Proposed Amended Rule 1407
Control of Emissions of Arsenic, Cadmium and Nickel from Non-ferrous Metal Melting Operations

Working Group #1
September 5, 2017
Stakeholder Working Group

• Comprised of stakeholders including industry, environmental groups, community members, and agencies

• Working group meetings held throughout the rule development process and open to the public

• Provides stakeholders opportunity to discuss elements of proposed rule with staff

• Assist staff in understanding
  • Key issues and concerns
  • Industry terms, industry practices, etc.
Background

- Adopted in July 8, 1994
- Rule 1407 has not been amended since its adoption
- Metal melting operations including metal smelters, foundries, die-casting, etc. can generate fugitive metal particulate emissions during melting and other operations
- Measures such as building enclosures, enhanced housekeeping, and point source controls help minimize toxic metal emissions, most of which are fugitive
### Existing Rule 1407

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Applicability</th>
<th>Requirements</th>
<th>Exemptions</th>
</tr>
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<tbody>
<tr>
<td>Reduce emissions of arsenic, cadmium, and nickel</td>
<td>Non-ferrous metal melting operations</td>
<td>PM control system, Fugitive emissions, Compliance Plan, Recordkeeping</td>
<td>Small Quantity, Metal or Alloy Purity, Aluminum, Rule 1420</td>
</tr>
</tbody>
</table>
Existing Requirements

**PM Emission Collection System**

- Shall reduce particulate emissions by at least 99% from all emission points
- Determine control efficiency with SCAQMD Method 5.2 – Determination of Particulate Matter Emissions From Stationary Sources Using Heated Probe and Filter
- Use good operating practices to maintain air movement and efficiency
- Demonstrate good operating practices through a maintenance program and use of measure devices (flow meter, pressure gauge, broken bag detector, temperature gauge)
Existing Requirements

Fugitive Emission Control

- Visible Emissions Standard
- Store dust-forming material in an enclosed storage area
- Collect material from PM control system into closed containers or an enclosed system
- Vacuum or wet mop surfaces subject to vehicular and foot traffic
Existing Exemptions

• Small Quantity Exemptions
  • Melts less than one ton per year of all non-ferrous metals
  • Less than exemption limit listed in Table I of rule

• Metal or Alloy Purity
  • 0.004% cadmium
  • 0.002% arsenic

• Aluminum
  • Clean aluminum scrap
  • Aluminum scrap furnaces
  • Aluminum pouring

• Rule 1420 – Emissions Standard for Lead
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Potential Universe

• Reviewed SCAQMD permitting databases to:
  • Identify industry categories based on Standard Industrial Classification (SIC) Codes
  • Identify equipment lists for facilities in each SIC category based on basic equipment that could be related to metal-melting

• Reviewed inspection reports to compile information not included in permitting database of equipment lists

• Searched for new potential facilities to capture all emission sources
<table>
<thead>
<tr>
<th>Foundry Type</th>
<th>Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>28</td>
</tr>
<tr>
<td>Aluminum and Zinc</td>
<td>5</td>
</tr>
<tr>
<td>Aluminum and Aluminum Scrap</td>
<td>6</td>
</tr>
<tr>
<td>Aluminum and Iron</td>
<td>1</td>
</tr>
<tr>
<td>Aluminum and Magnesium</td>
<td>2</td>
</tr>
<tr>
<td>Zinc</td>
<td>1</td>
</tr>
<tr>
<td>Various Non-Ferrous</td>
<td>10</td>
</tr>
<tr>
<td>Ferrous (w/ stainless steel)</td>
<td>7</td>
</tr>
<tr>
<td>Non-Ferrous &amp; Ferrous (w/ stainless steel)</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67</strong></td>
</tr>
</tbody>
</table>
### Breakdown of Furnaces

<table>
<thead>
<tr>
<th>Furnace Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crucible</td>
<td>16</td>
</tr>
<tr>
<td>Cupola</td>
<td>1</td>
</tr>
<tr>
<td>Electric Induction and Resistance</td>
<td>77</td>
</tr>
<tr>
<td>Pot</td>
<td>9</td>
</tr>
<tr>
<td>Reverb</td>
<td>38</td>
</tr>
<tr>
<td>Other</td>
<td>18</td>
</tr>
<tr>
<td>Unpermitted</td>
<td>&gt; 180</td>
</tr>
</tbody>
</table>

- Majority of permitted furnaces did not require particulate control device
- Many of the permitted control devices have not been source tested for particulate emissions
Site Visits and Surveys

- Overall objective is to identify:
  - Current best management practices and housekeeping practices
  - Existing pollution controls
  - Additional emissions sources
  - Where additional pollution controls are needed
  - Types of alloys and volumes processed
  - Raw material and final product specifications
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Site Visits

- Visited approximately 25 facilities
- Observations
  - Housekeeping
    - Variation in the schedule and housekeeping measures
  - Point Sources
    - Very few point sources vented to air pollution control devices
  - Fugitive Emission Sources
    - Few facilities stored dust-forming materials in enclosed areas
    - Often dross, slag, and metal debris not contained
  - Enclosures
    - Most facilities conducted operations in partial enclosures (one major section of wall open)
  - Air Pollution Control Devices
    - Many facilities with ducting and hoods in poor condition
Schedule

- Additional Working Groups: TBD
- Site Visits: Ongoing
- Public Workshop: December 2017
- Stationary Source Committee: January 19, 2018
- Set Hearing: February 2, 2018
- Public Hearing: March 2, 2018
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