Additional Requirements for Maintenance or Repair Activities

- Within one hour, use an approved cleaning method to clean areas where a maintenance or repair activity has occurred
  - Includes maintenance or repair activities on any emission control device or any duct section used to vent metal melting, casting, grinding, or cutting operations

Additional Requirements for Material Storage and Transport

- Store metal-containing casting sand, dross, ash, feed material, trash, or debris, etc. in an enclosed storage area, building enclosure, or sealed leak-proof container
- Transport metal-containing casting sand, waste, dross, slag, and construction or maintenance materials in sealed leak-proof containers at all times, unless transported within a building closure

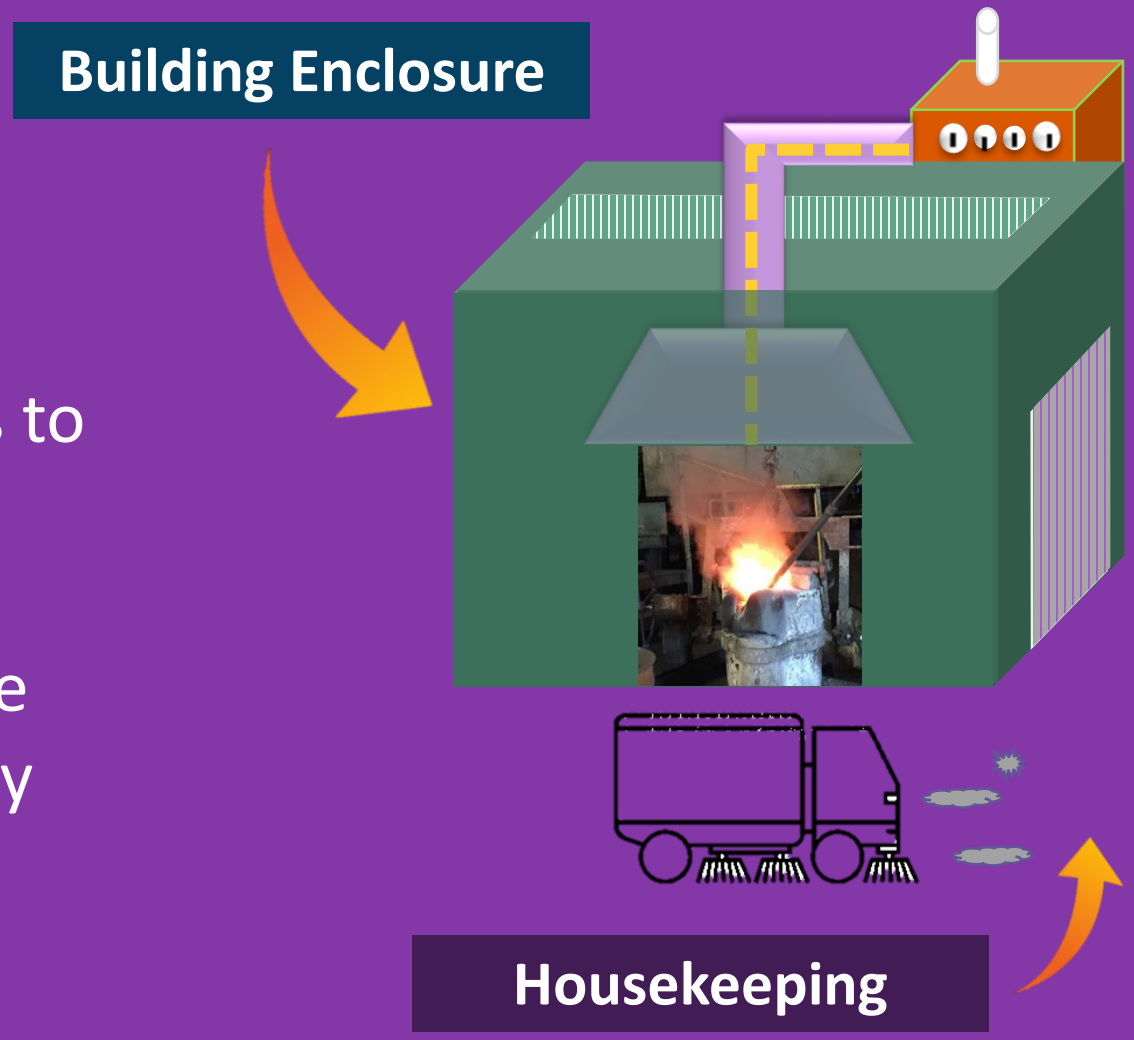
Additional Requirements for Emission Control Devices and Exhaust Stacks

- Materials collected by emission control devices shall be discharged into a sealed leak-proof container
- Filter media of emission control devices shall have housing and no exposure to external air
- Vertical stack should be installed without a weather cap or rain cap
- No horizontal stacks for new installations

Summary of Proposed Fugitive Emission Requirements

Staff proposes two-pronged approach to address fugitive emissions

- Building enclosures, with methods to minimize cross-drafts, to contain fugitive emissions
- Housekeeping measures to remove emissions in and around the facility before they can become fugitive



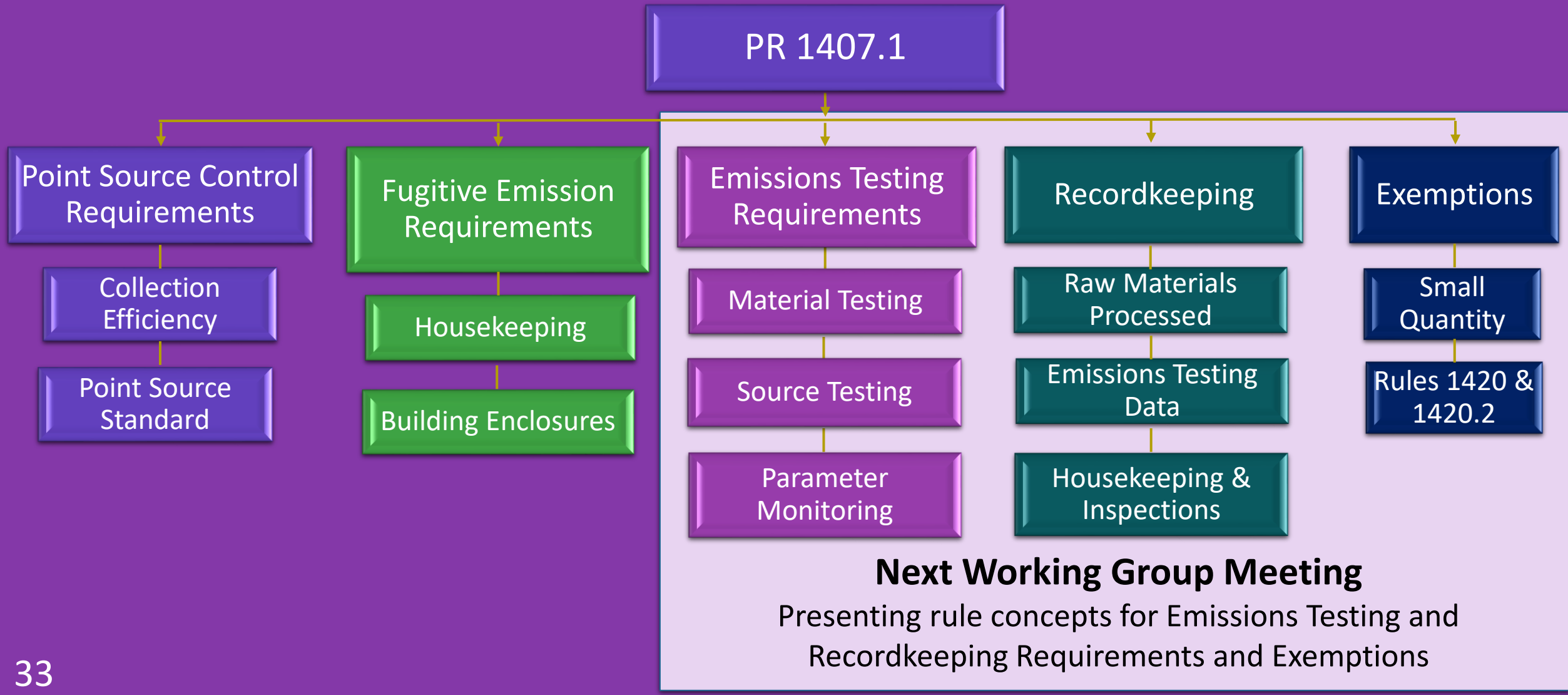
Summary of Proposed Building Enclosure Requirements

- Conduct all Metal Melting and Handling Operations in a building enclosure
- Minimize cross-drafts
- Close all roof openings directly over metal melting operation
- Option of Building Compliance Plan if conflicts with OSHA requirements

Summary of Proposed Housekeeping Requirements

- Daily cleaning in melting, casting, grinding, and cutting areas
- Weekly cleaning in entryways and storage, emission control device, and sand handling areas
- Quarterly inspection of collection vents, openings, and ducting of emission control devices
- Semi-annual cleaning of outside floor areas and areas exposed to foot and vehicular traffic
- Annual cleaning of entire facility
- Biennial cleaning of roof areas

General Overview of PR 1407.1



Next Steps

Next Working Group Meetings • Present remaining rule concepts • Preview Preliminary Draft Rule Language	August – September 2020
Public Workshop	September 2020
Stationary Source Committee	October 16, 2020
Set Hearing	November 6, 2020
Public Hearing	December 4, 2020

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PR 1407.1 Proposed Rules Web Page

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