PROPOSED AMENDED RULE 1407

CONTROL OF EMISSIONS OF ARSENIC, CADMIUM, AND NICKEL FROM NON-CHROMIUM METAL MELTING OPERATIONS

Working Group Meeting #8
May 23, 2019
Conference Call Number: 1-719-359-9722
Participant Passcode: 278853

Agenda

- Summary of Working Group Meeting #7
- Review of Preliminary Draft Rule Language
- Impacted Facilities
- Rule Development Schedule

Summary of Working Group Meeting #7

Concepts Discussed in Previous Working Group Meeting

Definitions

Key terms used to clarify rule requirements

Mass Emission Limits

Based on cancer screening risk level of 25 in one million for a receptor located 100 meters from source

Emission Control (Effective January 1, 2021)

Demonstrate 99% control for arsenic, cadmium, and nickel; or Meet mass emission limits

Housekeeping

Weekly cleaning required for areas near metal melting, grinding, and cutting operations

Building Enclosures (Effective January 1, 2021)

Minimize cross-drafts for areas where metal melting, grinding, and cutting operations occur

Exemptions

Metal Purity Exemption limited to facilities that process less than 700 tons per month

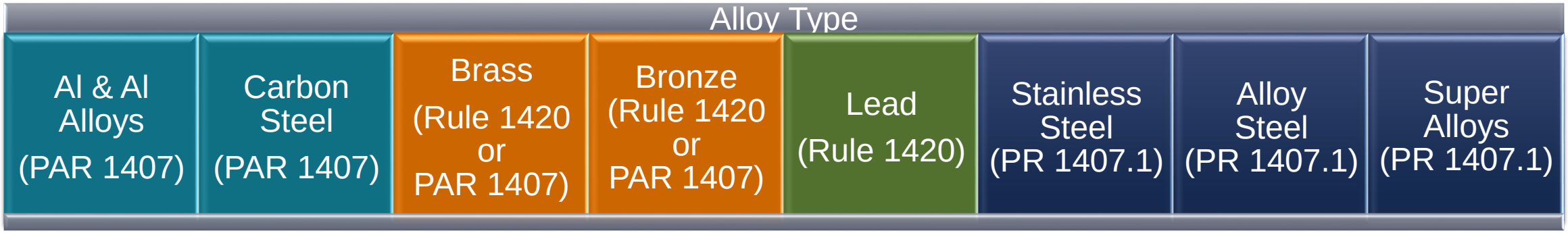
Review of Preliminary Draft Rule Language

Preliminary Draft Rule Language

- Draft rule language based on:
  - Concepts presented during working group meeting
  - Measures used in recently approved toxic rules
- Provides stakeholders an opportunity to provide input and feedback before Public Workshop

Purpose (a)

- Reduce emissions of arsenic, cadmium, and nickel from non-chromium metal melting operations
  - Other South Coast AQMD rules will regulate toxic emissions from chromium or lead melting operations



Applicability (b)

- Applies to non-chromium metal melting operations including:
  - Smelters (primary and secondary)
  - Foundries
  - Die-casters
  - Coating processes (galvanizing and tinning)
  - Dip soldering
  - Brazing
  - Aluminum powder production

- Includes grinding and cutting operations conducted at non-chromium metal melting facilities

Definitions (c)

Adding

- Approved Cleaning Methods
- Bag Leak Detection System
- Building Enclosure
- Capture Velocity
- Emission Control Device
- Enclosure Opening
- Foundry
- Low Pressure Spray
- Non-Chromium Metal

Modifying

- Emission Collection System
- Emission Control Device
- Facility
- Fugitive Emissions
- Metal Melting Furnace
- Non-Chromium Metal
- School

Removing

- District
- Dust Forming Material
- Emission Point
- Fine Particulate Matter
- Fugitive Emissions Control
- Good Operating Practices
- Hard Lead
- Non-Ferrous Metal
- Particulate Matter
- Particulate Matter Control System
- Person
- Process Emission Control
- Pure Lead
- Type Metal

Emission Control Requirements (d)

- Maintain following limits from point sources, such as furnaces until implementation of proposed emission limits
  - Capture 99% of particulate emissions
  - Gas stream temperature < 360°F unless 99% control can be demonstrated for arsenic, cadmium, and nickel

Proposed Emission Control Requirement (d)

- On or before January 1, 2021, must either demonstrate:
  - Control device captures 99% of arsenic, cadmium, and nickel emissions; or
  - Annual mass emission rate below

Toxic	Annual Rate (lb)
Arsenic	0.0953
Cadmium	0.74
Nickel	12.2

- Mass emission rates:
  - Allow facilities without controls to demonstrate they have low emissions even if they do not qualify for purity exemption
  - Allow facilities to source test only the outlet of control device providing some cost savings

Mass Emission Rates

- Mass emission rates based on Cancer Risk of 25 in a million for a receptor located 100 meters from the source
- Annual screening cancer rates obtained from South Coast AQMD Permit Application Package “N”, Version 8.1, Table 1
- Earlier proposed hourly rate replaced with annual rate
  - Avoids making assumption regarding operating hours

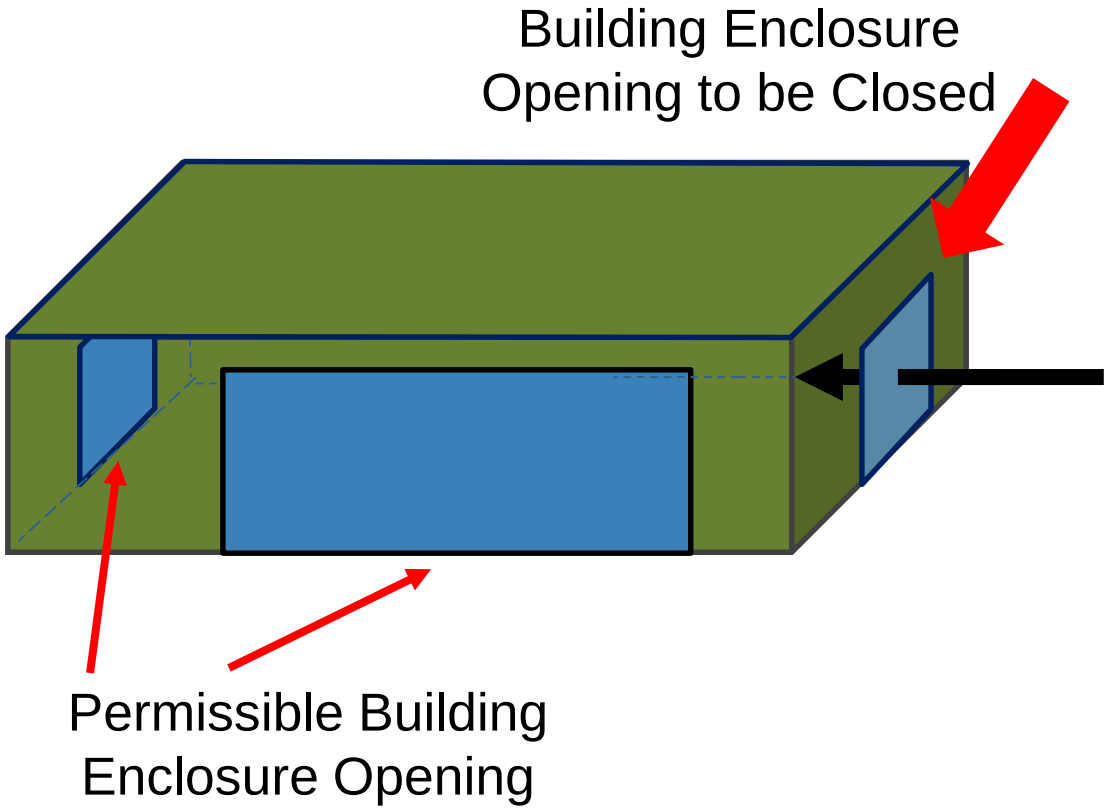
Housekeeping (e)

- Limits fugitive emissions
  - Effective upon rule adoption unless otherwise noted

Housekeeping Requirement	Current Rule 1407	Proposed Rule 1407
Weekly cleaning	Yes	Yes
Discharge materials from emission control device into closed container	Yes	Yes
Metal-containing debris in closed containers	No	Yes
Dust-forming materials covered or in building enclosure	Yes	Yes
Prohibition of compressed air or dry sweeping	No	Yes
Weekly cleaning of cutting and grinding operations	No	Yes*
Quarterly inspection, and cleaning if necessary, of collection vents and ducts	No	Yes*
Transport of materials in covered containers or in building enclosure	No	Yes*
Remove weather caps from stacks	No	Yes*
Clean within one hour after construction or maintenance	No	Yes*

*Effective 30 days after rule adoption

Building Enclosures



- Use of building enclosure for areas where metal melting, grinding, and cutting operations are conducted
- Benefits of building enclosures
  - Minimizes cross-drafts
  - Provides secondary containment of fugitive emissions
  - Optimizes collection efficiency of control devices
- Allows multiple doors and openings, provided no cross-draft where fugitives can move through structure

Proposed Building Enclosures (f)

- Building enclosure requirements effective July 1, 2020
- Acceptable methods to minimize cross-drafts:
  - Automated roll-up doors
  - Overlapping plastic strip curtains
  - Vestibules
  - Airlock system
  - Alternatives approved by Executive Officer
- Operator may submit Building Enclosure Compliance Plan if building enclosure is in conflict with other agency requirements

Recordkeeping (g)

- Assists in verifying compliance
  - Records to maintained for three years (previously two years)

Record Type	Current Rule 1407	Proposed Rule 1407
Types, quantities, and analyses of metals melted	Yes (Purity exemption only)	Yes (All)
Source test data	Yes	Yes
Housekeeping activities	No	Yes
Parametric monitoring data including pressure difference across filter media	No	Yes
Anemometer data including capture velocities	No	Yes

Source Testing (h)

- Source testing verifies control efficiency or mass emission rates
  - Periodic source tests (once every 60 months) needed to verify continued compliance
- Must demonstrate compliance with mass emission rate or 99% control efficiency by January 1, 2021
- Each control device to be tested
- One uncontrolled furnace may be tested with results applied to other functionally identical uncontrolled furnaces

Materials Testing (i)

- Used to determine composition and concentration of elements in materials
  - Minor change to exclude “pig lead”

Emission Control Device Monitoring (j)

- Monitoring key parameters of emission control devices can provide early detection of issues with pollution controls

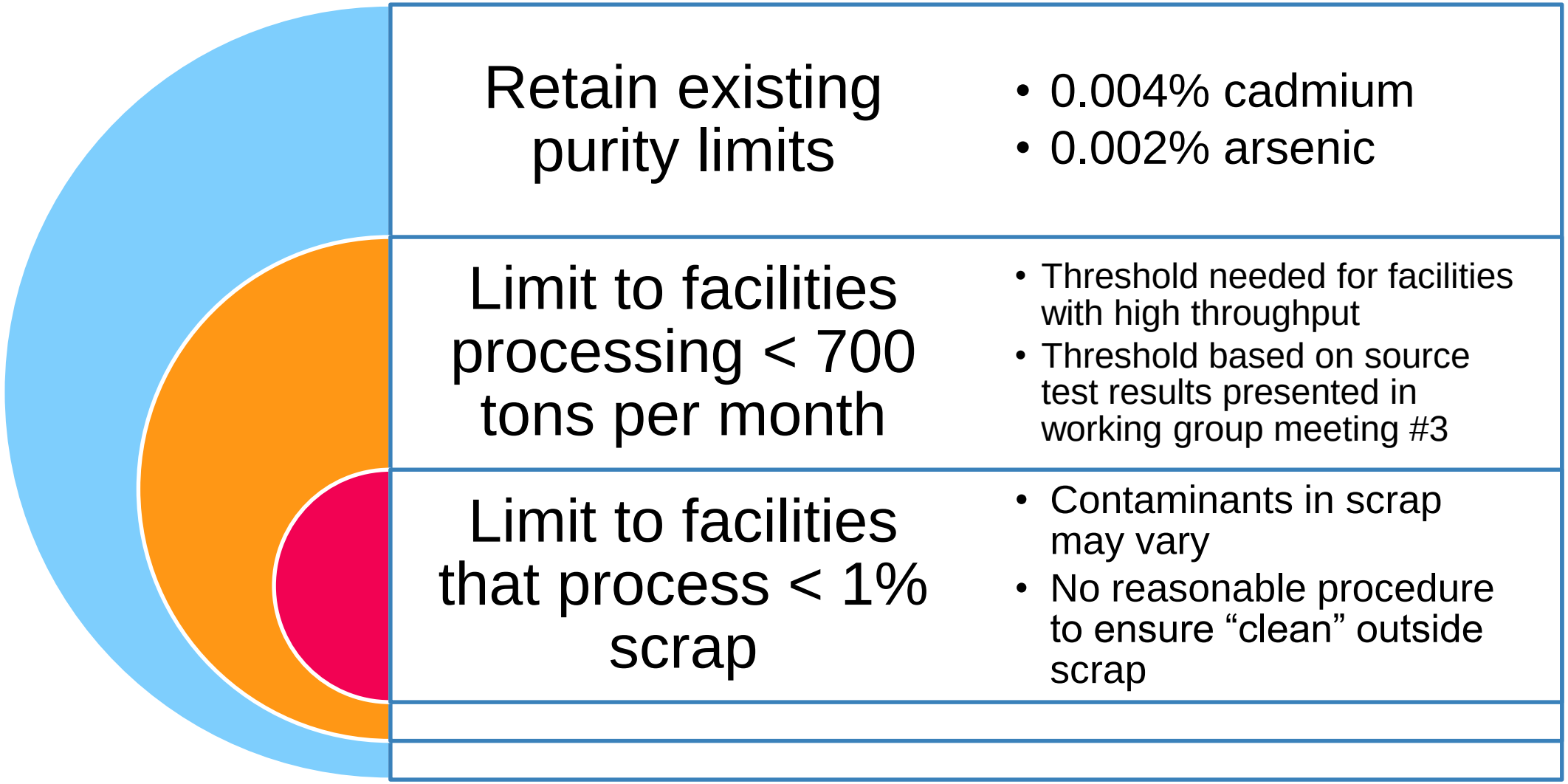
Monitoring Parameter	Current Rule 1407	Proposed Rule 1407*
Compliance Plan	Yes	No
Bag Leak Detection System (Rule 1155)	No	Yes
Monitoring air velocities in hoods and ducts	Yes (Compliance Plan)	Yes
Flow rates to and from emission collection system	Yes	Yes
Pressure drops across baghouse filter media	Yes	Yes
Temperature of control device	Yes	Yes
Continuous data acquisition system	No	Yes
Periodic smoke test	No	Yes

*Effective January 1, 2019

Exemptions Retained (k)

- Small quantity exemption
  - Facilities that melt less than 1 ton per year only required to maintain records to confirm
- Aluminum pouring exemption
  - Equipment used to convey aluminum only subject to housekeeping and associated recordkeeping
- Equipment subject to lead rules (Rules 1420, 1420.1, and 1420.2)
  - Currently only Rule 1420 specified
  - Lead rules generally have more stringent requirements
  - Want to avoid having duplicative requirements

Purity Exemption (k)



Retain existing purity limits	• 0.004% cadmium • 0.002% arsenic
Limit to facilities processing < 700 tons per month	• Threshold needed for facilities with high throughput • Threshold based on source test results presented in working group meeting #3
Limit to facilities that process < 1% scrap	• Contaminants in scrap may vary • No reasonable procedure to ensure “clean” outside scrap

Purity Exemption *(continued)* (k)

- Sunsetting limited metals melted (Table I), clean aluminum scrap, and aluminum scrap furnace exemptions
  - Will be replaced by revised purity exemption
  - Sunset will allow facilities to remain exempt until new requirements become effective
- Facilities qualifying for purity exemption will not be subject to:
  - Emission controls (d);
  - Source testing (h); and
  - Emission control device monitoring (j)
- Many facilities will qualify for purity exemption

Stakeholder Input Encouraged

- Seeking stakeholder input on preliminary draft rule language
- Comments and recommendations received by June 11 can be considered for incorporation into Public Workshop version of rule language
- There are additional opportunities to provide further input as rule development progresses
  - Early input is encouraged

Impacted Facilities

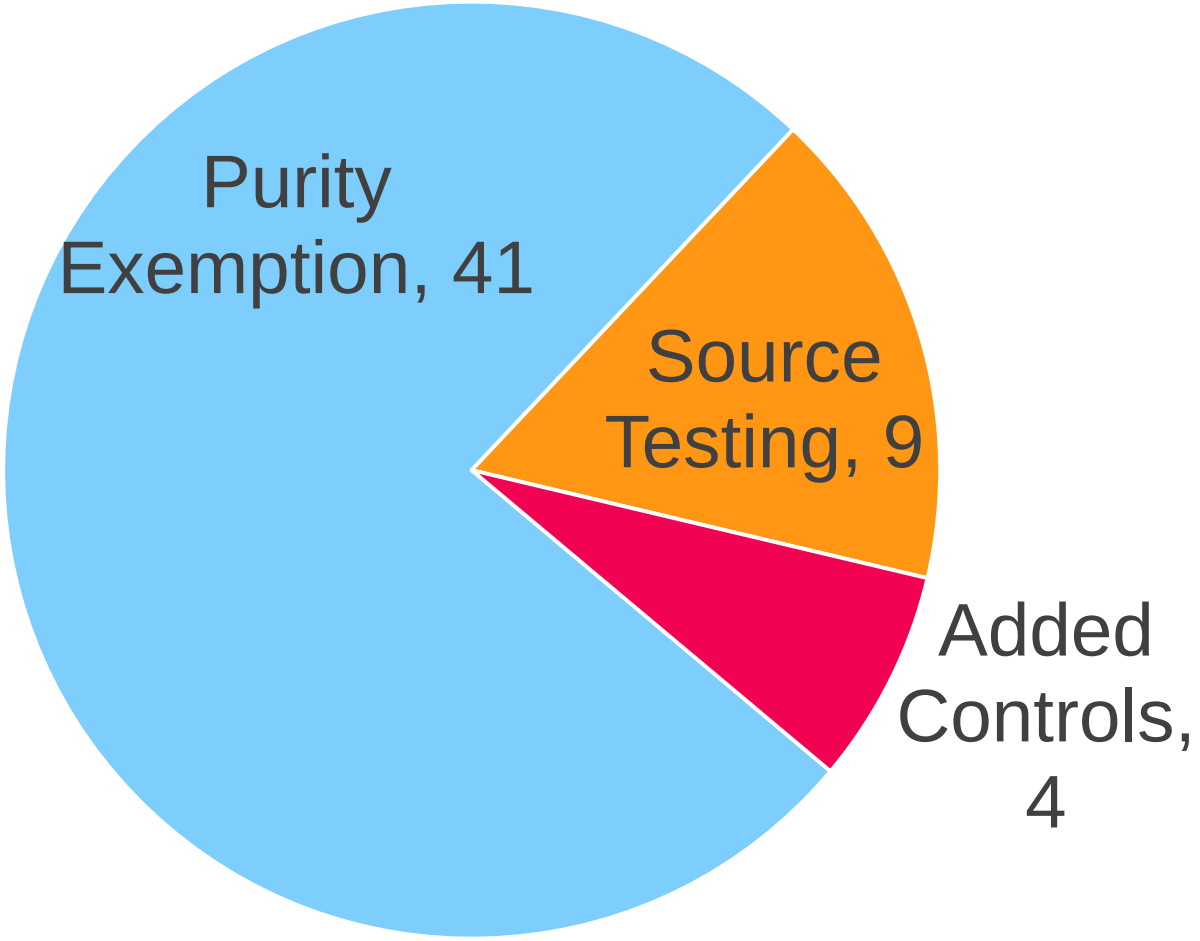
PAR 1407 Universe of Facilities

- Approximately 54 facilities subject to PAR 1407
  - Staff has visited 30 facilities over past 3 years
- Facilities identified by review of permits, business classification (North American Industry Classification System), and web search
- Estimates based on preliminary draft rule language
  - Subject to change based on stakeholder input

Exclusions		
Equipment used for lead melting Subject to 1420 series rules	Facilities melting less than one ton per year Jewelers, artists, schools	Equipment used for chromium metal melting Subject to PR 1407.1

Distribution of Facilities by Rule Status

- Requested process and raw materials data
  - Received information from 30 facilities (59%)
  - Remaining facilities are smaller and primarily utilize ingots (no external scrap)



Estimating Building Enclosure Impacts

- All 54 facilities melting > 1 ton per year must meet building enclosure requirements
- Building Enclosure upgrade estimations based on site visit observations
  - All 13 larger sites projected to require “Source Testing” and “Adding Controls” were visited
  - 17 of 41 smaller sites projected to utilize “Purity Exemption” were visited; building enclosure status extrapolated from visits

Distribution of Facilities by Building Enclosure Status

- Address Doors or Openings means that minor modifications including rollup doors, plastic strip curtains, or similar measures needed
- Construction means that one or more walls will need to be constructed

Facility Type	Number of Facilities	No Construction	Address Doors or Openings	Construction
Utilizing Purity Exemption	41	26	15	0
Requiring Source Testing	9	5	3	1
Requiring Added Controls	4	0	1	3

Rule Development Schedule

Tentative Rule Schedule

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