Proposed Amended Rule 1407
Proposed Rule 1407.1

Working Group #4

April 25, 2018

Agenda

- Summary of Working Group #3 and Comments
- Comments from California Metals Coalition
- Rule Development Schedule
- Recommended Approach
- Initial Concepts for PAR 1407
- Initial Concepts for PR 1407.1

Summary of Working Group #3

- Meeting with California Metals Coalition – December 15, 2017
- Applicability of Proposed Amended Rule 1407
- Hexavalent Chromium
- Initial Review of Two Source Tests
- Initial Concepts for Point Source Emission Limits
  - Establishing Thresholds

Summary of Comments Regarding Working Group #3

- Hexavalent chromium
  - Tannery study on the temperature of chromium to hexavalent chromium conversion is misleading and inconclusive with respect to metal melting operations
  - Request more information regarding the science of determining toxicity and health effects of hexavalent chromium
- Determination of Bins
  - Consider factoring in results from Health Risk Assessments
  - Possibility of including more bins
  - Correlate thresholds with level of control
  - Questioned if facilities can move out of a bin once they have been binned
- Building Enclosures
  - Concerns with worker safety and costs for some facilities and certain operations
  - Differentiate between enclosure and cross-draft minimization
  - Requesting a graphic and detailed description of how PAR 1407 and Cal-OSHA do not conflict
  - Requesting guidance on how to get fresh air in and out of a building

Summary of Comments Regarding Working Group #3 *(continued)*

- Conducting Source Tests
  - Consider reducing frequency of source testing for facilities with compliant source test results
  - Understanding that source tests are needed for the rule development process
    - Some facilities are hesitant to be source tested by SCAQMD because they are unsure of the source test protocol
- Examples of Source Tests Presented
  - Request more details of the source tests
- 1407 versus 1407.1
  - Understands the hexavalent chromium is an issue that needs to be addressed, but steel and hexavalent chromium should be addressed separately from non-ferrous, arsenic, cadmium and nickel melting facilities
- Timeline
  - Questions regarding how fixed is the September 7, 2018 Public Hearing date

Conference Call with California Metals Coalition

- Metals Coalition contacted SCAQMD staff regarding:
  - Rule development schedule for PAR 1407
    - Concerned that additional time is needed before the September hearing dates
    - Concerned that additional time is needed before a preliminary draft rule and staff report are released
  - Applicability of PAR 1407
    - Commented that preference is to bifurcate the rulemaking and have two separate rules for ferrous and non-ferrous metals
  - SCAQMD staff discussed assistance to encourage facilities to allow SCAQMD to conduct source tests

Staff's Current Thinking

- Based on comments at Working Group Meeting and California Metals Coalition – staff is taking a different approach to Proposed Amended Rule 1407
- Today's Working Group Meeting is a step backward – with goal to move forward
- Focus will be on the rule development approach and some initial concepts
- Providing additional background information regarding the rule development process and considerations

SCAQMD
Rule Development Schedule

Rule Development Schedule

- Schedule based on estimated completion date of rule development
- Additional time is modified to allow for:
  - Data gathering and assessment
  - Development of Staff Proposal
  - Stakeholder input
  - Consensus building
  - Other delays that may not be directly related to the rulemaking

Data Gathering and Assessment

- Identification of facilities and sources
- Evaluation of existing data such as:
  - Emissions data which can include annual emissions reporting, source tests, and ambient monitoring
  - SCAQMD permit data
  - Site visits
- Other information that may be needed
  - Facility specific information – obtained by surveys, rulemaking team, or inspectors
  - Emissions data
  - Pollution control technologies
  - Cost information

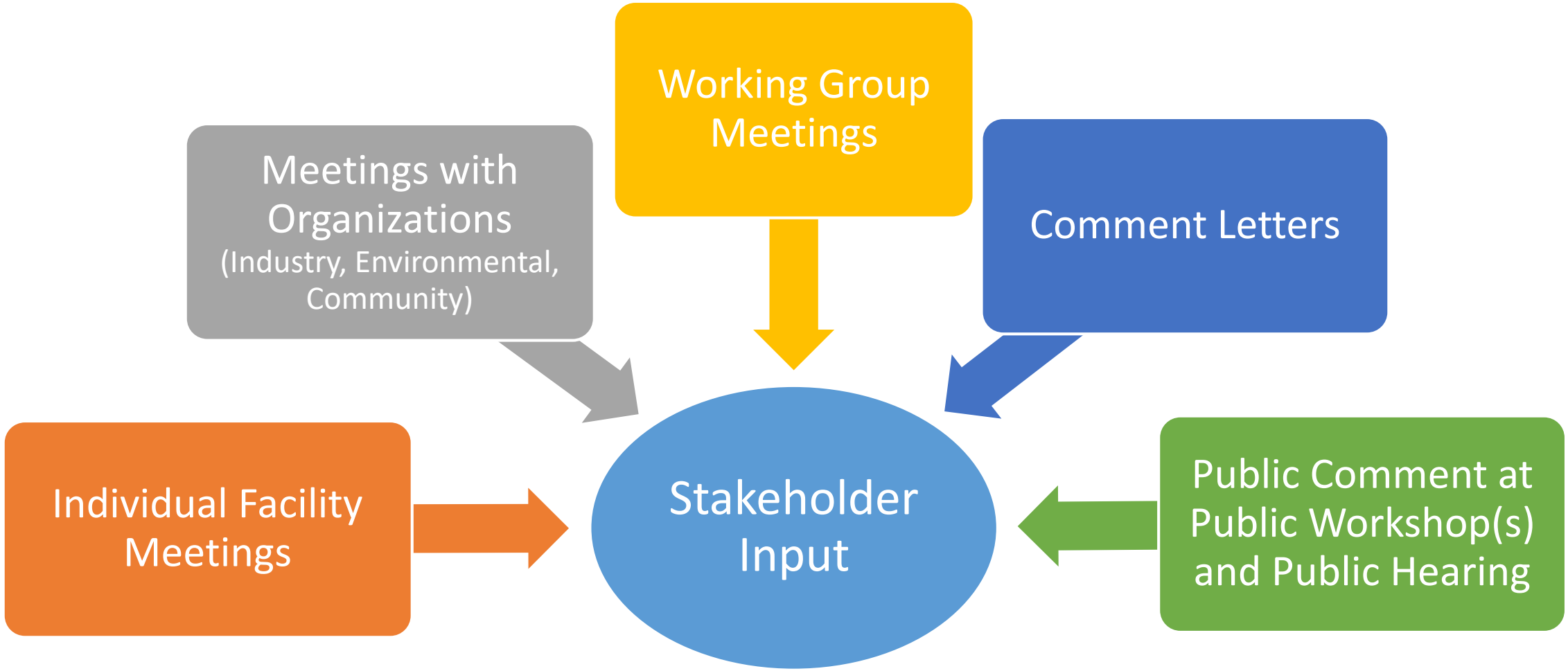
Development of Staff Proposal

- Initial concepts are presented in Working Group Meetings
- Developing rule concepts and draft proposed rule language is an iterative process with stakeholder input
- Staff will release the Preliminary Draft Rule and Staff Report no later than 75 days before the Public Hearing
  - Staff will have the first draft of the rule more than 75 days before the Public Hearing
  - This will allow for several drafts of the rule before the Public Hearing

Stakeholder Input

- Stakeholder input is a key element throughout the rule development process
- Staff encourages early input – opportunities for stakeholder input provided throughout the rulemaking process
- Staff wants to hear from all stakeholders
- Goal is a proposal that all facilities can comply with and that meets the objectives of the proposed amended rule
- Staff encourages facilities to meet with staff to discuss any concerns – unique situations, clarification of provisions, etc.
- If additional time is needed to work with stakeholders, rulemaking may be delayed

Stakeholder Input Opportunities

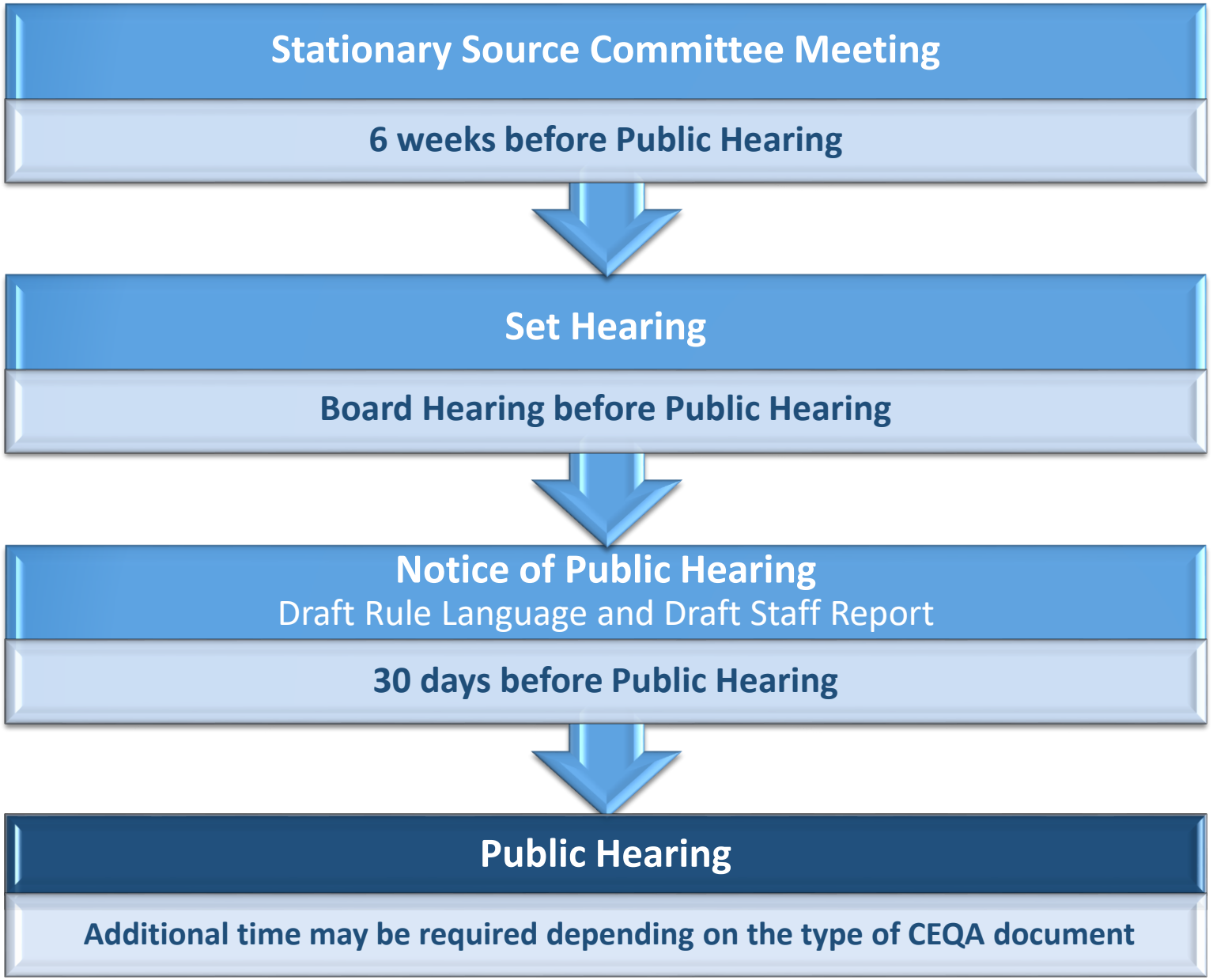


Consensus Building

- Objective is to minimize key remaining issues
- Iterative process between staff proposal and stakeholder input
- Key remaining issues are highlighted in the Board Letter for the Board members
  - Changes can be made at the Public Hearing – substantive changes may require proposed amended rule to be heard at the next Board meeting
  - Board can delay hearing to allow additional time to resolve certain key issues or other reasons

Rule Development Schedule

Rule Development Schedule *(continued)*



Revised Approach

Rule 1407 and Rule 1407.1

- Through the Working Group process, some stakeholders have requested to maintain the existing applicability of Rule 1407 and address ferrous metal melting in a separate rule
- As a result, staff has decided to bifurcate the rulemaking
  - Rule 1407 will address non-ferrous metal melting
  - Rule 1407.1 will address ferrous metal melting
- Initially staff's preference was to have one rule to address all metal melting operations as some facilities may be subject to multiple rules
- One of the challenges of ferrous metal melting is lack of emissions data

General Approach

Proposed Amended Rule 1407 — Non-Ferrous Metal Melting

- Update existing requirements
  - Update point source requirements
  - Incorporate provisions to address fugitive emissions
  - Periodic source testing consistent with other toxic metal rules and update recordkeeping and reporting
- Expected Public Hearing: **November 2018**

Proposed Rule 1407.1 — Ferrous Metal Melting

- Implement rulemaking in two phases
- First Phase of Rulemaking: Emissions testing, data gathering, recordkeeping and reporting, and basic housekeeping requirements
  - Expected Public Hearing Date: **September 2018**
- Second Phase of Rulemaking: Based on results of emissions testing, additional provisions to address emissions
  - Initiate rulemaking January 2020

Objective of Proposed Amended Rule 1407

- Purpose and Applicability
  - Reduce emissions of arsenic, cadmium, hexavalent chromium, lead, and nickel from non-ferrous metal-metaling operations
  - Reduce emissions of particulate matter from non-ferrous metal-melting operations
- Evaluate and update
  - Definitions
  - Requirements (point source controls, fugitive emissions controls, source tests, housekeeping, cross-draft minimization, monitoring of emission control devices)
  - Exemptions

Objective of Phase I of Proposed Rule 1407.1

- Gather information to assess toxic air contaminant emissions from ferrous metal melting facilities
  - Emissions testing – source tests
  - Reporting requirements – metals melted and equipment inventory
  - Establish basic requirements for recordkeeping and housekeeping
- Staff will initiate a second phase of rulemaking January 2020
  - Specific requirements will be based on results of information collected from Phase I
  - Public hearing date for second phase of rulemaking will be assessed after staff initiates Phase II rulemaking

Initial Concepts for PAR 1407

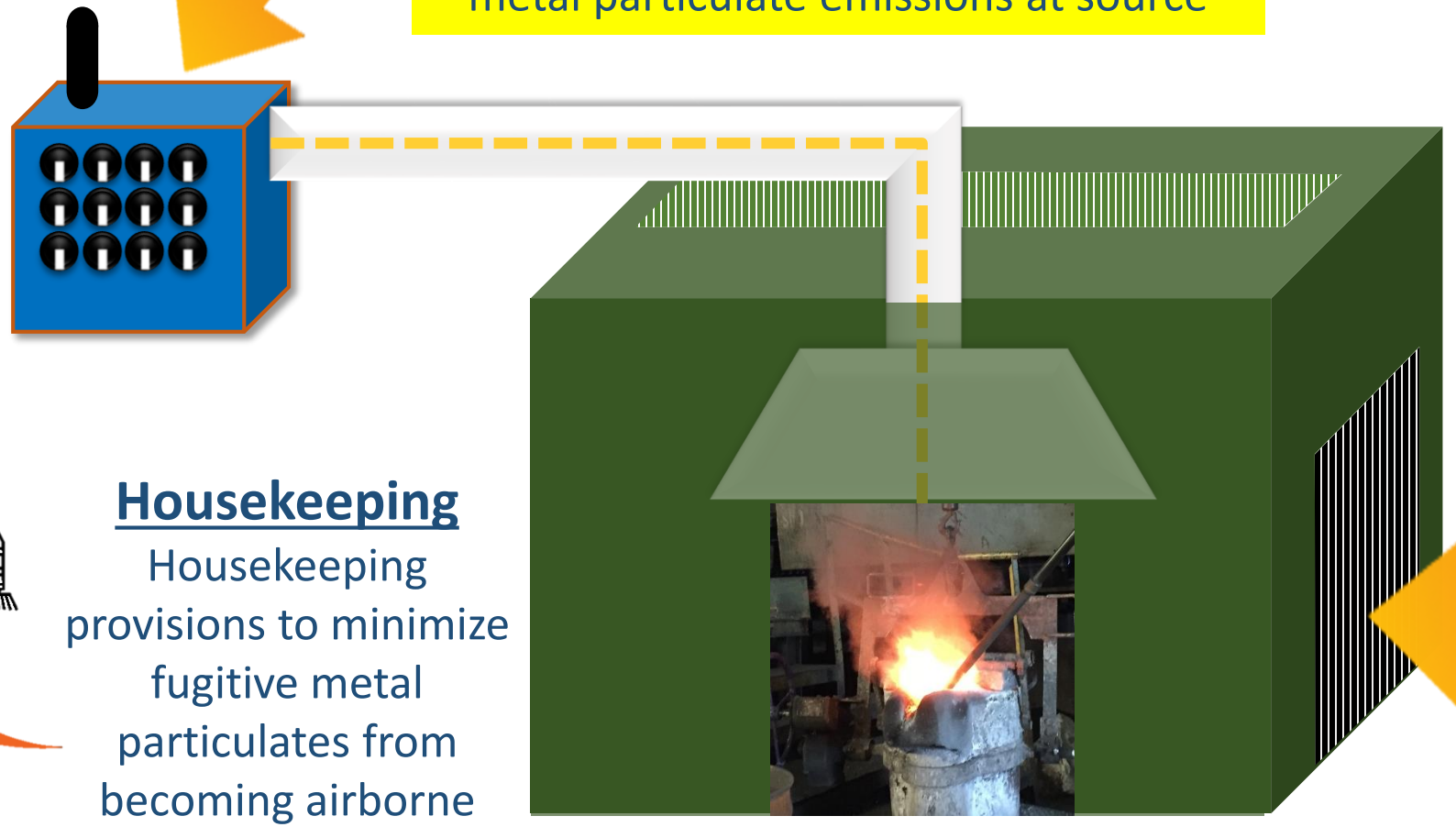
General Approach to PAR 1407

- General approach based on other rules addressing fugitive metal particulate
- Main focus will be on:
  - Point-source controls
  - Cross-draft minimization
  - Housekeeping
- Working Group Meeting today will focus on point-source controls
- Next Working Group Meeting will
  - Continue on providing additional details for point-source control requirements; and
  - Focus on cross-draft minimization and housekeeping provisions

General Control Approach

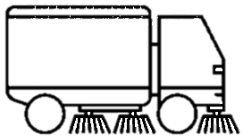
Point Source Controls

Point source pollution controls to reduce metal particulate emissions at source



Cross-Draft Minimization

Building with no cross-draft to contain fugitive metal particulate emissions



Housekeeping

Housekeeping provisions to minimize fugitive metal particulates from becoming airborne

Key Elements of Point Source Requirement

- Point source emission standard
  - An emission standard that can be based on control efficiency, mass emission rate, etc.
  - Collection efficiency – ensures pollution control device has the appropriate air flow to collect emissions
  - Pollutant(s) can be particulate matter or specific toxic air contaminants such as: arsenic, cadmium, hexavalent chromium, lead, or nickel
  - Source testing requirements
- Parameter monitoring of pollution control equipment

Control Efficiency vs. Mass Emission for Point Source Requirement

Source Test Requirement	Testing at Inlet	Testing at Outlet
Control Efficiency	Yes	Yes
Mass Emission Limit	No	Yes

- Source Testing
  - Control efficiency requires testing the inlet and outlet
  - Mass emission requires testing only the outlet (cost savings)
- Low Inlet Source
  - For low inlet sources, control efficiency requirement may be difficult to demonstrate
- Mass emission provides a more absolute amount of a specific compound that will be allowed from a point source
- Preference is mass emission – more challenging to establish mass emission limit

Emissions Standards in Recently Adopted Metal Rules

Rule	Contaminant	Control Efficiency	Emission Limit
Rule 1420 – Small Lead Melting Facilities	Lead	No	Yes
Rule 1420.1 – Large Lead-Acid Battery Recyclers	Lead	No	Yes
	Arsenic, benzene, and 1,3-butadiene	No	Yes
Rule 1420.2 – Medium Lead Melting Facilities	Lead	Yes	Yes
Rule 1430 – Grinding at Forging Facilities	PM	Yes	Yes

Considerations for Establishing Point Source Standards

- Review
  - Existing pollution controls
  - Existing source tests
  - Existing rules
- Assess Need and Ability
  - Is existing control efficiency sufficient to control toxic air contaminants?
  - Is there sufficient information to establish emission limit?
- Seeking input from stakeholders

Considerations for Pollutant(s) for Point Source Standards

- Rule 1407 currently focuses on particulate matter for the point source emission standard with the objective to reduce arsenic, cadmium, and nickel emissions
- Other potential options are specific toxic air contaminants such as arsenic, cadmium, hexavalent chromium, lead, and nickel
  - Although, difficult to establish emission limits for each specific toxic air contaminant
- Particulate matter emission standards may address all toxic air contaminants
  - May need to establish a different particulate matter emission standard to address a specific toxic air contaminant that needs additional controls
  - In general it is expected that a reduction in particulate matter will proportionally reduce arsenic, cadmium, hexavalent chromium, lead, and nickel
- A point source emission standard based on multiple toxic air contaminants will require additional source testing in addition to particulate matter

Initial Concepts for Point Source Controls

Current 1407

- Vent all emission points to an emission collection system ducted to a control device that reduces the particulate emissions by 99%

PAR 1407

- Maintain requirement that control is based on reduction of particulate matter
- Considering the option to meet either control efficiency or mass emission rate

Background on Source Testing

- Source tests are needed to quantify the emission rate or concentration of a pollutant from the source
- Source tests provide:
  - A snap shot of the overall operation of pollution control device
  - Ensures point source is meeting the established emission limit
  - Quantifies emissions from point source
- Since Rule 1407 currently has a one-time only provision for source testing, many sources have not been source tested for years to decades
- Periodic source testing has been required in the most recent metal related rules to ensure sources are meeting the established emission limit

Pollutants of Consideration for Source Testing

- For PAR 1407, focus will be on metal particulates
- If PAR 1407 requires source tests for particulate matter and other toxic metals, then separate source tests would be needed
- Separate source test needed for the following pollutants:
  - Particulate matter
  - Multi-metals
    - Includes arsenic, cadmium, total chromium, lead, and nickel
  - Hexavalent chromium

Source Testing Frequency and Type of Source Tests in Recently Adopted Metal Rules

Rule	Contaminant	Frequency	Alternative Frequency
Rule 1420 – Small Lead Melting Facilities	Lead	24 months	48 months, if below specific level
Rule 1420.1 – Large Lead-Acid Battery Recyclers	Lead	12 months	24 months, if below specific level
	Arsenic, benzene, and 1,3-butadiene	12 months	24 months, if below specific level
Rule 1420.2 – Medium Lead Melting Facilities	Lead	12 months	24 months, if below specific level
Rule 1430 – Grinding at Forging Facilities	PM	12 months	24 months, if below specific level
	Multi-metals	48 months	None
	Hexavalent Chromium	48 months	Exempt if total chromium is <1% of baghouse catch at each change out

Requirements – Source Testing

Current 1407

- One-time source test to determine control efficiency of the particulate control device
- Executive Officer may require additional source testing periodically or when the process is changed

PAR 1407

- Proposing periodic particulate matter source testing requirements every 24 months
- Can reduce frequency to every 36 months:
  - If meet specified emission limit
  - No operational issues with pollution controls
- Considering a one-time multi-metals source test

Importance of Monitoring Parameters of Pollution Controls

- Can provide early detection between source tests of:
  - Issues with collection efficiency
    - Is the emissions from the source appropriately moving towards the pollution control device?
  - Issue with filter media
    - Is there a breach in the filter media?
    - Is the filter media blocked?
- Ensures proper maintenance and operation of pollution control equipment

Types of Techniques to Monitor Specific Parameters of Pollution Control Devices for Particulate Control

Technique	Description	Purpose
Pressure gauge for air flow across filter media	Measure pressure across filter media	Identifies potential breach or blockage with filter
Measure collection efficiency at vents leading to pollution control device	Use hand held hot-wired anemometer to measure inlet velocity at vents to collection to pollution control	Ensure collection efficiency is maintained
Smoke stick or other device to visually observe air flow	Smoke test to observe direction of air flow near vents of pollution control device	Ensures air from source is moving towards control device and not being impeded by external sources
Measure air flow	Measure air flow in the duct leading to the pollution control	Identifies if there is an issue with the collection efficiency
Baghouse leak detection	Monitor bag leakage and similar failures by detecting changes in particle mass loading	Identifies potential breach or blockage with filter
Temperature gauge at inlet	Measure temperature of air flow at inlet to pollution control device	Identifies temperature of inlet that may be too high for pollution control device

Requirements – Monitoring Emission Control Devices

Current 1407

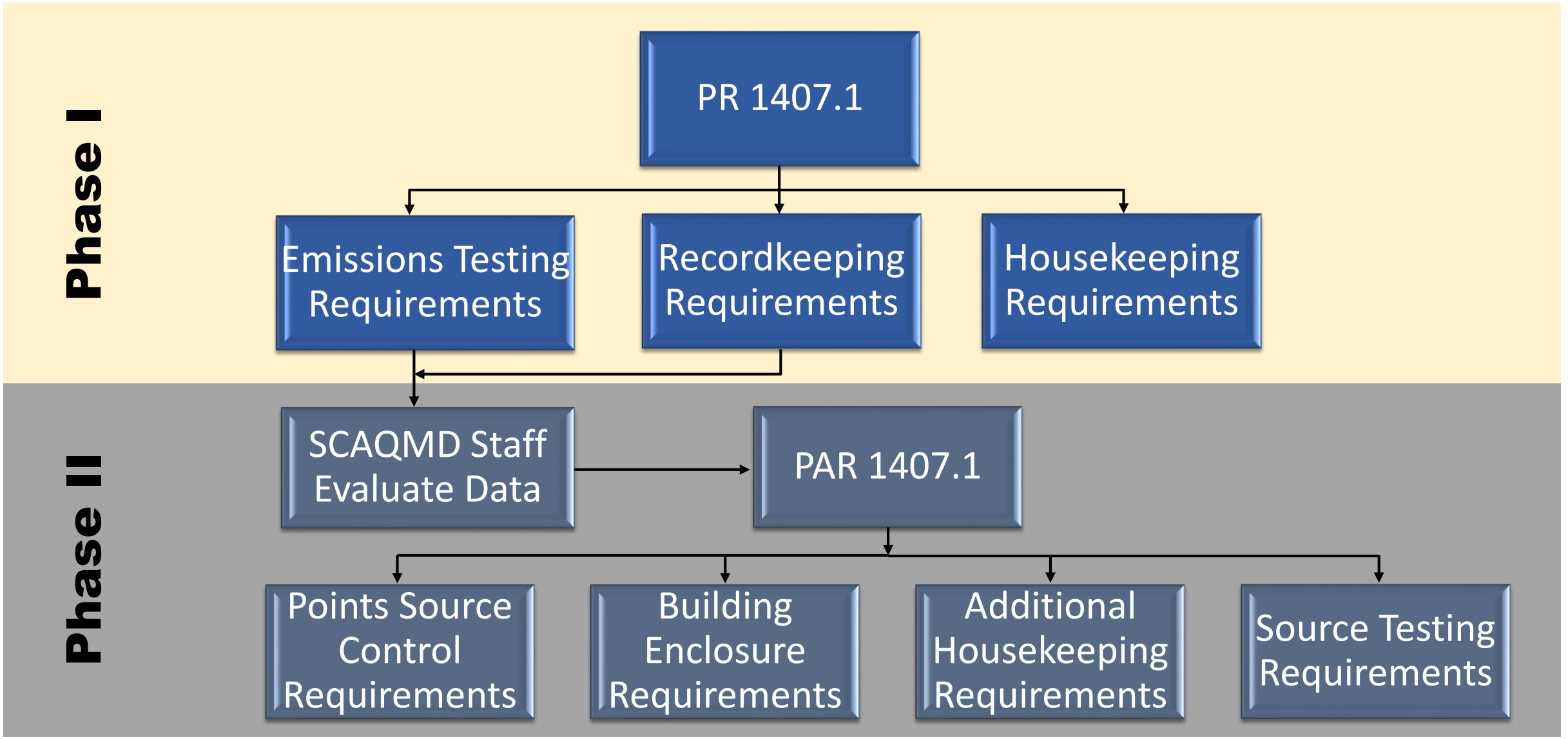
- Maintenance plan and use of good operating practices for emission control devices
- Monitoring parameters
  - Flow meter
  - Pressure gauge
  - Broken bag detector, and
  - Temperature gauge

PAR 1407

- Proposing to remove maintenance plan
- Incorporate specific monitoring provisions for ensuring proper operation of pollution control device – seeking input

Initial Concepts for PR 1407.1

Overview of PR 1407.1 Rulemaking



Data Gathering

- Proposed Rule 1407.1 will primarily be a data gathering rule
- Data will be gathered through emissions testing and recordkeeping requirements
  - Emissions Source Testing Requirements
    - Test for arsenic, cadmium, hexavalent chromium, lead, and nickel
  - Analyses of: bag house catch, raw materials, final materials, metal-containing waste, and slag
    - Other analyses?
  - Possible Recordkeeping Requirements
    - Results of tests performed
    - Detailed records of: melt logs, weight of metal-containing waste
    - Schedule of housekeeping and maintenance
    - Other records?

Housekeeping Requirements

- Proposed Rule 1407.1 will have basic housekeeping requirements
  - Wet washing or vacuuming metal-processing areas including buffing, grinding, and polishing areas
  - Cleaning after maintenance, repairs, or spills
  - Remove weather caps
  - Other

Data Evaluation

- Staff will evaluate Rule 1407.1 data for emissions resulting from ferrous metal-melting operations
- Based on the data evaluation, staff will initiate rulemaking process
- Possible areas, depending on data evaluation include requirements for:
  - Point source controls
  - Cross-draft minimization
  - Fugitive emissions controls
  - Source tests
  - Housekeeping
  - Others?

Schedule for PAR 1407

• Additional Working Groups	May
• Public Workshop	3rd Quarter 2018
• Stationary Source Committee	September 21, 2018
• Set Hearing	October 5, 2018
• Public Hearing	November 2, 2018

Schedule for PR 1407.1

• Additional Working Groups	May
• Public Workshop	June or July 2018
• Set Hearing	July 6, 2018
• Stationary Source Committee	July 20, 2018
• Public Hearing	September 7, 2018

SCAQMD Contacts

Rule Development

- Uyen-Uyen Vo, uvo@aqmd.gov, (909) 396-2238

General Questions

- Michael Morris, mmorris@aqmd.gov, (909) 396-3282
- Susan Nakamura, snakamura@aqmd.gov, (909) 396-3105