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

- Meetings with Organizations (Industry, Environmental, Community)
- Individual Facility Meetings
- Working Group Meetings
- Comment Letters
- Public Comment at Public Workshop(s) and Public Hearing
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

Working Group Meetings
As Needed

Release Initial Draft Rule Language
Approximately 30 days before Notice of Public Workshop

Notice of Public Workshop
Preliminary Draft Rule Language and Preliminary Draft Staff Report
75 days before Public Hearing

Public Workshop
As noticed in Notice of Public Workshop
Rule Development Schedule (continued)

- **Stationary Source Committee Meeting**
  - 6 weeks before Public Hearing

- **Set Hearing**
  - Board Hearing before Public Hearing

- **Notice of Public Hearing**
  - Draft Rule Language and Draft Staff Report
  - 30 days before Public Hearing

- **Public Hearing**
  - Additional time may be required depending on the type of CEQA document

16
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
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

<table>
<thead>
<tr>
<th>Rule</th>
<th>Contaminant</th>
<th>Control Efficiency</th>
<th>Emission Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 1420 – Small Lead Melting Facilities</td>
<td>Lead</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Rule 1420.1 – Large Lead-Acid Battery Recyclers</td>
<td>Lead</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Arsenic, benzene, and 1,3-butadiene</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Rule 1420.2 – Medium Lead Melting Facilities</td>
<td>Lead</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Rule 1430 – Grinding at Forging Facilities</td>
<td>PM</td>
<td>Yes</td>
<td>Yes</td>
</tr>
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</table>
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

<table>
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<tr>
<th>Rule</th>
<th>Contaminant</th>
<th>Frequency</th>
<th>Alternative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 1420 – Small Lead Melting Facilities</td>
<td>Lead</td>
<td>24 months</td>
<td>48 months, if below specific level</td>
</tr>
<tr>
<td>Rule 1420.1 – Large Lead-Acid Battery Recyclers</td>
<td>Lead</td>
<td>12 months</td>
<td>24 months, if below specific level</td>
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<td>Arsenic, benzene, and 1,3-butadiene</td>
<td>12 months</td>
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<td>12 months</td>
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</tr>
<tr>
<td></td>
<td>Multi-metals</td>
<td>48 months</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Hexavalent Chromium</td>
<td>48 months</td>
<td>Exempt if total chromium is &lt;1% of baghouse catch at each change out</td>
</tr>
</tbody>
</table>
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

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

Phase I

- Emissions Testing Requirements
- Recordkeeping Requirements
- Housekeeping Requirements

Phase II

- SCAQMD Staff Evaluate Data
- PAR 1407.1
  - Points Source Control Requirements
  - Building Enclosure Requirements
  - Additional Housekeeping Requirements
  - Source Testing Requirements
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
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