

BOARD MEETING DATE: September 6, 2019

AGENDA NO. 24

PROPOSAL: Certify Final Environmental Assessment and Amend Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations

Staff is recommending that the public hearing on this item be continued to the October 4, 2019 Board Hearing.

SYNOPSIS: Proposed Amended Rule 1407 applies to non-chromium metal melting operations and is designed to reduce emissions of arsenic, cadmium, and nickel. The proposed amended rule revises emission standards, enhances monitoring provisions for pollution control equipment, adds building enclosure provisions to limit fugitive emissions, and updates housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements.

COMMITTEE: No Committee Review

RECOMMENDED ACTIONS:

Adopt the attached Resolution:

1. Certifying the Final Environmental Assessment for Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations; and
2. Amending Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations.

Wayne Natri
Executive Officer

Background

Rule 1407 – Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Melting Operations, (Rule 1407) was adopted on July 8, 1994 and is designed to implement the CARB Airborne Toxics Control Measure for non-ferrous metal melting. Rule 1407 controls emissions of arsenic, cadmium, and nickel from non-ferrous metal melting, which includes aluminum, brass, and bronze melting operations. Proposed Amended Rule (PAR) 1407 expands the applicability of the rule to non-chromium metals, which includes non-ferrous metals and carbon steel. Non-chromium metals are metals that contain less than 0.5 percent by weight total chromium content. Many of the provisions in PAR 1407, such as revisions to point source pollution controls, provisions for building enclosures, and enhancements to housekeeping provisions, are based on updates to other metal melting rules that have been recently adopted or amended. PAR 1407 also modifies exemptions to ensure arsenic, cadmium, and nickel emissions are being appropriately controlled.

Public Process

Development of PAR 1407 was conducted through a public process. South Coast AQMD staff held nine working group meetings at the South Coast AQMD headquarters in Diamond Bar: September 5, 2017, November 9, 2017, January 30, 2018, April 25, 2018, July 19, 2018, August 30, 2018, March 12, 2019, May 23, 2019, and July 17, 2019. A Public Workshop was held on June 19, 2019. Staff also visited 30 of the 60 facilities that will be affected by the proposed rule changes.

Proposed Amendments

PAR 1407 establishes additional requirements to further control arsenic, cadmium, and nickel emissions from non-chromium metal melting operations. Arsenic, cadmium, and nickel are classified by U.S. EPA as carcinogenic compounds. By January 1, 2021, operators will be required to control emissions from non-chromium metal melting furnaces through either meeting a control efficiency of 99% per furnace or an aggregate mass emission limit for arsenic, cadmium, and nickel, individually. In addition, PAR 1407 requires periodic source testing of pollution controls, and additional monitoring requirements to ensure proper operation of emissions collection systems and control devices.

PAR 1407 requires metal melting operations, including grinding and cutting, to be conducted within a building enclosure by July 1, 2020 to limit fugitive emissions. PAR 1407 also enhances housekeeping requirements by requiring weekly cleaning of areas near metal melting and grinding operations, and inspection and cleaning of vent openings and ducting of metal melting operations. In response to comments from industry representatives, a provision has been added to allow an operator to request an alternative cleaning method when conducting weekly cleaning near metal melting, grinding, and cutting areas. Other amendments include requirements for material testing, additional reporting, and recordkeeping.

PAR 1407 modifies exemptions to better address arsenic, cadmium, and nickel emissions. PAR 1407 adds a throughput limit for facilities that are using a metal or alloy purity exemption, because facilities that utilize metals with low percentages of arsenic and cadmium with high throughput levels can have significant arsenic and cadmium emissions. PAR 1407 modifies the clean aluminum scrap exemption by limiting the arsenic, cadmium, or nickel content in alloys melted, adds an exemption for facilities that are regulated under lead melting operations rules, and adds an exemption for facilities that are melting minimal amounts of arsenic or cadmium.

Key Issues

Through the rulemaking process, staff has worked with stakeholders to address comments and resolve a number of key issues. The California Metals Coalition commented that the cost impact of PAR 1407 will occur in the first year after rule adoption and the costs to facilities should not be amortized in the socioeconomic analysis. The staff report includes total costs as requested by the commenter. Between \$5.4 and \$6.4 million are one-time costs in the first year after rule adoption. The remaining cost are recurring costs over a 21-year period. The total present worth value cost to meet the 2020 deadline is \$43.4 million to \$59.6 million using a 4 percent or 1 percent discount rate, respectively. When conducting socioeconomic analyses, the South Coast AQMD staff typically annualizes capital costs. This allows accounting for the cost of financing and the opportunity cost of capital. For the 41 smaller facilities subject to PAR 1407, it is estimated that most will have minor costs associated with housekeeping and building amounting to \$50,000 in one-time costs and another \$1,000 per year in recurring costs. The majority of the costs apply to the four largest facilities which also melt the most metal.

California Environmental Quality Act

PAR 1407 is considered a “project” as defined by the California Environmental Quality Act (CEQA) and the South Coast AQMD is the designated lead agency. Pursuant to South Coast AQMD’s Certified Regulatory Program (Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110) and CEQA Guidelines Section 15070, the South Coast AQMD has prepared a Final Environmental Assessment (EA) for PAR 1407, which is a substitute CEQA document, prepared in lieu of a Negative Declaration. The environmental analysis in the Final EA concluded that PAR 1407 would not generate any significant adverse environmental impacts. The Final EA is included as an attachment to this Governing Board package (see Attachment H).

Socioeconomic Analysis

There are 60 facilities subject to PAR 1407 which are classified mainly as steel product manufacturing from purchased steel facilities, alumina and aluminum production and processing facilities, and foundries. Of these 60 facilities, 40 are located in Los Angeles County, four in Orange County, four in Riverside County, and 12 in San Bernardino County.

The estimated total average annual cost of PAR 1407 is \$3.0 to \$3.1 million from 2019 to 2040 assuming a 1 percent and 4 percent real interest rate, respectively. Facilities processing or producing alumina or aluminum are expected to incur about 66 percent of the total average annual cost of PAR 1407, while foundries are expected to incur about 24 percent of the total average annual cost of PAR 1407. About 90 percent of the total average annual cost of PAR 1407 is expected to occur from purchase, engineering, installation, and annual maintenance of new pollution control devices (baghouses), with the remainder due to building enclosures, source testing, smoke testing, slot velocity testing, and housekeeping.

PAR 1407 is expected to result in approximately 90 to 92 jobs on average forgone annually from 2019 to 2040 assuming a 1 percent and 4 percent real interest rate, respectively. The projected job forgone impacts represent about 0.001 percent of total employment in the four-county region for both the low- and high-interest-rate scenarios.

AQMP and Legal Mandates

Pursuant to Health & Safety Code Section 40460 (a), the South Coast AQMD is required to adopt an AQMP demonstrating compliance with all federal regulations and standards. The South Coast AQMD is required to adopt rules and regulations that carry out the objectives of the AQMP. PAR 1407 is an air toxics control measure (TXM-06) in the 2016 AQMP, but is not a control measure for attainment of state or federal regulations and standards. PAR 1407 is needed to reduce emissions of arsenic, cadmium, and nickel from non-chromium metal melting operations.

Implementation and Resource Impacts

Approximately one FTE will be necessary to conduct compliance inspections, evaluate permit applications for control equipment, and review source test protocols and results.

Attachments

- A. Summary of Proposal
- B. Key Issues and Responses
- C. Rule Development Process
- D. Key Contacts List
- E. Resolution
- F. Proposed Amended Rule 1407
- G. Final Staff Report for Proposed Amended Rule 1407
- H. Final Environmental Assessment
- I. Socioeconomic Assessment
- J. Board Meeting Presentation

ATTACHMENT A

SUMMARY OF PROPOSAL

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

Applicability

- Expands applicability to non-chromium metal melting operations where non-chromium metal is defined as any metal that contains less than 0.5% chromium by weight as determined on a quarterly weighted average

Requirements

- Requires furnace emissions to either meet a control efficiency of 99% per furnace for arsenic, cadmium, and nickel individually or meet aggregate mass emission limits of 0.000066 lbs/hr of arsenic, 0.000514 lbs/hr of cadmium, and 0.00848 lbs/hr of nickel individually by January 1, 2021
- Requires permit applications by July 1, 2021 for installation of new emission control devices and mandates permits for existing emission control devices on metal furnaces
- Requires metal melting operations, including grinding and cutting, to be conducted within a building enclosure that minimizes cross-draft conditions
- Retains majority of currently required material testing methods until January 1, 2021 and allows South Coast AQMD-approved alternative material testing methods
- Requires quarterly analysis of raw materials melted and quarterly analysis of baghouse catches
- Includes pressure drop monitors, slot velocity measurement, periodic source testing, and installation of baghouse leak detection systems to confirm proper operation of emission control devices
- Updates housekeeping, recordkeeping, and reporting provisions
- Includes provision for operator to request an alternative cleaning method for weekly cleaning of areas around furnaces, cutting, and grinding areas
- Requires initial source testing by January 1, 2021 and periodic source testing every 60 months thereafter

Exemptions

- Updates metal purity exemption to include specified thresholds and require demonstration that metals contain minimal arsenic and cadmium content
- Equipment and operations subject to Rules 1420, 1420.1, or 1420.2
- Phase-out of exemption provisions for clean aluminum scrap and furnaces melting aluminum scrap by January 1, 2021
- Brazing, dip soldering, metal cutting, or metal grinding conducted for maintenance purpose

ATTACHMENT B

KEY ISSUE AND RESPONSE

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

The California Metals Coalition commented that the cost impact of PAR 1407 will occur in the first year after rule adoption and the costs to facilities should not be amortized in the socioeconomic analysis. The costs draw from the current operating budget of a business.

- The staff report includes total costs as requested by the commenter. The total present worth value cost to meet the 2020 deadline is \$43.4 million to \$59.6 million using a 4 percent or 1 percent discount rate, respectively. Between \$5.4 and \$6.4 million are one-time costs in the first year after rule adoption while the remainder are recurring costs over a 21-year period. For the 41 smaller facilities subject to PAR 1407, it is estimated that most will have minor costs associated with housekeeping and building amounting to \$50,000 in one-time costs and another \$1,000 per year in recurring costs. The bulk of the costs apply to the four largest facilities which also melt the most metal. When conducting socioeconomic analyses, the South Coast AQMD typically annualizes capital cost to allow for the cost of financing and the opportunity cost of capital.

ATTACHMENT C

RULE DEVELOPMENT PROCESS

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



Three (3) years and ten (10) months spent in rule development.

One (1) Public Workshop.

Nine (9) Working Group Meetings.

ATTACHMENT D

KEY CONTACTS LIST

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

AB & I Foundry	Commercial Casting	Los Angeles Pump and
ACE Clearwater	Company	Valve Products
ACME Castings	Commercial Metal	Magnesium Alloy
ADL	Forming	Products Company
Advanced Environmental	Concorde Battery	Mattco Forge
Compliance	Corporation	Miller Castings
Advanced Environmental	Consolidated Precision	Modern Pattern &
Control	Products	Foundry
AECOM	Cundiff Steel	Montrose Air Quality
Allan Company	Custom Alloy Light	Services
Almega Environmental	Metals	Pacific Alloy Casting
The Alpert Group	Doomsday CEMS	Company
Alta Environmental	E4 Strategic Solutions	Pacific Die Casting
Arrowhead	Ekco Metals	Porter Warner Industries
Associates	Exponent	Pro Cast Industries
Environmental	Fenico Precision	Ramboll Environ
Atlas Pacific Corporation	Castings	Ramcar Batteries
Basic Fibres	Fontana Foundry	Research Tool & Die
BlueScape	Corporation	Works
Environmental	Gerdau	SA Recycling
Bodycote	Globe Iron Foundry	Scott Sales Company
The Boeing Company	Green Environmental	Semco
C & M Metals	Management	Sierra Aluminum
California Amforge	Griswold Industries	Company
Corporation	HBA	Solutions 4 Blast
California Metals	Heraeus	Strategic Materials
Coalition	Hughes Brothers	Corporation
California Metal-X	Aircrafters	Techni-Cast Corporation
California Steel & Tube	Hyatt Die Cast	Total Clean
California Steel	IMS Recycling Services	Trihydro
Industries	Interspace Battery	TST
Cast Metal Services	Corporation	U.S.R.
Cast-Rite Corporation	Jack Engle & Company	Vista Metals Corporation
Certified Alloy Products	JE Compliance Services	Whittingham Public
Clow Valve	Keramida	Affairs Advisors
	Lee's Iron & Metal	Yorke Engineering

ATTACHMENT E

RESOLUTION NO. 19-____

A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) certifying the Final Environmental Assessment (EA) for Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations.

A Resolution of the South Coast AQMD Governing Board amending Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations.

WHEREAS, the South Coast AQMD Governing Board finds and determines with certainty that Proposed Amended Rule 1407 is considered a "project" as defined by the California Environmental Quality Act (CEQA); and

WHEREAS, the South Coast AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(1), and has conducted a CEQA review and analysis of Proposed Amended Rule 1407 pursuant to such program (South Coast AQMD Rule 110); and

WHEREAS, the South Coast AQMD Governing Board has determined that the requirements for a Negative Declaration have been triggered pursuant to its certified regulatory program and CEQA Guidelines Section 15070, and that an Environmental Assessment (EA), a substitute document allowed pursuant to CEQA Guidelines Section 15252 and South Coast AQMD's certified regulatory program, is appropriate; and

WHEREAS, the South Coast AQMD Governing Board staff has prepared a Draft EA pursuant to its certified regulatory program and CEQA Guidelines Sections 15070 and 15252 setting forth the potential environmental consequences of Proposed Amended Rule 1407 and determined that the proposed project would not have the potential to generate significant adverse environmental impacts; and

WHEREAS, the Draft EA was circulated for a 32-day public review and comment period, from June 28, 2019 to July 30, 2019, and one comment letter was received; and

WHEREAS, the Draft EA has been revised to include the comment letter received on the Draft EA and the response, so that it is now a Final EA; and

WHEREAS, it is necessary that the South Coast AQMD Governing Board review the Final EA prior to its certification, to determine that it provides adequate information on the potential adverse environmental impacts that may occur as a result of adopting Proposed Amended Rule 1407, including the response to the comment letter received relative to the Draft EA; and

WHEREAS, pursuant to CEQA Guidelines Section 15252 (a)(2)(B), since no significant adverse impacts were identified, no alternatives or mitigation measures are required for project approval; thus, a Mitigation, Monitoring, and Reporting Plan pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097, has not been prepared; and

WHEREAS, Findings pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091 and Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093 were not prepared because the analysis shows that Proposed Amended Rule 1407 would not have a significant adverse effect on the environment, and thus, are not required; and

WHEREAS, the South Coast AQMD Governing Board voting to adopt Proposed Amended Rule 1407 has reviewed and considered the information contained in the Final EA, including the response to the comment letter, and all other supporting documentation, prior to its certification, and has determined that the Final EA, including the response to the comment letter received, has been completed in compliance with CEQA; and

WHEREAS, Proposed Amended Rule 1407 and supporting documentation, including but not limited to, the Final EA, the Final Staff Report, and the Socioeconomic Impact Assessment, were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, as well as has taken and considered staff testimony and public comment prior to approving the project; and

WHEREAS, the Final EA reflects the independent judgment of the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that all changes made in the Final EA after the public notice of availability of the Draft EA, were not substantial revisions and do not constitute significant new information within the meaning of CEQA Guidelines Section 15073.5 or 15088.5, because no new significant effects were identified, and no new project conditions or mitigation measures were added, and all changes merely clarify, amplify, or make insignificant modifications to the Draft EA, and recirculation is therefore not required; and

WHEREAS, the South Coast AQMD Governing Board has determined that a need exists to amend Rule 1407 to further reduce arsenic, cadmium, and nickel as directed by Control Measure TXM-06 from the Final 2016 Air Quality Management Plan; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (codified as Section 30.5(4)(D)(i) of the Administrative Code), that the modifications to paragraphs (c)(8), (c)(25), (c)(26), (d)(1), (d)(2), (d)(5), (d)(7), (d)(9), (e)(1), (f)(2), and (i)(3) and modifications to paragraphs (h)(3), (j)(1), and (k)(3) modify material testing and recordkeeping requirements add clarity and meet the same air quality objective as the version of the rule proposed with the 30-day notice and are not so substantial as to significantly affect the meaning of the proposed amended rule within the meaning of Health and Safety Code Section 40726 because: (a) the changes do not impact emission reductions, (b) the changes do not affect the number or type of sources regulated by the rules, (c) the changes are consistent with the information contained in the notice of public hearing, and (d) the consideration of the range of CEQA alternatives is not applicable because the effects of Proposed Amended Rule 1407 do not cause significant impacts and therefore, alternatives are not required; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (codified as Section 30.5(4)(D)(i) of the Administrative Code), that the modifications to subparagraph (e)(1)(D) and paragraph (e)(3) allows an operator to use an approved alternative cleaning method that meets the same air quality objectives and effectiveness of the housekeeping measure it replaces. Subparagraph (e)(1)(D) meets the same air quality objective as the version of the rule proposed with the 30-day notice and is not so substantial as to significantly affect the meaning of the proposed amended rule within the meaning of Health and Safety Code Section 40726 because: (a) the changes do not impact emission reductions because the alternative housekeeping measure must meet the same air quality objective and effectiveness of the measure it replaces, (b) the changes do not affect the number or type of sources regulated by the rules because provision does not change the scope of PAR 1407, (c) the changes are consistent with the information contained in the notice of public hearing because it is an alternative to a provision in the proposed rule for the 30-day notice, and (d) the consideration of the range of CEQA alternatives is not applicable because the effects of Proposed Amended Rule 1407 do not cause significant impacts and therefore, alternatives are not required; and

WHEREAS, Proposed Amended Rule 1407 will be not be submitted for inclusion into the State Implementation Plan; and

WHEREAS, the South Coast AQMD staff conducted a Public Workshop regarding Proposed Amend Rule 1407 on June 19, 2019; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1407 is needed to further protect public health by reducing emissions of arsenic, cadmium, and nickel from non-chromium metal melting operations; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from Sections 39002, 39650 et. seq., 41700, 40001, 40440, 40441, 40702, 40725 through 40728, and 41508 of the Health and Safety Code; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1407 is written or displayed so that the meaning can be easily understood by the persons directly affected by it; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1407 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1407 will comply with the California Air Resources Board Non-Ferrous Metal Melting Airborne Toxic Control Measures; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1407 will not impose the same requirements as any existing state or federal regulations. The amendments are necessary and proper to execute the powers and duties granted to, and imposed upon, South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board, in amending Rule 1407, references the following statutes which the South Coast AQMD hereby implements, interprets, or makes specific: Health and Safety Code Sections 39659, 39666, 41700 and Federal Clean Air Act Sections 112 and 116; and

WHEREAS, California Health and Safety Code Section 40727.2 requires the South Coast AQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and the South Coast AQMD's comparative analysis of Proposed Amended Rule 1407 is included in the staff report; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Socioeconomic Impact Assessment of Proposed Amended Rule 1407 is consistent with the March 17, 1989 Governing Board Socioeconomic Resolution for rule adoption; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Socioeconomic Impact Assessment for Proposed Amended Rule 1407 is consistent with the provisions of Health and Safety Code Sections 40440.8, 40728.5, and that Section 40920.6 is not applicable to rules regulating toxic air contaminants; and

WHEREAS, the South Coast AQMD Governing Board has determined Proposed Amended Rule 1407 will result in increased costs to the affected industries, yet are considered to be reasonable, with a total annualized cost as specified in the Socioeconomic Impact Assessment; and

WHEREAS, the South Coast AQMD Governing Board has actively considered the Socioeconomic Impact Assessment and has made a good faith effort to minimize such impacts; and

WHEREAS, the South Coast AQMD specifies that the Planning and Rules Manager overseeing the rule development of Proposed Amended Rule 1407 is the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of these proposed amendments is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

WHEREAS, a public hearing has been properly noticed in accordance with the provisions of Health and Safety Code Section 40725 and 40440.5; and

WHEREAS, the South Coast AQMD Governing Board has held a public hearing in accordance with all applicable provisions of state and federal law; and

NOW, THEREFORE BE IT RESOLVED, that the South Coast AQMD Governing Board has considered the Final EA for Proposed Amended Rule 1407 together with all comments received during the public review period, and, on the basis of the whole record before it, the South Coast AQMD Governing Board: 1) finds that the Final EA, including the response to the comment letter, was completed in compliance with CEQA and the South Coast AQMD's Certified Regulatory Program, 2) finds that the Final EA and all supporting documents were presented to the South Coast AQMD Governing Board, whose members exercised their independent judgment and reviewed, considered and approved the information therein prior to acting on Proposed Amended Rule 1407, and 3) certifies the Final EA; and

BE IT FURTHER RESOLVED, that because no significant adverse environmental impacts were identified as a result of amending Rule 1407, Findings, a Statement of Overriding Considerations, and a Mitigation, Monitoring, and Reporting Plan are not required and were not prepared; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1407 as set forth in the attached, and incorporated herein by reference.

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT F

(Adopted July 8, 1994)(PAR 1407 September 6, 2019)

PROPOSED AMENDED RULE 1407. CONTROL OF EMISSIONS OF ARSENIC, CADMIUM, AND NICKEL FROM NON-FERROUSCHROMIUM METAL MELTING OPERATIONS

[Rule Index to be included after adoption]

(a) Purpose

The purpose of this rule is to reduce emissions of arsenic, cadmium, and nickel from non-ferrouschromium metal melting operations.

(b) Applicability

This rule applies to ~~all persons who own or operate~~ an owner or operator of a facility conducting non-ferrouschromium metal melting operation(s), including but not limited to, smelters (primary and secondary), foundries, die-casters, coating processes (galvanizing and tinning), and other miscellaneous processes such as dip soldering, brazing, and aluminum powder production.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

- (~~e~~) (1) ALUMINUM AND ALUMINUM-BASED ALLOY is any metal that ~~is~~ contains at least 80 percent aluminum by weight.
- (~~e~~) (2) APPROVED CLEANING METHODS are techniques to clean while minimizing fugitive dust emissions consisting of wet wash, wet mop, damp cloth, low pressure spray, or vacuum equipped with filter(s) rated by the manufacturer to achieve a 99.97% control efficiency for 0.3 micron particles.
- (~~e~~) (3) BAG LEAK DETECTION SYSTEM is a system that monitors electrical charge transfer based on triboelectric or electrostatic induction to continuously monitor bag leakage and similar failures by detecting changes in particle mass loading in the exhaust.
- (~~e~~) (4) BUILDING ENCLOSURE is a building or physical structure, or portion of a building, enclosed with a floor, walls, and a roof to prevent exposure to the elements (e.g. precipitation or wind), with limited enclosure openings to allow access for people, vehicles, or equipment. A room within a building enclosure that is enclosed with a floor, walls, and a roof would also meet this definition.

- (c) (5) CAPTURE VELOCITY is the minimum hood induced air velocity necessary to capture and convey air contaminants into an emission collection system.
- ~~(e)~~ (26) CLEAN ALUMINUM SCRAP is any scrap that is composed solely of aluminum or aluminum alloys (including anodized aluminum) and that is free of paints, oils, greases, coatings, rubber, or plastics.
- ~~(e)~~ (37) COPPER OR COPPER BASED ALLOYS is any metal that ~~is~~contains more than 50 percent copper by weight, including, but not limited to, brass and bronze.
- ~~(e)~~ (8) CUSTOMER RETURNS are any material that includes ~~foundry~~ returns, ~~trims, punch-outs, turning, sprues, gates, risers, and similar material intended for remelting that has not been coated or surfaced with any other material, prior to resale of the product or further distribution in commerce, and includes documentation confirming that the materials contain less than 0.002 percent arsenic, 0.004 percent cadmium, and 0.5 percent chromium by weight.~~
- ~~(4)~~ DISTRICT is the South Coast Air Quality Management District.
- ~~(e)~~ (59) DUST FORMING MATERIAL is any material containing more than 15 percent by weight of particulate matter less than 0.84 millimeter (mm) equivalent diameter as determined by ASTM C136-84a ~~“Standards-Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates”~~ using a Number 20 U.S. Bureau of Standards sieve with 0.84 mm square openings or an alternate method deemed acceptable by the Executive Officer ~~or his designee.~~
- ~~(e)~~ (610) EMISSION COLLECTION SYSTEM is any ~~equipment-system~~ installed for the purpose of directing, taking in, confining, and conveying an air contaminant, and which conforms to design and operation specifications given in the most current edition of ~~Industrial Ventilation, Guidelines and Recommended Practices~~Industrial Ventilation: A Manual of Recommended Practice for Design, published by the American Conference of Governmental ~~and Industrial Hygienists (20th Edition or thereafter)~~ at the time ~~the a complete-permit application is deemed complete by the South Coast AQMD is on file with the District.~~
- ~~(e)~~ (11) EMISSION CONTROL DEVICE is any equipment installed in the exhaust system of a non-chromium metal melting furnace or after the emission collection system for the purpose of collecting and reducing metal emissions.
- ~~(7)~~ EMISSION POINT is any location where molten metal is or can be exposed to air, including, but not limited to, furnaces, crucibles, refining kettles, ladles, tap holes, pouring spouts, and slag channels. A mold or die in which metal is cooling is not considered an emission point.

- (c) ~~(812)~~ ENCLOSED STORAGE AREA is any space used to contain materials that has a wall or partition on at least three sides or three-quarters of its circumference and that screens the materials stored therein to prevent emissions of the material to the air.
- (e) ~~(13)~~ ENCLOSURE OPENING is any opening that is designed to be part of a building enclosure, such as passages, doorways, bay doors, wall openings, roof openings, and windows. Stacks, ducts, and openings to accommodate stacks and ducts are not considered enclosure openings.
- (e) ~~(914)~~ FACILITY is a source at which non-chromium metal melting operations are conducted, and is any real or personal property which is located on one or more contiguous or adjacent parcels of property in actual contact or separated solely by a public roadway or other public right-of-way and is owned or operated by the same person or person(s), corporation, government agency, public district, public officer, association, joint venture, partnership, or any combination of such entities.
- (e) ~~(15)~~ FOUNDRY is any facility, operation, or process where a metal or a metal alloy is melted and casted.
- (e) ~~(4016)~~ FUGITIVE METAL DUST EMISSIONS are metal emissions from non-chromium metal melting operations sources that enter the atmosphere without passing through a stack or vent designed to direct or control their flow or escaping a stack or vent designed to direct or control their flow without passing through an emission control device or that escape from a properly designed and operated emission collection systems. Fugitive emissions broadly include emissions from process or open sources. Process sources include, but are not limited to, emissions from storage and handling of materials such as baghouse dust. Open sources include, but are not limited to, emissions from entrainment of solid particulates by the forces of wind or machinery acting on exposed sources such as dust settled from charging and tapping of metallurgical furnaces.
- ~~(11)~~ FUGITIVE EMISSIONS CONTROL is any equipment, activity, or process that is utilized to reduce fugitive emissions.
- ~~(12)~~ GOOD OPERATING PRACTICES are any specific activities necessary to maintain the collection and control efficiencies as designed and permitted for. These activities include, but are not limited to, verifying operating specifications such as production throughput, temperature control, cleaning cycles, air flow and velocity, and inspecting equipment, such as filter cartridges or bags in a baghouse, pressure gauges, duct work, blowers and components of the control equipment, through a general maintenance and inspection program.

- (13) ~~HARD LEAD is an alloy containing at least 90 percent lead and more than 0.001 percent arsenic by weight or 0.001 percent cadmium by weight.~~
- (14) ~~MOLTEN METAL is metal or metal alloy in a liquid state, in which a cohesive mass of metal will flow under atmospheric pressure and take the shape of a container in which it is placed.~~
- (c) (17) FUNCTIONALLY SIMILAR FURNACE is a furnace used for metal melting that is the same type of furnace (electric, induction, cupola, reverberatory, etc.) and similar size, up to a 50 percent or 500 pound difference by charge weight, used at a facility to melt the same alloys.
- (e) (18) LOW PRESSURE SPRAY is a liquid stream with a pressure of 35 pounds per square inch or less.
- (e) (19) METAL CUTTING is a process used to abrasively cut ingot, log, billet stock, castings, or formed parts not conducted under a continuous flow of metal removal fluid.
- (e) (20) METAL GRINDING is a process used to grind ingot, log, billet stock, castings, or formed parts not conducted under a continuous flow of metal removal fluid.
- (e) (1521) METAL MELTING FURNACE is any apparatus in which metal is brought to a liquid state including, but not limited to, blast, crucible, cupola, direct arc, electric arc, hearth, induction, pot, and sweat furnaces, and refining kettles, regardless of the heating mechanism. METAL MELTING FURNACE does not include any apparatus in which metal is heated but does not reach a molten state, such as a sintering furnace or an annealing furnace.
- (e) (22) METAL REMOVAL FLUID is a fluid used at the tool and workpiece interface to facilitate the removal of metal from the part, cool the part and tool, extend the life of the tool, or to flush away metal chips and debris, but does not include minimum quantity lubrication fluids used to coat the tool workpiece interface with a thin film of lubricant and minimize heat buildup through friction reduction. Minimum quantity lubrication fluids are applied by pre-coating the tool in the lubricant, or by direct application at the tool workpiece interface with a fine mist.
- (e) (23) MOLTEN METAL is metal or metal alloy in a liquid state, in which a cohesive mass of metal will flow under atmospheric pressure and take the shape of a container in which it is placed.
- (e) (1424) NEW SAND is any sand not exposed to the casting process.
- (e) (25) NON-CHROMIUM METAL is any metal that contains less than 0.5 percent by weight total chromium content as determined on a ~~monthly~~ quarterly weighted average.

- (17) ~~NON-FERROUS METAL is any metal that contains aluminum, arsenic, cadmium, copper, lead, zinc or their alloys.~~
- (18) ~~PARTICULATE MATTER OR PM is any material, except uncombined water, which exists in a finely divided form at standard conditions of temperature and pressure (293^o K and 760 mm mercury).~~
- (19) ~~FINE PARTICULATE MATTER OR PM₁₀ is any material, except uncombined water, which exists in a finely divided form at standard conditions of temperature and pressure (293^o K and 760 mm mercury).~~
- (20) ~~PARTICULATE MATTER CONTROL SYSTEM is any device or series of devices designed and operated in a manner intended to remove or reduce fine particulate matter (<10 µm) from an air or gas stream.~~
- (21) ~~PERSON is any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee or other capacity, including any governmental entity or charitable organization as defined in Health and Safety Code Section 39047.~~
- (22) ~~PROCESS EMISSION CONTROL is any equipment installed and operated to control emissions of toxic metals from an emission point.~~
- (23) ~~PURE LEAD is any alloy that is at least 90 percent lead and contains no more than 0.001 percent cadmium by weight and no more than 0.001 percent arsenic by weight.~~
- (c) (2426) RERUN SCRAP is any material that includes returns, trims, punch-outs, turnings, sprues, gates, risers, foundry returns, and similar material intended for remelting that has not been coated or surfaced with any other material and:
- (A) Was generated at the metal melting facility as a consequence of a casting or forming process; or
- (B) Was generated offsite of the metal melting facility as a consequence of a casting or forming process from materials generated at the metal melting facility, prior to resale of the product or further distribution in commerce, and includes documentation confirming that the materials were generated at the metal melting facility.
- (e) (2527) RINGLEMANN-RINGELMANN CHART is the Ringlemann-Ringelmann Chart published in the United States review-Bureau of Mine Information Circular No. 1C8333, (May 1967), as specified in the Health and Safety Code Section 41701 (b).
- (25) ~~RERUN-SCRAP is any material that includes sprues, gates, risers, foundry returns, and similar material intended for remelting that has been generated at the facility~~

~~as a consequence of casting or forming process but has not been coated or surfaced with any material containing cadmium, arsenic, or nickel.~~

- (c) ~~(2628)~~ SCRAP is any metal or metal-containing material that has been discarded or removed from the use for which it was produced or manufactured and which is intended for reprocessing. This does not include rerun scrap or customer returns.
- ~~(e)~~ ~~(2729)~~ SOLDER is any metal in which the sum of the lead and tin content is greater than 50 percent by weight and which is used to join two metals or join a metal to any other material.
- ~~(28)~~ ~~TYPE METAL is any lead-based alloy used for Linotype machines.~~

(d) Emission Control Requirements

~~Any person who owns or operates a non-ferrous melting facility shall be in compliance with all the requirements specified in subdivisions (d) and (e), no later than July 6, 1996.~~

- ~~(d)~~ (1) Until compliance is demonstrated with the provisions pursuant to paragraphs (d)(3) or (d)(4), an owner or operator of a non-chromium melting operation shall vent All all emission points shall be vented to an emission collection system and emission control device designed and operated in accordance with the manufacturer specifications, which was submitted in the permit application to the DistrictSouth Coast AQMD, and the conditions specified in the issued permit.
- ~~(d)~~ (2) Until compliance is demonstrated with the provisions pursuant to paragraphs (d)(3) or (d)(4), an owner or operator of a non-chromium metal melting operation shall vent The the gas stream from any emission collection system shall be ducted to an emission control device which shall reduce the particulate emissions by 99 percent or more by weight.
- ~~(d)~~ (3) No later than January 1, 2021, an owner or operator of a non-chromium metal melting operation shall reduce emissions from a non-chromium metal melting furnace as demonstrated through a source test pursuant to subdivision (g), of:
- (A) Arsenic by a minimum of 99 percent;
- (B) Cadmium by a minimum of 99 percent; and
- (C) Nickel by a minimum of 99 percent.
- ~~(d)~~ (4) As an alternative to paragraph (d)(3), an owner or operator of a non-chromium metal melting operation may elect to demonstrate aggregate mass emission limits for each of the specific pollutants above from all non-chromium metal melting furnaces and associated emission control devices by demonstrating through a source test pursuant to subdivision (g), achievement of the following limits:

- (A) Arsenic: less than 0.000066 pounds per hour, in lieu of the limit in subparagraph (d)(3)(A);
 - (B) Cadmium: less than 0.000514 pounds per hour, in lieu of the limit in subparagraph (d)(3)(B); or
 - (C) Nickel: less than 0.00848 pounds per hour, in lieu of the limit in subparagraph (d)(3)(C).
- (d) (35) The owner or operator of a non-chromium metal melting operation shall not allow the temperature of the gas stream entering any ~~particulate matter~~emission control device that is part of the emission collection system ~~shall not to~~ exceed 360 degrees Fahrenheit, unless it can be demonstrated and is approved in writing by the District Executive Officer, that either:
- (A) a-A control efficiency of 99 percent or more for arsenic and cadmium, as demonstrated through a source test pursuant to subdivision (g), will be achieved at a higher temperature; or
 - (B) It can be demonstrated that the non-chromium metal melting operation is in compliance with paragraphs (d)(3) or (d)(4).
- (4) ~~The control efficiency of the particulate control device shall be determined by a source test conducted in accordance with SCAQMD Method 5.2 — Determination of Particulate Matter Emissions from Stationary Sources Using Heated Probe and Filter. An alternate test method to Method 5.2 may be used if it is approved by the Executive Officer or his designee of the California Air Resources Board. The control efficiency shall be calculated using the following equation:~~

$$\frac{C_{in} - C_{out}}{C_{in}} \times 100 = \% \text{ emission reduction}$$

Where: C_{in} = mass of particulate matter at the inlet to the control device

C_{out} = mass of particulate matter at the outlet of the control device

Mass = sum of the filter catch, probe catch, impinge catch, and solvent extract

~~The Executive Officer or his designee may require additional source testing periodically to verify continued compliance or when the process is changed.~~

(5) ~~Good operating practices shall be used by the facility, and demonstrated through a maintenance program and the use measuring devices, or other procedures approved by the District, to maintain air movement and emission collection efficiency by the system consistent with the design criteria for the system:~~

(A) ~~Maintenance Program~~

~~The maintenance program shall specify at a minimum the following:~~

- ~~(i) Maximum allowable variation from designed values of operating parameters, such as air velocity in the hood and ducts and pressure drop across the control device.~~
- ~~(ii) Areas to be visually inspected, such as the clean side of the baghouse and ducts operating under positive pressure, and the required frequency of such inspections.~~
- ~~(iii) Methods of documenting compliance with these requirements, such as a log of such inspections and records of observations and measurements.~~

(B) ~~Measuring Devices~~

(i) ~~Flow Meter~~

~~Flow meter (s) shall be installed in the collection system to indicate the air velocity in the duct leading to or from the control device~~

(ii) ~~Pressure Gauge~~

~~A magnehelic or a light sensitive gauge shall be installed to indicate the pressure drop. This gauge should have a high and low setting for the pressure drop and should trigger an alarm system when the high or low set points are exceeded or the cleaning cycle when the high set point is reached.~~

(iii) ~~Broken Bag Detector~~

~~A broken bag detector with an alarm system shall be installed in the dry filter control device to sound an alarm, if there are broken or damaged filter media or leaks in the baghouse.~~

(iv) ~~Temperature Gauge~~

~~A thermocouple and a temperature controller to monitor the temperature to the inlet of the control device shall be installed.~~

(e) ~~Fugitive Emission Control~~

(d) (16) ~~No activity associated with non-ferrous chromium metal melting at a facility, including furnace operation, casting, emission ~~control~~ collection system and emission control device operation, and the storage, handling, or transfer of any~~

materials (except new sand) shall discharge into the air any air contaminant, other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which is:

- (A) Half as dark or darker in shade as that designed as Number 1 on the ~~Ringlemann~~Ringelmann Chart, as published by the United States Bureau of Mines; or
 - (B) Of such opacity so as to obscure an observer's view to a degree equal to or greater than smoke as described in subparagraph ~~(e)(1)(A)~~(d)(6)(A) or 10 percent opacity.
- (d) (7) An owner or operator of a non-chromium metal melting operation shall ensure visible emissions from a non-chromium metal melting furnace follows a direct path do not escape from to the collection location(s) of an emission collection system(s).
- (d) (8) No later than July 1, 2020, the owner or operator of non-chromium metal melting furnaces existing prior to [Date of Adoption], shall submit complete South Coast AQMD permit applications for emission control devices to the Executive Officer unless there is an approved source test demonstrating compliance with paragraphs (d)(3) through (d)(5).
- (d) (9) Beginning July 1, 2020, any emission control device required by subject to this rule shall no longer be exempt from the requirement of a written permit pursuant to Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II.
- (e) Housekeeping Requirements
- (e) (1) An owner or operator of a non-chromium metal melting operation shall conduct the following housekeeping requirements:
- (2A) Dust-forming metal-containing material including, but not limited to, dross, ash, or feed material, trash, or debris, shall be stored in an enclosed storage area, a building enclosure, or stored in a manner which meets the requirements of paragraph (e)(1): covered containers to prevent any metal dust emissions. Containers shall remain covered at all times, except when material is actively deposited or actively removed into a receptacle, and shall be free of liquid and dust leaks;
 - (3B) Material collected by an particulate matter emission control system device shall be discharged into closed containers or an enclosed system that is completely sealed to prevent any metal dust emissions;
 - (C) All floor areas within 20 feet of where furnace and casting operations occur and waste generated from housekeeping activities is stored, disposed of,

- recovered, or recycled shall be cleaned at least weekly using an approved cleaning method; and
- (D) All areas where furnace, casting, metal cutting, and metal grinding operations occur shall not be cleaned using:
- (i) ∅Dry sweeping, unless dry sweeping is allowed in an approved Housekeeping Compliance Plan; or
- (ii) ∅Compressed air cleaning.
- (4) ~~Surfaces that are subjected to vehicular or foot traffic shall be vacuumed, wet mopped, or otherwise maintained in accordance with a District approved housekeeping plan, which shall be submitted as part of the compliance plan.~~
- (e) (2) Effective July 1, 2020, an owner or operator of a non-chromium metal melting operation shall conduct the following housekeeping requirements:
- (A) Collection vents, openings, and ducting of each non-chromium metal melting operation emission control device shall be inspected quarterly and if necessary, cleaned using an approved cleaning method;
- (B) Any stack that is a source of emissions associated with non-chromium metal melting operations shall not utilize a weather cap that restricts the flow of exhaust air;
- (C) Unless located within a building enclosure or an enclosed storage area, any dust-forming slag and any waste generated from the housekeeping requirements of this subdivision and the construction or maintenance activities of subdivision (f), shall be transported within closed conveyor systems or in covered containers to prevent any fugitive metal dust emissions. This subparagraph shall not be applicable to the transport of high temperature materials exceeding 500 degrees Fahrenheit;
- (D) Unless the metal cutting or metal grinding activity is conducted under a continuous flow of metal removal fluid, the following locations shall be cleaned, at a minimum, weekly, using an approved cleaning method:
- (i) Floors within 20 feet of a work station or work stations dedicated to metal grinding or metal cutting operations;
- (ii) Floors within 20 feet of any entrance/exit point of an enclosed storage area or building enclosure that houses the grinding or cutting operations; and
- (iii) Floors within 10 feet of the transfer points of an emission control device used for metal grinding or metal cutting operations;

- (E) Dust-forming metal-containing material including slag or materials generated from housekeeping, construction, or maintenance requirements of this subdivision, shall be stored in an enclosed storage area, a building enclosure, or covered containers. Containers shall remain covered, except when material is actively deposited into or actively removed from a receptacle, and shall be free of liquid and dust leaks; and
 - (F) After any construction or maintenance activity or event, including, but not limited to, accidents, process upsets, or equipment malfunction that results in the deposition of fugitive metal dust emissions, the area where the construction or maintenance activity occurred shall be cleaned within an hour using an approved cleaning method.
- (e) (3) For the housekeeping requirements specified in subparagraph (e)(1)(C), an owner or operator of a non-chromium metal melting operation may use an approved alternative housekeeping measure in lieu of an approved cleaning method. If requesting an alternative housekeeping measure, the owner or operator shall submit a Housekeeping Compliance Plan to the Executive Officer for approval. The Housekeeping Compliance Plan shall be subject to plan fees specified in Rule 306 – Plan Fees.
- (A) The Housekeeping Compliance Plan shall include information to substantiate that the alternative housekeeping measure meets the same air quality objective and effectiveness of the housekeeping requirement it is replacing.
 - (B) The Executive Officer may request additional information from the owner or operator.
 - (C) The owner or operator shall submit all requested information within 14 days of the request for additional information.
 - (D) The Executive Officer will review the request for a Housekeeping Compliance Plan and will approve the Housekeeping Compliance Plan if the alternative housekeeping measure can clean or remove accumulated dust-forming metal-containing material for the areas specified in subparagraph (e)(1)(C) at a frequency that provides the same or better efficiency than implementing an approved cleaning method and the alternative housekeeping measure minimizes generation of dust-forming metal-containing material. The Executive Office will notify the owner or operator in writing of approval or disapproval.

(i) If the Housekeeping Compliance Plan is disapproved, an owner or operator shall resubmit the Housekeeping Compliance Plan within 30 calendar days after notification of disapproval of the Housekeeping Compliance Plan. The resubmitted Housekeeping Compliance Plan shall include any information to address deficiencies identified in the disapproval letter. An owner or operator may appeal a disapproved Housekeeping Compliance Plan to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.

(E) Approved alternative housekeeping measures may not be used retroactively.

(f) Compliance Schedule Building Enclosure Requirements

~~(1) All facilities subject to this rule, including those seeking an exemption pursuant to paragraph (i)(1) and/or (i)(2), shall submit a compliance plan no later than January 6, 1995, to show how they will comply with all the applicable provisions of the rule or to demonstrate proof of exemption.~~

~~The compliance plan shall, at a minimum, contain the following information:~~

- ~~(A) how the exemption (i)(1) and (i)(2) may apply;~~
- ~~(B) How the control measure or proposed alternate control measure, (h), will meet the requirements of (d)(1) through (d)(4);~~
- ~~(C) How the maintenance program measures for the control device will ensure continuous compliance; and,~~
- ~~(D) How the housekeeping measures will minimize fugitive emissions.~~

~~Those seeking exemptions pursuant to (i)(3) through (i)(6), may submit in writing a letter, instead of a compliance plan, to the District, providing proof of exemption.~~

~~(2) Facilities required to install or modify control equipment pursuant to this rule shall submit permit to construct application(s) by no later than July 6, 1995, and shall comply with the rule no later than July 6, 1996.~~

(f) (1) No later than July 1, 2020, an owner or operator of a non-chromium metal melting operation shall conduct all metal melting, metal grinding, and metal cutting operations in a building enclosure. If the building enclosure contains enclosure openings to the exterior that are on opposite ends of the building enclosure where air can pass through any space where non-chromium metal melting, metal grinding, or metal cutting operations occur, an owner or operator of a non-chromium metal melting operation shall close all enclosure openings on one end for each pair of

opposing ends of the building enclosure, except during the passage of vehicles, equipment, or people, by using one or more of the following:

- (A) Door that automatically closes;
- (B) Overlapping floor-to-ceiling plastic strip curtains;
- (C) Vestibule;
- (D) Airlock system;
- (E) Barrier, such as a large piece of equipment that restricts air from moving through the building enclosure; or
- (F) Approved alternative method to minimize the release of dust-forming metal-containing fugitive emissions from the building enclosure that an owner or operator of a facility has demonstrated to the Executive Officer is an equivalent or more effective method(s) to prevent dust-forming metal-containing fugitive emissions escaping a building enclosure.

(f) (2) An owner or operator of a non-chromium metal melting operation may submit a A Building Enclosure Compliance Plan ~~shall be submitted~~ to the Executive Officer for review and approval no later than [90 days after Date of Adoption] for facilities existing before [Date of Adoption], and prior to initial start-up for all other operations if any of the requirements specified in paragraph (f)(1) cannot be complied with due to conflicting requirements set forth by United State Department of Labor Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (Cal/OSHA), or other municipal codes or agency requirements directly related to worker safety. The Building Enclosure Compliance Plan shall be subject to plan fees specified in Rule 306 – Plan Fees and include:

- (A) An explanation as to why any of the provisions specified in paragraph (f)(1) are in conflict with the requirements set forth by ~~United States Department of Labor Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (Cal/OSHA),~~ or other municipal codes or agency requirements directly related to worker safety; and
- (B) Alternative compliance measure(s) that will be implemented to minimize the release of dust-forming metal-containing fugitive emissions to the outside of the building enclosure.

(f) (3) The Executive Officer shall notify an owner or operator of a non-chromium metal melting operation in writing whether the Building Enclosure Compliance Plan is approved or disapproved.

- (A) If the Building Enclosure Compliance Plan is disapproved, an owner or operator shall resubmit the Building Enclosure Compliance Plan within 30 calendar days after notification of disapproval of the Building Enclosure Compliance Plan. The resubmitted Building Enclosure Compliance Plan shall include any information to address deficiencies identified in the disapproval letter. In the alternative, an owner or operator may appeal the Building Enclosure Compliance Plan disapproved by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.
- (B) The Executive Officer will either approve the revised and resubmitted Building Enclosure Compliance Plan or modify the Building Enclosure Compliance Plan and approve it as modified. An owner or operator may appeal the Building Enclosure Compliance Plan modified by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.
- (f) (4) An owner or operator of a non-chromium metal melting operation shall implement the Building Enclosure Compliance Plan, as approved by the Executive Officer, no later than 90 days after receiving notification of approval for facilities existing before [Date of Adoption], and prior to initial start-up for all other facilities. Compliance with the approved alternative compliance measures shall constitute compliance with the applicable provisions of paragraph (f)(1).
- (g) ~~Recordkeeping~~
- (1) ~~Facilities subject to subdivision (d) shall maintain on site for a period of two years, and make available to the District upon request, a record of the results of any source testing required by the District to demonstrate that the particulate matter control device(s) are operating as required by paragraph (d)(2).~~
- (2) ~~Facilities seeking an exemption under paragraphs (i)(1) and/or (i)(2) or (i)(3) shall maintain for two years records of the amount and type of metal processed in those furnaces including results of analyses as required to support exemptions under paragraph (i)(2). These records shall be made available to the District upon request.~~
- (h) ~~Alternative Emissions Control~~
- ~~The District may approve an alternative emission control measure proposed by a facility if the facility operator can demonstrate to the satisfaction of the Executive Officer or his designee that the alternative control measure is enforceable, achieves equivalent or greater reductions in emissions and risk, and achieves the reduction within the same time period~~

~~as required by this rule. The Executive Officer or his designee shall revoke this approval if the facility operator fails to adequately implement the alternative approach or the alternative approach does not reduce emissions as required.~~

(g) Source Testing Requirements

- ~~(g)~~ (1) No later than October 1, 2020 for the initial source test required pursuant to paragraph (g)(2), and no later than three months prior to the deadline for the periodic source test required pursuant to paragraph (g)(3), an owner or operator of a non-chromium metal melting operation shall submit a source test protocol to the Executive Officer for approval. The source test protocol shall include the following:
- (A) The source test criteria, all assumptions, and required data;
 - (B) Calculated target arsenic, cadmium, and nickel concentrations or mass emission standards;
 - (C) Planned sampling parameters;
 - (D) Evaluation of the capture efficiency and velocity of the emission collection system; and
 - (E) Information on equipment, logistics, personnel, and other resources necessary to conduct an efficient and coordinated source test.
- ~~(g)~~ (2) No later than January 1, 2021, an owner or operator of a non-chromium metal melting operation shall conduct an initial source test of all non-chromium metal melting furnaces to determine compliance with the emission limits for arsenic, cadmium, and nickel pursuant to paragraphs (d)(3) and (d)(4).
- (g) (3) An owner or operator of a non-chromium metal melting operation shall conduct a periodic source test of all non-chromium metal melting furnaces once every 60 months after the initial source test to demonstrate compliance with the emissions limits for arsenic, cadmium, and nickel pursuant to paragraphs (d)(3) and (d)(4).
- ~~(g)~~ (4) An owner or operator of a non-chromium metal melting operation may source test an uncontrolled furnace and apply the emission rate established by the source test results proportionately to all uncontrolled functionally similar furnaces at the facility.
- ~~(g)~~ (5) An owner or operator with a new or modified non-chromium metal melting furnace or emission control device for a non-chromium metal melting furnace installed on or after [Date of Adoption], shall submit a source test protocol pursuant to subparagraphs (g)(1)(A) through (g)(1)(E) within 90 days after its Permit to Construct is issued by the Executive Officer and conduct the initial source test for

the emission control device no later than 120 days after the approval of the source test protocol.

- ~~(g)~~ (6) An owner or operator of a non-chromium metal melting operation shall notify the Executive Officer, in writing, of the intent to conduct source testing, one week prior to conducting any source test required by paragraphs (g)(2) through (g)(5) and (i)(3). A change in the source test date shall be reported to 1-800-CUT-SMOG at least twenty four hours prior to cancelling or rescheduling.
- ~~(g)~~ (7) An owner or operator of a non-chromium metal melting operation shall notify the Executive Officer within five calendar days of when the facility knew or should have known of any source test result(s) that exceeded any of the emission standards specified in subdivision (d). Notifications shall be made to 1-800-CUT-SMOG and followed up in writing to the Executive Officer with the results of the source tests within 10 calendar days of notification.
- ~~(g)~~ (8) An owner or operator shall conduct source tests while operating at a minimum of 80 percent of the equipment's permitted charging throughput by weight and in accordance with California Air Resources Board (CARB) Method 436 – *Determination of Multiple Metal Emissions from Stationary Sources*.
- (A) The total sample volume for each sample must be sufficient to achieve analytical results at the method reporting limit. Alternatively, collect a minimum sample volume of 150 dry standard cubic feet for each sample.
Assuming the following method reporting limits:
- (i) Arsenic \leq 0.2 micrograms per sample;
 - (ii) Cadmium \leq 0.2 micrograms per sample; and
 - (iii) Nickel \leq 0.2 micrograms per sample.
- (B) For the purposes of this rule, if at least one test run is below the method reporting limit, the following quantification procedures shall be used:
- (i) In situations in which all test runs and analyses indicate levels below the method reporting limit, the compound can be identified as “not detected” and its inclusion will not be required.
 - (ii) In cases in which one or more of the test runs and analyses show measured values above the method reporting limit, the runs or analysis that were below the method reporting limit shall be assign one half of the method reporting limit for that run.
- ~~(g)~~ (9) An owner or operator of a non-chromium metal melting operation may use alternative or equivalent source test methods as defined in United States Environmental Protection Agency (U.S. EPA) 40 CFR Part 60, Section 60.2, if

approved in writing by the Executive Officer, in addition to the CARB, or the U.S. EPA, as applicable.

- ~~(g)~~ (10) An owner or operator of a non-chromium metal melting operation shall use a test laboratory approved under the South Coast AQMD Laboratory Approval Program for the source test methods cited in this subdivision. If there is no approved laboratory, then approval of the testing procedures used by the laboratory may be granted by the Executive Officer on a case-by-case basis based on South Coast AQMD protocols and procedures.
- ~~(g)~~ (11) When more than one source test method or set of source test methods are specified for any testing, the application of these source test methods to a specific set of test conditions is subject to approval by the Executive Officer. In addition, a violation established by any one of the specified source test methods or set of source test methods shall constitute a violation of the rule.
- ~~(g)~~ (12) An existing source test conducted on or after January 1, 2016 for a non-chromium metal melting furnace or emission control device for a non-chromium metal melting furnace existing before [Date of Adoption] may be used as the initial source test specified in paragraph (g)(2) to demonstrate compliance with the emission limits of subdivision (d) so long as the source test meets the following criteria:
- (A) The source test conducted is the most recent since January 1, 2016;
 - (B) The source test demonstrated compliance with the emission limit requirements of subdivision (d);
 - (C) The source test demonstrated compliance with emission collection system requirements of paragraph (i)(4); and
 - (D) The source test was conducted using applicable and approved test methods and test laboratories specified in paragraphs (g)(8) through (g)(10).
- ~~(g)~~ (13) Reports from source testing conducted pursuant to subdivision (g) and paragraph (i)(3) shall be submitted to the South Coast AQMD within 90 days of completion of source testing.

~~(i)~~ Exemptions

~~(1)~~ Small Quantity Exemptions.

~~A facility shall be exempt from subdivisions (d) and (e), if they meet either one of the following conditions:~~

- ~~(A) The facility melts a total of no more than one ton per year of all non-ferrous metals;~~

~~or~~

- (B) For facilities melting solely metals listed in Table I, [not including any metal or alloy that meets the purity exemption of paragraph (i)(2)], the eligibility for exemption shall be determined using the following formula:

$$A/A_0 + B/B_0 + C/C_0 + \dots \leq 1$$

Where A, B, C, ..., are quantities of Table I metals melted and A₀, B₀, C₀, ..., are the exemption limits listed in Table I.

- (i) For each metal listed in Table I, divide the quantity melted by the specific exemption limit listed.
- (ii) Sum the resulting fractions for all the metals.
- (iii) If the sum does not exceed 1.0, the facility qualifies for exemption under paragraph (i)(1).

Table I

Exemption Limits For Metal Melted

<u>Metal</u>	<u>Exemption Limit</u> (tons per year)
Pure Lead	400
Hard Lead	200
Aluminum Scrap	125
Aluminum Ingot containing more than 0.004 percent cadmium or 0.002 percent arsenic by weight	125
Solder	100
Zinc Scrap	30
Copper or copper-based alloys (except scrap) containing more than 0.004 percent cadmium or 0.002 percent arsenic by weight	30
Type Metal	25

- (2) Metal or Alloy Purity Exemption
Facilities or furnaces which do not melt scrap except clean aluminum scrap or rerun scrap and which melt a metal or alloy (other than metals listed in Table I) which is

~~shown by laboratory analysis to have less than 0.004 percent of cadmium and less than 0.002 percent of arsenic by weight are exempt from subdivisions (d) and (e).~~

(3) ~~Clean Aluminum Scrap~~

~~Furnaces used exclusively to process clean aluminum scrap or a mixture of clean aluminum scrap and aluminum ingot to produce extrusion billet are exempt from paragraphs (d)(1) through (d)(5).~~

(4) ~~Aluminum Scrap Furnaces~~

~~The combustion chamber in a reverberatory furnace is exempt from the requirements of paragraphs (d)(1) through (d)(5) if the furnace meets the following conditions:~~

~~(A) The furnace is used solely to melt aluminum and aluminum based alloys; and,~~

~~(B) The furnace is constructed with a charging well or similar device in which feed is added to molten metal in a separate chamber.~~

(5) ~~Aluminum Pouring Exemption~~

~~Ladles, launders or other equipment used to convey aluminum from a melting or holding furnace to casting equipment is exempt from the requirements of paragraphs (d)(1) through (d)(5).~~

(6) ~~Rule 1420 – Emissions of Lead~~

~~Facilities that emit lead and who have demonstrated 99 percent or greater control efficiency for particulate matter or 98 percent or greater for lead pursuant to the requirement of Rule 1420 paragraph (e)(2), shall be exempt from the requirement of paragraph (d)(2) provided:~~

~~(A) The source test method used meets the requirement of paragraph (d)(4) for particulate matter or SCAQMD Method 12.1 for lead; and,~~

~~(B) The inlet temperature to the control device meets the requirement of paragraph (d)(3).~~

(7) ~~Control Devices for Fugitive Emissions~~

~~Devices used solely to control fugitive emissions are exempt from the requirements of (d)(1) through (d)(5).~~

(jh) Applicable Material Testing Methods Requirements

(h) (1) Until January 1, 2021, an owner or operator of a non-chromium metal melting operation shall use One one of the following methods as identified in subparagraphs (jh)(1)(A) through (jh)(71)(F) or an alternate method deemed acceptable approved, in writing, by the Executive Officer or his designee shall be used. Sampling for

these methods shall comply with ASTM E 88-58 (1986), “Standard Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition.”

- (~~4~~A) To determine the composition of alloys defined in paragraph (c)-(1) and to determine the cadmium content of aluminum alloys to evaluate eligibility for exemption under paragraph (~~ik~~)-(2), one of the following methods shall be used:
- (~~A~~i) ASTM E 227-67 (1982), “Standard Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique;”
 - (~~B~~ii) ASTM E 607-90, “Standard Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere;” or
 - (~~C~~iii) ASTM E 1251-88, “Standard Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Argon Atmosphere, Point-to-Plane Unipolar Self-Initiating Capacitor Discharge.”
- (~~2~~) ~~To determine alloy composition as defined in paragraphs (e)(13) and (e)(23), ASTM E 117-64 (1985) “Standard Method for Spectrographic Analysis of Pig Lead by the Point-to-Plane Technique” shall be used.~~
- (~~3~~B) To determine alloy composition as defined in paragraph (c)(~~263029~~), ASTM E 46-87 “Test Method for Chemical Analysis of Lead and Tin-Base Solder” shall be used.
- (~~4~~C) To determine cadmium concentration in zinc and zinc alloys to evaluate eligibility for exemption under paragraph (~~ik~~)(~~23~~), ASTM E 536-84 (1988), “Standard Test Method for Chemical Analysis of Zinc and Zinc Alloys” shall be used.
- (~~5~~D) To determine cadmium concentration in copper and copper based alloys to evaluate eligibility for exemption under paragraph (~~ik~~)(~~23~~), ASTM E 53-86a “Standard Test Method for Chemical Analysis of Copper” shall be used.
- (~~6~~E) To determine arsenic concentration in copper and copper based alloys to evaluate eligibility for exemption under paragraph (~~ik~~)(~~23~~), ASTM E 62-89, “Standard Test Method for Chemical Analysis of Copper and Copper Alloys” shall be used.
- (~~7~~F) To determine arsenic content in aluminum or zinc (or any other alloy in which determination or arsenic by spectrochemical methods is

compromised by interference) to evaluate eligibility for exemption under paragraph ~~(k)~~(23), U.S. EPA Method 7061 (Revision 1, December, 1987), “Arsenic (Atomic Absorption, Gaseous Hydride),” U.S. EPA Test Methods for Evaluating Solid Waste Physical and Chemical Methods, First Update (3rd Edition), January, 1988; EPA/530/SW-846.3-1; PB 89-14876 shall be used. For aluminum alloys, ~~sample digestion shall employ the hydroxide digestion technique~~ Method 1 listed in Attachment A – Digestion of Metal Aluminum Sample for Determining Arsenic shall be employed.

- (h) (2) On and after January 1, 2021, an owner or operator of a non-chromium metal melting operation shall use one of the following test methods most applicable to the sample matrix, method detection limit, and interferences:
- (A) U.S. EPA-approved method(s);
 - (B) Active ASTM International method(s);
 - (C) Metallurgical assay(s) for raw materials; or
 - (D) Alternative method(s) approved, in writing, by the Executive Officer.
- ~~(h)~~ (3) Using one of the test methods identified in paragraph (h)(2), an owner or operator of a non-chromium metal melting operation shall conduct the following material testing:
- (A) ~~Monthly~~ Quarterly analyses to determine the weighted average percentage of arsenic, cadmium, chromium, and nickel contained in metals and alloys melted in non-chromium metal melting furnaces; and
 - (B) Quarterly analyses to determine the weight percentage of arsenic, cadmium, chromium, and nickel contained in bulk samples of baghouse catches of baghouses associated with non-chromium metal melting operations.
- (i) Emission Control Device Monitoring
- ~~(i)~~ (1) Bag Leak Detection System
Effective January 1, 2021, an owner or operator of a non-chromium metal melting operation shall operate, calibrate, and maintain a Bag Leak Detection System for all baghouses, subject to Rule 1407, regardless of size, pursuant to the Tier 3 requirements of Rule 1155 – Particulate Matter (PM) Control Devices.
- ~~(i)~~ (2) Effective January 1, 2021, for each emission control device, an owner or operator of a non-chromium metal melting operation shall use a gauge to continuously monitor the pressure drop across the emission control device. The gauge shall be located so that it is easily visible and in clear sight of an owner or operator or

maintenance personnel. For the purposes of this requirement, an owner or operator shall ensure that the monitoring device:

- (A) Is equipped with ports to allow for periodic calibration in accordance with manufacturer's specifications;
- (B) Is calibrated according to manufacturer's specifications at least once every calendar year;
- (C) Is equipped with a continuous data acquisition system (DAS). The DAS shall record the data output from the monitoring device at a frequency of at least once every 60 minutes;
- (D) Generates a data file from the computer system interfaced with each DAS each calendar day saved in Microsoft Excel (xls orxlsx) format or other format as approved by the Executive Officer. The file shall contain a table of chronological date and time and the corresponding data output value from the monitoring device in inches of water column. The operator shall prepare a separate data file each day showing the four-hour average pressure readings recorded by this device each calendar day; and
- (E) Is maintained in accordance with manufacturer's specifications.

(i) (3) An owner or operator of a non-chromium metal melting operation emission control device shall conduct a source test pursuant to subdivision (g), if the pressure across the emission control device is not maintained within the range specified by the manufacturer or according to conditions of the Permit to Operate for the emission control device as determined by hourly or more frequent recordings by the DAS for the averaging periods below, no later than 30 days after the discrepancy is detected:

- (A) A four-hour time period on three or more separate days occasions over 60 consecutive days; or
- (B) Any consecutive 24-hour period.

(i) (4) Effective January 1, 2021, an owner or operator of a non-chromium metal melting operation shall operate the emission collection system associated with an emission control device at a minimum capture velocity specified in the most current edition of the *Industrial Ventilation: A Manual of Recommended Practice for Design*, published by the American Conference of Governmental Industrial Hygienists, at the time a permit application is deemed complete with the South Coast AQMD.

(i) (5) Effective January 1, 2021, for each emission collection system subject to this subdivision, an owner or operator of a non-chromium metal melting operation shall conduct and pass a smoke test during source testing, pursuant to paragraphs (g)(2) through (g)(5), and at least once every six months thereafter, using the procedure

set forth in Attachment B – Smoke Test to Demonstrate Capture Efficiency for Emission Collection Systems of an Emission Control Device of this rule. The smoke test does not need to be performed if conducting the smoke test can be demonstrated to the Executive Officer that the smoke test would create an unreasonable risk. If the emission collection system failed a smoke test, the owner or operator of a non-chromium metal melting operation shall not use the associated furnace(s) for production until the emission collection system passes a smoke test.

(±) (6) Effective January 1, 2021, for each emission collection system, an owner or operator of a non-chromium metal melting operation shall use a calibrated anemometer to measure the slot velocity of each slot and pressure at each push air manifold at least once every six months, based on its location within a non-chromium metal melting operation and its design configuration.

(A) An emission collection system designed with a hood or enclosure shall maintain a capture velocity of at least 200 feet per minute as measured at the face of the enclosure or maintain at least the minimum slot velocity that verifies 100 percent collection efficiency measured in the most recent source test.

(B) An emission collection system without an enclosing hood that is designed with collection slots shall maintain a capture velocity of at least 2,000 feet per minute or maintain at least the minimum slot velocity that verifies 100 percent collection efficiency measured in the most recent source test.

(C) An emission collection system designed with a canopy hood without an enclosure shall maintain a capture velocity of at least 200 feet per minute across the entirety of all open sides extending from the perimeter of the hood and operating without cross drafts or maintain at least the minimum slot velocity that verifies 100 percent collection efficiency measured in the most recent source test.

(i) (7) The owner or operator of a non-chromium metal melting operation shall report, within 24 hours, to 1-800-CUT-SMOG a malfunctioning DAS pursuant to subparagraph (i)(2)(D), failed smoke test pursuant to paragraph (i)(5), or anemometer reading indicating that the required velocity in paragraph (i)(6) has not been maintained.

(j) Recordkeeping Requirements

An owner or operator of a non-chromium metal melting operation shall maintain records of the following:

- ~~(j)~~ (1) Monthly Quarterly quantities of raw materials processed, including ingots, scrap, customer returns, and rerun scrap and the purchase records, if applicable, to verify these quantities;
- ~~(j)~~ (2) Material testing data as required by subdivision (h);
- ~~(j)~~ (3) Source test data as required by subdivision (g) and paragraph (i)(3);
- ~~(j)~~ (4) Housekeeping activities conducted as required by subdivision (e);
- ~~(j)~~ (5) Inspection, calibration documentation, and maintenance of emission control devices as required by subdivision (i), including the name of the person conducting the activity and the dates and times at which specific activities were completed;
- ~~(j)~~ (6) Anemometer data collected, including capture velocities, dates of measurement, and calibration documentation as required by paragraph (i)(6); and
- ~~(j)~~ (7) Smoke test documentation as required in Attachment B – Smoke Test to Demonstrate Capture Efficiency for Emission Collection Systems of an Emission Control Device.

An owner or operator shall maintain all records for three years, with at least the two most recent years kept onsite, and made available to the South Coast AQMD upon request. Records kept offsite shall be made available within one week.

~~(k)~~ Exemptions

- ~~(k)~~ (1) An owner or operator of a non-chromium metal melting operation that melts no more than one ton per year of the total of all non-chromium metals melted shall only be subject to paragraph (j)(1).
- ~~(k)~~ (2) Until January 1, 2021, for facilities melting solely metals listed in Table I – Exemption Limits for Metal Melted, [not including any metal or alloy which is shown by laboratory analysis to have less than 0.004 percent of cadmium and less than 0.002 percent of arsenic by weight], the eligibility for exemption from subdivisions (d) and (i) shall be determined using the formula:

$$A/A_0 + B/B_0 + C/C_0 + \dots \leq 1$$

Where A, B, C, ..., are quantities of Table I metals melted and
A₀, B₀, C₀, ..., are the exemption limits listed in Table I.

- (A) For each metal listed in Table I, divide the quantity melted by the specific exemption limit listed.
- (B) Sum the resulting fractions for all the metals.
- (C) If the sum does not exceed 1.0, the facility qualifies for exemption under paragraph (k)(2).

Table I
Exemption Limits for Metal Melted

<u>Metal</u>	<u>Exemption Limit</u> <u>(tons per year)</u>
<u>Pure Lead</u> ¹	<u>400</u>
<u>Hard Lead</u> ²	<u>200</u>
<u>Aluminum Scrap</u>	<u>125</u>
<u>Aluminum Ingot containing more than</u> <u>0.004 percent cadmium or</u> <u>0.002 percent arsenic by weight</u>	<u>125</u>
<u>Solder</u>	<u>100</u>
<u>Zinc Scrap</u>	<u>30</u>
<u>Copper or copper-based alloys</u> <u>(except scrap) containing more than</u> <u>0.004 percent cadmium or</u> <u>0.002 percent arsenic by weight</u>	<u>30</u>
<u>Type Metal</u> ³	<u>25</u>

1: Pure Lead is any alloy that contains at least 90 percent lead and contains no more than 0.001 percent cadmium by weight and no more than 0.001 percent arsenic by weight.

2: Hard Lead is an alloy containing at least 90 percent lead and more than 0.001 percent arsenic by weight or 0.001 percent cadmium by weight.

3: Type Metal is any lead-based alloy used for Linotype machines.

(k) (3) Metal or Alloy Purity Exemptions

An owner or operator of a non-chromium metal melting operation shall be exempt from subdivisions (d), (g), and (i) provided that the facility:

- (A) Melts less than 8,400 tons per year of non-chromium metal in furnaces which: do not melt more than one percent scrap except rerun scrap and customer returns; and melts metals or alloys which are shown by laboratory analysis to have less than 0.002 percent arsenic, less than 0.004 percent cadmium, and less than 0.5 percent chromium by weight on a monthly quarterly weighted average;

- (B) Melts less than 42,000 tons per year of non-chromium metal in furnaces which: do not melt more than one percent scrap except rerun scrap and customer returns; and melts metals or alloys which are shown by laboratory analysis to have less than less than 0.0004 percent arsenic, 0.0008 percent cadmium, and less than 0.5 percent chromium by weight on a ~~monthly~~ quarterly weighted average; or
- (C) Melts less than 84,000 tons per year of non-chromium metal in furnaces which: do not melt more than one percent scrap except rerun scrap and customer returns; and melts metals or alloys which are shown by laboratory analysis to have less than less than 0.0002 percent arsenic, 0.0004 percent cadmium, and less than 0.5 percent chromium by weight on a ~~monthly~~ quarterly weighted average.

An owner or operator seeking exemption under subparagraphs (k)(3)(A) through (k)(3)(C) shall demonstrate eligibility through material testing pursuant to paragraph (h)(3).

~~(k)~~ (4) Clean Aluminum Scrap

Until January 1, 2021, furnaces used exclusively to process clean aluminum scrap or a mixture of clean aluminum scrap and aluminum ingot to produce extrusion billet are exempt from subdivisions (d), (g), and (i).

(k) (5) Aluminum Scrap Furnaces

Until January 1, 2021, the combustion chamber in a reverberatory furnace is exempt from the requirements in subdivisions (d), (g), and (i) if the furnace meets the following conditions:

- (A) The furnace is used solely to melt aluminum and aluminum based alloys; and
- (B) The furnace is constructed with a charging well or similar device in which feed is added to molten metal in a separate chamber.

~~(k)~~ (6) Aluminum Pouring Exemption

Ladles, launders, or other equipment used to convey aluminum from a melting or holding furnace to casting equipment shall only be subject to the requirements in subdivisions (e), (f), and (j) of this rule.

~~(k)~~ (7) Rules 1420 and 1420.2

Equipment and operations subject to the requirements of Rule 1420 – Emissions Standard for Lead and Rule 1420.2 – Emission Standards for Lead from Metal Melting Facilities shall only be subject to paragraph (d)(5). If a Regulation XIV rule is adopted or amended that includes a provision for facilities subject to Rules

1420 and 1420.2 that addresses arsenic emissions, equipment and operations subject to the requirements of Rules 1420 and 1420.2 shall be exempt from the requirements of this rule.

- ~~(k)~~ (8) Rule 1420.1
Equipment and operations subject to the requirements of Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Facilities shall be exempt from the requirements of this rule.
- ~~(k)~~ (9) The owner or operator of a non-chromium metal melting operation shall be exempt from subdivision (d) provided that the facility has a Health Risk Assessment or Air Toxics Inventory Report approved or prepared by the South Coast AQMD for the purpose of the Hot Spots Act or this rule that, as approved or prepared by the South Coast AQMD, is currently below a maximum individual cancer risk of ten in one million pursuant to Rule 1402 – Control of Toxic Air Contaminants from Existing Sources or a current Facility Priority Score of less than ten pursuant to the most recent version of the South Coast AQMD *Facility Prioritization Procedure for the AB 2588 Program*. An owner or operator seeking exemption under this paragraph shall notify the Executive Officer in writing and maintain onsite the Health Risk Assessment or Air Toxics Inventory Report as approved or prepared by the South Coast AQMD, and made available to the South Coast AQMD upon request.
- ~~(k)~~ (10) Brazing, dip soldering, metal cutting, or metal grinding operations conducted during maintenance activities are exempt from the requirements of this rule.

ATTACHMENT A

Digestion of Metal Aluminum Sample for Determining Arsenic

1. Introduction:

Metal aluminum cannot react with nitric acid (HNO₃) or concentrated sulfuric acid (H₂SO₄). It can dissolve in dilute sulfuric acid or hydrochloric acid (HCl). Active hydrogen, generated during the acid digestion process, will reduce arsenic to arsine (AsH₃), which will escape from solution, resulting in a low or negative arsenic value. The proposed method sets up a protocol to dissolve metal alumina without loss of arsenic.

2 Reagent:

3M Sodium Hydroxide (NaOH), 10% Mercury Sulfate (HgSO₄) Solution, 30% Hydrogen Peroxide (H₂O₂),

———1:1 H₂SO₄, Concentrated HNO₃, and Tiling Copper.

3 Procedure:

3.1. Dissolve

3.1.1 Dissolve using NaOH (Method 1).

Weigh 0.5 g of metal aluminum sample to a 125 milliliter (ml) Erlenmeyer flask, add 15 ml of 3M NaOH solution, allow to react and dissolve about 20 minutes. Again add 10 ml of 3M NaOH, continue reaction until no gas bubbles are present and the sample is dissolved completely.

3.1.2 Dissolve using HgSO₄ (Method 2).

Weigh 0.5 g of metal aluminum sample to a 125 ml Erlenmeyer flask, add 10 ml of 10% HgSO₄ solution and 5 ml of 30% H₂O₂. After 20 minutes, add appropriate amount of HgSO₄. Allow reaction to continue until no gas bubbles are present. Add metal copper strips (large surface area) into the sample solution. After 10 minutes, withdraw the copper strips and add new copper strips. Repeat until the surface of the copper strips in sample solution do not change to a silver color. Withdraw all copper strips from sample solution.

3.2. Digestion

Add 3 ml of concentrated HNO₃, 5 ml of 1:1 H₂SO₄ into the sample solution obtained from 3.1.1 or 3.1.2. Heat slowly and evaporate the sample solution until sulfur trioxide (SO₃) fumes are present for 5 minutes. Cool and dilute the sample to 50.0 ml. Determine Arsenic by Atomic Absorption method.

ATTACHMENT B**Smoke Test to Demonstrate Capture Efficiency for Emission Collection Systems of an Emission Control Device****1. Applicability and Principle:****1.1 Applicability**

This method is applicable to all furnaces where an emission control device is used to capture and control emissions from non-chromium metal melting operations.

1.2 Principle

Collection of emissions from a non-chromium metal melting operation is achieved by the emission collection system associated with the emission control device for the non-chromium metal melting operation. Emission control efficiency at the exhaust of an emission control device is related to capture efficiency at the inlet of the emission collection system. For this reason, 100 percent capture efficiency shall be maintained. A smoke generator placed within the area where collection of emissions by the emission collection system occurs reveals this capture efficiency.

2. Apparatus:**2.1 Smoke Generator**

The smoke generator shall be adequate to produce a persistent stream of visible smoke (e.g. Model S102 Regin Smoke Emitter Cartridges). The smoke generator shall not provide excessive momentum to the smoke stream that may create a bias in the determination of collection efficiency. If the smoke generator provides slight momentum to the smoke stream, it shall be released perpendicular to the direction of the collection velocity.

3. Testing Conditions:**3.1 Equipment Operation**

Any equipment to be smoke tested that is capable of generating heat as part of normal operation shall be smoke tested under those normal operating conditions. Operating parameters of the equipment during the smoke test shall be recorded. The smoke test shall be conducted while the emission collection system and the emission control device are in normal operation. The position of any adjustable dampers that can affect air flow shall be documented. Precautions shall be taken by the facility to evaluate any potential physical hazards to ensure the smoke test is conducted in a safe manner.

3.2 Cross-Draft

The smoke test shall be conducted while the emission collection system and emission control device are in normal operation and under typical draft conditions representative of the facility's non-chromium metal melting operations. This includes cooling fans and enclosure openings affecting draft conditions including, but not limited to, vents, windows, doorways, and bay doors, as well as the operation of other work stations and traffic. The smoke generator shall be at full generation during the entire test and operated according to manufacturer's suggested use.

4. Procedure:

4.1 Collection Slots

4.1.1 For work stations equipped with collection slots or hoods, the smoke shall be released at points where emissions from non-chromium metal melting operations are generated (e.g. the point where melting occurs). Smoke shall be released at points not to exceed 12 inches apart across ventilated work areas.

4.1.2 Observe the collection of the smoke from the smoke generator and emissions from the operations to the collection location(s) of the emission collection system. Record these observations at each of the points providing a qualitative assessment of the collection of smoke and emissions to the emission collection system.

4.2 Equipment Enclosures

4.2.1 Equipment enclosures include equipment where emissions are generated inside the equipment, and the equipment is intended to have inward air flow through openings to prevent the escape of process emissions. The smoke shall be released at points outside of the plane of the opening of the equipment, over an evenly spaced matrix across all openings with points not to exceed 12 inches apart.

4.2.2 Observe the inward movement of the smoke from the smoke generator and emissions from the operations to the collection location(s) of the emission collection system. Record these observations at each of the points providing a qualitative assessment of the collection of smoke and emissions to the emission collection system.

5. Results:

A passing smoke test shall demonstrate a direct stream of smoke and emissions to the collection location(s) of the emission collection system without meanderings out of this direct path.

6. Documentation:

The smoke test shall be documented by photographs or video at each point that clearly show the path of the smoke and emissions. Documentation shall also include a list of equipment tested and any repairs that were performed in order to pass the smoke test. As previously discussed, the documentation shall include the position of adjustable dampers, cross-draft conditions, and the heat input of the equipment, if applicable. The documentation shall be signed and dated by the person performing the test.

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report

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

September 2019

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WAYNE NASTRI

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CHAPTER 1: BACKGROUND

INTRODUCTION

REGULATORY HISTORY

HEALTH EFFECTS OF ARSENIC, CADMIUM, AND NICKEL

NEED FOR PROPOSED AMENDED RULE 1407

AFFECTED INDUSTRIES

PUBLIC PROCESS

INTRODUCTION

Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium and Nickel from Non-Chromium Metal Melting Operations (PAR 1407) establishes requirements to reduce arsenic, cadmium, and nickel emissions from metal melting operations. PAR 1407 applies to facilities that are melting metals that contain no more than 0.5%– percent chromium content, including, but not limited to aluminum, brass, bronze, carbon steel, and zinc. Potential metal melting operations include smelting, tinning, galvanizing, and other miscellaneous processes where metals are processed in molten form, since these operations have the potential to emit such metal emissions in the form of toxic air contaminants and particulate matter. PAR 1407 establishes control efficiency requirements, mass emission limits, and emission control device monitoring requirements to control point source emissions, housekeeping and building enclosure provisions to limit fugitive emissions, and source testing and recordkeeping requirements. Additionally, the majority of the current Rule 1407 exemptions will be revised or deleted. Overly broad exemptions that do not consider facility throughput and concentrations of arsenic, cadmium, and nickel exempted many facilities from Rule 1407. PAR 1407 will limit the amount of contaminants in the metals melted and establish a throughput limit to qualify for exemption.

In March 2017, the South Coast AQMD adopted the Final 2016 Air Quality Management Plan (2016 AQMP)¹. Control of Toxic Emissions from Metal Melting Facilities (TXM-06) is a control measure in the 2016 AQMP that seeks to further reduce arsenic, cadmium, nickel, other toxic metals, and particulates from foundry operations. This stationary source air toxic control strategy is not required to attain state or federal ambient air quality standards, and thus is not a commitment under the State Implementation Plan.

REGULATORY HISTORY

In 1983, the California Legislature established Assembly Bill 1807, a two-step process to identify toxic air contaminants and to propose airborne toxic control measures (ATCMs) for the identified toxic air contaminants from specific sources. In January 1993, California Air Resources Board adopted the non-ferrous metal melting ATCM² and established January 6, 1994 as the effective date of the ATCM. The South Coast AQMD was given a May 9, 1994 deadline to implement and enforce the ATCM or to propose regulations implementing the ATCM. On July 8, 1994, the South Coast AQMD adopted Rule 1407 – Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Melting Operations (Rule 1407) to address the control of emissions of arsenic, cadmium, and nickel from non-ferrous metal melting operations by the installation of air pollution control equipment, parametric monitoring, and housekeeping practices. At the time of rule adoption, there was a focus on non-ferrous metal melting operations because of a known presence of arsenic and cadmium associated with this source category. Both Rule 1407 and the ATCM excluded ferrous metal melting since it was beyond the scope of the investigation. It was the

¹ Final 2016 Air Quality Management Plan, South Coast AQMD, March 2017 <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan>

² Non-Ferrous Metal Melting ATCM, California Air Resources Board, December 30, 1998 <https://arb.ca.gov/toxics/atcm/metaatcm.htm>

intention of California Air Resources Board to evaluate the need for proposed controls for ferrous metal melting operations in the future.

During the rule development process for Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities³, it was seen that fugitive emissions were a contributing factor to ambient lead concentration. Feasibility studies found that emission controls greater than 99 percent reductions would not be expected to further reduce ambient lead content. Thus Rule 1420.1 contains comprehensive housekeeping and building enclosure provisions to address fugitive emissions as do the other lead rules, Rule 1420 – Emissions Standard for Lead, and Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities. As the non-lead metal melting companion rule, Rule 1407 also will focus on addressing fugitive emissions.

In 2013, South Coast AQMD staff began ambient air monitoring in response to burning metallic odor and metal particulate complaints⁴. Based on the monitoring results, there were two metals of concern: hexavalent chromium and nickel. In 2016, staff deployed monitors and found elevated hexavalent chromium levels.

Staff initiated the rule development process to amend Rule 1407 to address toxic air contaminant emissions from ferrous metal melting operations and to further reduce arsenic, cadmium, and nickel from non-ferrous metal melting operations (currently regulated under Rule 1407). After several working group meetings, industry stakeholders recommended that the rulemaking process be separated into non-ferrous (PAR 1407) and ferrous metal melting rules (Proposed Rule 1407.1 – Emissions of Toxic Air Contaminants from Chromium Alloy Melting Operations (PR 1407.1)). Industry stakeholders had commented that there was insufficient evidence that hexavalent chromium was emitted from metal melting operations and were concerned about a “one-size-fits-all” approach since they believe the type of toxic air contaminants emitted from non-ferrous and ferrous metal melting operations would differ and provisions to address the different toxic air contaminants should also differ. Additionally, although implementation of Rule 1407 would concurrently reduce hexavalent chromium emissions from ferrous metal melting operations, the level of control is probably not sufficient since hexavalent chromium is a more potent toxic air contaminant than arsenic, cadmium, and nickel which are the focus of Rule 1407. In April 2018, staff decided to bifurcate Rule 1407 into two rules to address non-chromium and chromium melting operations instead of non-ferrous and ferrous melting operations because certain ferrous alloys do not contain chromium and some non-ferrous alloys contain chromium. This decision has resulted in the development of PAR 1407 and PR 1407.1.

PAR 1407 expands the applicability of Rule 1407 beyond the ATCM by including steel as well as the non-ferrous metals previously covered. The scope of the exemptions will also be limited, resulting in more facilities subject to the requirements of the rule. The requirements are strengthened by including building enclosure requirements as well as enhancing housekeeping and parametric monitoring. The point source controls initially will remain the same; in 2021, the

³ Final Staff Report Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, South Coast AQMD, February 2015 <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2015/2015-mar6-028.pdf?sfvrsn=12>

⁴ Paramount – Ongoing Air Monitoring Activities, South Coast AQMD, accessed June 2019, <http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities>

facilities will be required to either reduce arsenic, cadmium, and nickel by 99 percent by weight or meet hourly mass emission rates rather than controlling particulate matter (PM) to 99 percent by weight. Controlling specific contaminants, rather than PM will further reduce arsenic trioxide which can vaporize in addition to controlling the particulate form of the contaminants at the same or more stringent levels. PAR 1407 will exempt equipment subject to Rule 1420 – Emissions Standard for Lead, Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Facilities, and Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities. Except for the requirement to control arsenic by 99 percent if the exhaust temperature to the emission control device is greater than 360 degrees Fahrenheit, the other requirements in Rules 1420, 1420.1 and 1420.2 are more stringent than those in PAR 1407. The requirement to control arsenic by 99 percent if the exhaust temperature to the emission control device is greater than 360 degrees Fahrenheit will remain until Rules 1420 and 1420.2 are amended to include the same requirement. Rule 1420.1 already specifically controls arsenic. Thus, in all respects PAR 1407 is equally or more stringent than the ATCM.

HEALTH EFFECTS OF ARSENIC, CADMIUM, AND NICKEL

Metal melting operations that are subject to Rule 1407 have the potential to emit toxic air contaminants such as arsenic, cadmium, and nickel based on the composition and volumes of the raw materials processed at these facilities. These elements are air pollutants that may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health⁵. Table 1-1 summarizes the United States Environmental Protection Agency (U.S. EPA) classification for these toxic air contaminants and their associated potential health effects.

Table 1-1: Toxicity of Metals

Metal	U.S. EPA Carcinogenicity Classification⁶	Target Organs for Health Effects with Chronic Exposure⁷
Arsenic	Carcinogenic to Humans	Inhalation & oral: Development; cardiovascular system; nervous system; respiratory system; skin
Cadmium	Likely to be Carcinogenic to Humans	Inhalation: Kidney; respiratory system Oral: Kidney
Nickel	Carcinogenic to Humans	Inhalation: Respiratory system; hematologic system Oral: Development

⁵ California Health and Safety Code Section 39655

⁶ California Office of Environmental Health Hazard Assessment, <https://oehha.ca.gov/media/downloads/cmr/appendixa.pdf>

⁷ California Office of Environmental Health Hazard Assessment, <https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary>

NEED FOR PROPOSED AMENDED RULE 1407

Rule 1407 has a Metal or Alloy Purity Exemption that exempts facilities from most provisions of Rule 1407 if they meet the criteria. Most facilities currently subject to Rule 1407 are exempt from most of the provisions due to the Metal or Alloy Purity Exemption in paragraph (i)(2) and the Clean Aluminum Scrap Exemption in paragraph (i)(3). The Metal or Alloy Purity Exemption has no throughput limitation. Therefore, facilities melting very large amounts of relatively low contaminant metals have the potential to pose a risk to the surrounding community. Likewise, the Clean Aluminum Scrap exemption does not include limitations for arsenic, cadmium, or nickel content. The scrap may contain toxic air contaminants that increase risk to the surrounding community. These overly broad exemptions are addressed in Proposed Amended Rule 1407 (PAR 1407).

AFFECTED INDUSTRIES

Approximately ~~54~~60 facilities are expected to be impacted by PAR 1407. Table 1-2 breaks down the number of facilities by North American Industry Classification System (NAICS) code. The facilities are foundries or metal casting businesses generally classified under the NAICS code 331XXX, including:

- 3312XX – Steel Product Manufacturing from Purchased Steel;
- 3313XX – Alumina and Aluminum Production and Processing; and
- 3315XX – Foundries.

Table 1-2: Types of Facilities Subject to PAR 1407

NAICS Code	Facility Type	Number of Facilities
331221	Galvanizing of metal (steel) tubing	1
331222	Drawing steel wire and galvanizing	3
331314	Aluminum alloys made from scrap or dross/ Secondary smelting and alloying of aluminum	5
331511	Iron Foundry	5 <u>6</u>
331513	Steel Casting	1
331523	Non-ferrous metal die-casting foundries (except Aluminum)	12 <u>13</u>
331524	Aluminum foundries/castings (except die-casting)	24 <u>25</u>
331529	Other non-ferrous metal foundries, including brass and bronze (except die-casting) – zinc ingot manufacturing	2
332111	Melting of alloy steel to manufacture die forgings	1
<u>336400</u>	<u>Aerospace</u>	<u>3</u>
Total Number of Facilities		<u>5460</u>

Secondary smelting of aluminum is the process of recovering aluminum from aluminum scrap and making aluminum billets or ingots. Foundries produce metal castings in which the molten metal is

poured into a mold and allowed to solidify. Operations that cast molten metal into various parts and products are often classified by the type of part they manufacture.

Mills and foundries melt and cast metal alloys. These alloys are a combination of metals and elements that provide qualities such as corrosion resistance or mechanical strength. Common aluminum alloying elements include copper, magnesium, manganese, silicon, tin, and zinc. Common steel alloying elements include molybdenum, silicon, manganese, nickel, boron, and vanadium. Another common steel alloy material is chromium. However, materials with greater than 0.5% ~~percent~~ chromium will be subject to Proposed Rule 1407.1 – Emissions of Toxic Air Contaminants from Chromium Alloy Melting Operations (PR 1407.1).

Even when a pure metal is melted, it often contains trace contamination of other metals or elements. Melting the metal or, alloy, or containing contamination can ~~consist of~~ emit toxic air contaminants. Arsenic, cadmium, and nickel may be found as an alloyant or as contaminants. Metal emissions may occur during metal melting, transferring, pouring, and sand reclamation. Metal emissions may also occur during casting shakeout when the casting is freed from the mold. Mechanical finishing operations, including cutting and grinding, may emit particulates possibly containing toxic air contaminants. Fugitive emissions may result from crushing, grinding, handling of materials, melting, and poor or improper housekeeping methods. Other potential sources of emissions are re-entrainment of surface dust by foot and vehicle traffic in areas of the facility where metal-containing particulate matter has been deposited. Lastly, emissions may occur from the collection points of an emission control device or from the exhaust of an emission control device.

The ~~54-60~~ facilities subject to PAR 1407 were identified by reviewing South Coast AQMD permits for furnaces, reviewing South Coast AQMD inspection reports for metal melting facilities, searching websites for facilities that offer metal melting services. Facilities that conduct heat treating or other metalworking operation but do not melt the metal were excluded. Additionally, facilities that melt metals containing chromium were excluded as they will be subject to PR 1407.1. Likewise, facilities that melt metals containing lead were excluded as they are subject to Rule 1420 – Emissions Standard for Lead, Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Facilities, or Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities.

PUBLIC PROCESS

PAR 1407 is being developed through a public process. A working group was formed to provide the public and stakeholders an opportunity to discuss the proposed rule amendment and to provide the South Coast AQMD staff with input during the rule development process. The Working Group is comprised of representatives from industry, consultants, agency representatives, environmental groups, and community groups. The Working Group originally met under Proposed Amended Rule 1407 and had four Working Group Meetings. Based on industry stakeholder input, Proposed Amended Rule 1407 was separated into two rulemakings: Proposed Amended Rule 1407 (non-chromium metal melting) and Proposed Rule 1407.1 (chromium metal melting). Stakeholders requested the bifurcation because the requirements for controls on chromium metal melting are likely to be significantly different. Staff has held five additional PAR 1407 Working Group Meetings since the rulemaking effort has been bifurcated into PAR 1407 and PR 1407.1. The nine Working Group Meetings for PAR 1407 were all held at the South Coast AQMD Headquarters in

Diamond Bar on the following dates: September 5, 2017, November 9, 2017, January 30, 2018, April 25, 2018, July 19, 2018, August 30, 2018, March 12, 2019, May 23, 2019, and July 17, 2019. A Public Workshop was held on June 19, 2019. Staff also conducted site visits to 30 of the ~~54-60~~ affected facilities.

CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1407

INTRODUCTION

PROPOSED AMENDED RULE 1407

- Purpose (Subdivision (a))
- Applicability (Subdivision (b))
- Definitions (Subdivision (c))
- Emission Control Requirements (Subdivision (d))
- Housekeeping Requirements (Subdivision (e))
- Building Enclosure Requirements (Subdivision (f))
- Source Testing Requirements (Subdivision (g))
- Material Testing Requirements (Subdivision (h))
- Emission Control Device Monitoring (Subdivision (i))
- Recordkeeping Requirements (Subdivision (j))
- Exemptions (Subdivision (k))
- Digestion of Metal Aluminum Sample (Attachment A)
- Periodic Smoke Test (Attachment B)

INTRODUCTION

Proposed Amended Rule 1407 (PAR 1407) establishes requirements for controlling emissions of arsenic, cadmium, and nickel from non-chromium metal melting operations, including point source control requirements, housekeeping and building enclosure requirements, in addition to source testing and recordkeeping requirements. Many of the provisions in PAR 1407 are based on similar types of provisions used for Rules 1420 – Emissions Standard for Lead, 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, 1420.2 – Emission Standards for Lead from Metal Melting Facilities, and 1430 – Control of Emissions from Metal Grinding Operations at Metal Forging Facilities, which were recently adopted or amended. The majority of the current Rule 1407 exemptions will be revised or deleted. These exemptions are overly broad and do not take into consideration facility throughput or concentrations of arsenic, cadmium, and nickel which are the focus of Rule 1407.

PROPOSED AMENDED RULE 1407

Purpose (Subdivision (a))

The purpose of PAR 1407 is to reduce process and fugitive emissions of arsenic, cadmium, and nickel, thereby minimizing public health impacts by reducing exposure to toxic air contaminants. Facilities and operations subject to PAR 1407 include non-chromium metal melting operations at smelters, foundries, die-casters, galvanizing and tinning coating operations and also from processes that conduct dip soldering, brazing and aluminum powder coating production.

Applicability (Subdivision (b))

Rule 1407 currently applies only to non-ferrous metal melting applications. Initially, during the rule development process, one approach was to expand Rule 1407 to apply to all metal melting operations (non-ferrous and ferrous) and include hexavalent chromium as a toxic air contaminant of concern. Industry requested separating the rules because there was insufficient evidence that hexavalent chromium was emitted from metal melting operations and that the type of toxic air contaminants emitted from non-ferrous and ferrous metal melting operations could differ significantly.

Staff agreed to bifurcate the proposed rules, but did so based on the chromium content in the metal or alloy. Hexavalent chromium has a cancer potency factor that is one or more orders of magnitude higher than arsenic, cadmium, or nickel. Thus emissions of hexavalent chromium would likely need more stringent controls than other metal toxic air contaminants. Iron content (ferrous and non-ferrous) is not an indicator of chromium content, as superalloys are non-ferrous alloys with high levels of chromium, while iron and carbon steel have high iron content, but are expected to have only trace chromium content as impurities.

Staff reviewed the composition of metal alloys. Staff determined that aluminum alloys have less than 0.4% ~~percent~~ chromium content with Aluminum 6066 being the aluminum alloy with the highest chromium content. Brass, bronze, and lead alloys are expected to have only trace contaminant quantities of chromium. Carbon steel and iron have no minimum specifications for chromium, but are also expected to have only trace contaminants. Alloy steel, stainless steel, and superalloys are expected to have a chromium content greater than 0.4% ~~percent~~. Therefore, PAR 1407 will apply to non-chromium alloys, which is defined as any metal that contains less than 0.5% ~~percent~~ chromium by weight as determined on a quarterly weighted average. Equipment or

operations that have greater than 0.5 percent by weight on average will be subject to PR 1407.1 and shall be exempt from all of the requirements of PAR 1407. Chromium alloys will be addressed in a separate rule, PR 1407.1,

With the adoption of Proposed Rule 1407.1 and Proposed Amended Rule 1407, metal melting operations will be regulated by metal or alloy as depicted in Figure 2-1 below.

Figure 2-1: South Coast AQMD Rules by Metal Type

Al & Al Alloys	Carbon Steel	Brass	Bronze	Lead	Stainless Steel	Alloy Steel	Superalloy
< 0.5% chromium	No minimum specification for chromium	Trace levels of chromium only	Trace levels of chromium only	Trace levels of chromium only	≥ 0.5% chromium	≥ 0.5% chromium	≥ 0.5% chromium
PAR 1407	PAR 1407	Rule 1420 or PAR 1407	Rule 1420 or PAR 1407	Rule 1420	PR 1407.1	PR 1407.1	PR 1407.1

The proposed applicability for PAR 1407 is as follows:

This rule applies to an owner or operator of a facility conducting non-chromium metal melting operation(s) including, but not limited to, smelters (primary and secondary), foundries, die-casters, coating processes (galvanizing and tinning), and other miscellaneous processes such as dip soldering, brazing, and aluminum powder production.

Definitions (Subdivision (c))

PAR 1407 includes new or modified definitions. The definitions used maintain consistency with other South Coast AQMD toxics rules. The definition for *non-chromium metal*, as *any metal that contains less than 0.5 percent by weight total chromium content as determined on a ~~monthly~~ quarterly weighted average*, has been included to address the revision in applicability from “non-ferrous” metal melting operations to “non-chromium” metal melting operations.

Currently, Rule 1407 emission control requirements are based on particulate matter. PAR 1407 will establish emission standards specifically for arsenic, cadmium and nickel, rather than particulate emissions, therefore, definitions referencing particulate matter and particulate matter control outlined in the current rule have been revised to reflect these changes. Please refer to subdivision (c) of PAR 1407. Figure 2-2 lists the new, modified, and deleted definitions.

Figure 2-2: Definition Revisions

Adding	Modifying	Removing
<input type="checkbox"/> Approved Cleaning Methods	<input type="checkbox"/> Emission Collection System	<input type="checkbox"/> District
<input type="checkbox"/> Bag Leak Detection System	<input type="checkbox"/> Facility	<input type="checkbox"/> Emission Point
<input type="checkbox"/> Building Enclosure	<input type="checkbox"/> Fugitive Emissions (Fugitive Metal Dust Emissions)	<input type="checkbox"/> Fine Particulate Matter
<input type="checkbox"/> Capture Velocity	<input type="checkbox"/> Metal Melting Furnace	<input type="checkbox"/> Fugitive Emissions Control
<input type="checkbox"/> Customer Returns	<input type="checkbox"/> Rerun Scrap	<input type="checkbox"/> Good Operating Practices
<input type="checkbox"/> Emission Control Device	<input type="checkbox"/> Scrap	<input type="checkbox"/> Hard Lead
<input type="checkbox"/> Enclosure Opening		<input type="checkbox"/> Non-Ferrous Metal
<input type="checkbox"/> Foundry		<input type="checkbox"/> Particulate Matter
<input type="checkbox"/> Functionally Similar Furnace		<input type="checkbox"/> Particulate Matter Control System
<input type="checkbox"/> Low Pressure Spray		<input type="checkbox"/> Person
<input type="checkbox"/> Metal Cutting		<input type="checkbox"/> Process Emission Control
<input type="checkbox"/> Metal Grinding		<input type="checkbox"/> Pure Lead
<input type="checkbox"/> Metal Removal Fluid		<input type="checkbox"/> Type Metal
<input type="checkbox"/> Non-Chromium Metal		

Emission Control Requirements (Subdivision (d))

Rule 1407 currently includes a provision that requires the gas stream from an emission collection system be vented to a control device that reduces particulate emissions by 99 percent or more by weight. Additionally, if the temperature of the gas stream exceeds 360 degrees Fahrenheit, then the control device must have a control efficiency of 99 percent or more for controlling arsenic and cadmium emissions. These requirements will be retained until the facility meets the new emission control requirements in paragraph (d)(3) or (d)(4) which shall be met on or before January 1, 2021. This ensures that facilities subject to Rule 1407 will either be subject to the existing requirements or be subject to the new requirements.

PAR 1407 will place specific emphasis on the control of arsenic, cadmium, and nickel. The new emission control requirement will require emissions from a non-chromium metal melting furnace to either meet a control efficiency per furnace or an aggregate mass emission limit for each toxic air contaminant individually. Owner or operators must ~~be at or below~~:

- Meet a 99% control efficiency of arsenic or be at or below the aggregate mass emission limit from all non-chromium metal melting furnaces and associated emission control devices of 0.000066 pounds per hour of arsenic;

- Meet a 99% control efficiency of cadmium or be at or below the aggregate mass emission limit from all non-chromium metal melting furnaces and associated emission control devices of 0.000514 pounds per hour of cadmium; and
- Meet a 99% control efficiency of nickel or be at or below the aggregate mass emission limit from all non-chromium metal melting furnaces and associated emission control devices 0.00848 pounds per hour of nickel.

The arsenic, cadmium, and nickel aggregate mass emission rates were developed from determining the cancer risk from available source testing data for stack height, building parameters, and exhaust flow rates that yield the least amount of dispersion resulting in higher health risks. The analysis assumes the nearest receptor is located downwind. The emission rates are a conservative estimate based on a screening cancer risk of 25 in one million for a receptor located 100 meters from the source.

The facility has the option to demonstrate compliance for each pollutant individually. By default, the pollutants shall be controlled to 99 percent each. Optionally, each pollutant may meet an aggregate mass emission limit. For example, a furnace can have a control device that limits cadmium and nickel by 99 percent each and demonstrate that aggregate mass emission of arsenic from all non-chromium metal melting operations are at or below 0.000066 pounds per hour. Likewise, a facility may install a pollution control device that has a control efficiency less than equal to or greater than 99 percent but reduces aggregate mass emissions below the limits for a specific toxic air contaminant. This provides flexibility for facilities to control larger sources of toxic air contaminants as opposed to all sources. Additionally, some pollutants may be at such low levels that control equipment may have difficulty demonstrating 99 percent control. The aggregate mass emissions limit has the added benefits: it is less expensive to demonstrate compliance because only an outlet test is required; units that have low concentrations of arsenic, cadmium, or nickel may have difficulty meeting the 99 percent control, but can demonstrate compliance meeting the specific aggregate mass emissions limit; and it does not require air pollution control equipment for furnace operations with very low levels of arsenic, cadmium, and/or nickel.

Based on experience with facilities subject to Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Facilities, staff has determined¹ that arsenic trioxide, a toxic that is also subject to this regulation, may vaporize at room temperature. It has a boiling point of 869 degrees Fahrenheit; well below typical furnace operating temperatures. Typical particulate control methods used to control cadmium and nickel, such as a baghouse, may not be appropriate for controlling arsenic or arsenic trioxide in vapor form. A wet scrubber or a wet electrostatic precipitator may be required to control arsenic or arsenic trioxide in vapor form. Where the aggregate mass emissions of arsenic are greater than 0.000066 pounds per hour ~~and~~ additional control equipment will be required. However, a facility may avoid having to install a second control device to limit vapors from arsenic if it can demonstrate that aggregate arsenic emissions are at or below 0.000066 pounds per hour.

This subdivision will maintain the provision limiting visible emissions previously contained under fugitive emission control. Additionally, this subdivision will include a provision which prohibits visible emissions from non-chromium metal melting operations ~~to leave the direct path to from~~

¹ Source Test Report 13-307 and 13-308, South Coast AQMD, October 2013, accessed June 2019 <http://www.aqmd.gov/docs/default-source/exide/exide-sourcetestaug-sept.pdf?sfvrsn=2>

escaping the collection location of an emission collection system. This provision allows South Coast AQMD enforcement to visually observe emission collection systems that are not functioning properly.

In order to ensure adequate time for permit applications to be processed, PAR 1407 requires that permit applications for additional emission control devices that will be used for existing furnaces are submitted by July 1, 2020.

Source testing requirements are being moved to subdivision (g). The maintenance program provisions will be split into Housekeeping Requirements (subdivision (e)) and Emission Control Device Monitoring (subdivision (i)). A comparison of current emission control requirements and proposed emission control requirements is provided in Table 2-1 below.

Table 2-1: Comparison of Emission Control Requirements

Requirement	Rule 1407	PAR 1407
Control particulate matter emissions by 99%	Yes	Until January 1, 2021 <u>and</u> until compliance with (d)(3) <u>or</u> (d)(4)
Control As and Cd by 99% if exhaust temperature > 360°F	Yes	Yes
Control As, Cd, and Ni by 99% or meet mass emission limits at all times	No	Yes (effective January 1, 2021)
One-time source test	Yes	Yes, and periodic source testing (Moved to Source Testing Requirements (subdivision (g)))
Maintenance program	Yes	Yes. Moved to Housekeeping Requirements (subdivision (e)) and Emission Control Device Monitoring (subdivision (i))
Limit visible emissions	Yes	Yes
Limit visible emissions escaping emission control device	No	Yes

Housekeeping Requirements (Subdivision (e))

Housekeeping requirements are proposed to minimize fugitive emissions resulting from non-chromium metal melting operations. Proposed Amended Rule 1407 clarifies requirements for enclosed storage of dust-forming metal-containing material, such as dross, ash, or feed materials to include trash or debris. In addition to an enclosed storage area, the provision will allow dust-forming metal-containing material to be stored in a building enclosure or covered containers; the covered containers must only be opened when material is being deposited or removed and must be free of leaks. Additionally, the provision which requires enclosed containers for material collected by emission control devices will be retained. Two other housekeeping measures will become effective upon rule adoption: 1.) Clean weekly in floor areas within 20 feet of where furnace and casting operations are conducted; and 2.) Prohibition of dry sweeping, unless dry sweeping is allowed in an approved Housekeeping Compliance Plan that allows an alternative cleaning method, and compressed air cleaning where furnace, casting, metal cutting, and metal grinding operations occur. An owner or operator may submit a Housekeeping Compliance Plan to use an alternative cleaning method in lieu of an approved cleaning method. The alternative cleaning method must meet the same air quality objectives and effectiveness of the housekeeping requirement it is replacing and the alternative housekeeping measure must minimize generation of dust-forming metal-containing materials.

The following housekeeping provisions will be effective within 30 days of rule adoption:

- Quarterly inspection, and cleaning if necessary, of collection vents, openings, and ducting of emission control devices to prevent dust building up and clogging;
- Removal of weather caps that restrict the flow of exhaust on any stack that is a source of emissions from non-chromium metal melting operations; acceptable exhaust caps include butterfly dampers which provide a clear path for air movement when the exhaust fan is operating
- Transport dust-forming slag and waste generated during housekeeping and building enclosure construction and maintenance within closed conveyor systems or in covered containers, unless conducted within a building enclosure or an enclosed storage area. This provision is not applicable to transporting materials exceeding 500 degrees Fahrenheit;
- Weekly cleaning by an approved cleaning method in floor areas near work stations, openings of building enclosures, and transfer points of emission control devices utilized for metal cutting or metal grinding operations not conducted under a continuous flood of metal removal fluid;
- Dust-forming metal-containing materials generated from housekeeping, construction, or maintenance shall be stored in an enclosed storage area, in a covered container, or in a building enclosure except when material is actively being deposited into or actively removed from a receptacle. Active means depositing or removing materials with no more than a 15 minute delay; and
- Clean by an approved cleaning method within one hour of construction or maintenance that results in the deposition of fugitive metal dust emissions.

A comparison of current housekeeping requirements and proposed housekeeping requirements is provided in Table 2-2 below.

Table 2-2: Comparison of Housekeeping Requirements

Requirement	Rule 1407	PAR 1407
(e)(1)(A) – Store dust-forming metal-containing materials in an enclosed storage area, building enclosure, or covered container	Yes	Yes
(e)(1)(B) – Discharge materials from emission control device into closed containers or an enclosed system	Yes	Yes
(e)(1)(C) – Weekly floor cleaning	No	Yes
(e)(1)(D) – Prohibition of dry sweeping and compressed air cleaning	No	Yes
(e)(2)(A)* – Quarterly inspection, and cleaning if necessary, of collection vents, openings, and ducting of emission control devices	No	Yes
(e)(2)(B)* – Remove weather caps from stacks	No	Yes
(e)(2)(C)* – Transport of slag, housekeeping waste, and building enclosure construction and maintenance materials within closed conveyer systems, in covered containers, or within a building enclosure	No	Yes
(e)(2)(D)* – Weekly floor cleaning of cutting and grinding operations,	No	Yes
(e)(2)(E)* – Store slag, housekeeping waste, and building enclosure construction and maintenance materials in an enclosed storage area, building enclosure, or covered container	No	Yes
(e)(2)(F)* – Clean within one hour after construction or maintenance	No	Yes

* Applicable 30 days after rule adoption

A provision is included in paragraph (e)(3) allowing an alternative cleaning process to be used by facilities provided the alternative cleaning process meets the same objectives and effectiveness, ensures that metal dust will not be generated by the alternative housekeeping procedure, and is submitted and approved by the South Coast AQMD as part of a Housekeeping Compliance Plan. Examples of alternative cleaning processes that can replace the required housekeeping measures

could be using a High Efficiency Particulate Arrestor (HEPA) vacuum then dry sweeping the larger metal pieces within one hour or using a HEPA vacuum with an attached broom head.

Building Enclosure Requirements (Subdivision (f))

Paragraph (f)(1) requires the owner or operator of a non-chromium metal melting operation to conduct operations within a building enclosure that minimizes cross draft conditions by July 1, 2020. The enclosure may consist of a structure within a building that encloses metal melting, casting, or metal cutting and grinding not conducted under a continuous flood of metal removal fluid operations. The intent of these requirements is to provide containment, impede cross-drafts, and minimize fugitive emissions generated in areas where metal melting operations, including grinding and cutting, occur.

A building enclosure, as defined in paragraph (c)(4), is a structure, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation or wind), with limited openings to allow access and egress for people, vehicles, equipment, or parts. Cross-draft conditions of a building enclosure shall be minimized by not allowing openings on opposite ends of the building to be open simultaneously. Minimizing cross-draft conditions will help prevent a loss in the efficiency of an emission collection system. Openings are vents, windows, passages, doorways, bay doors. Methods to close openings, include use of automatic doors, installation of overlapping plastic strip curtains, vestibules, and airlock systems. Barriers, such as large pieces of equipment may also be used to block openings or prevent cross-drafts inside an enclosure near processes. Additionally, the owner or operator can demonstrate to the Executive Officer equivalent or more effective ways to minimize cross-draft conditions.

Illustrations of example building enclosure configurations are provided in Figures 2-3 through 2-10 below.

Figure 2-3: Acceptable Building Enclosures Configuration

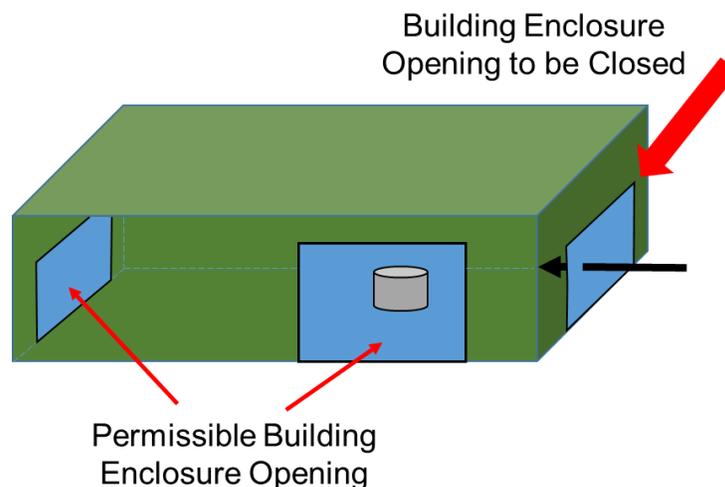


Figure 2-4: Acceptable Building Enclosures Configuration

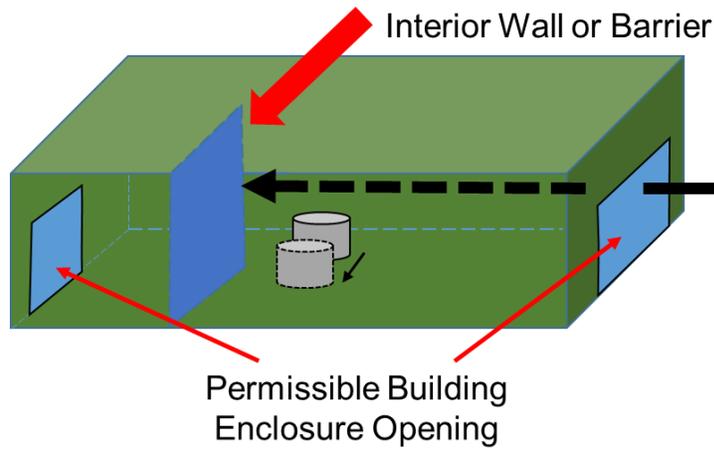


Figure 2-5: Acceptable Building Enclosures Configuration

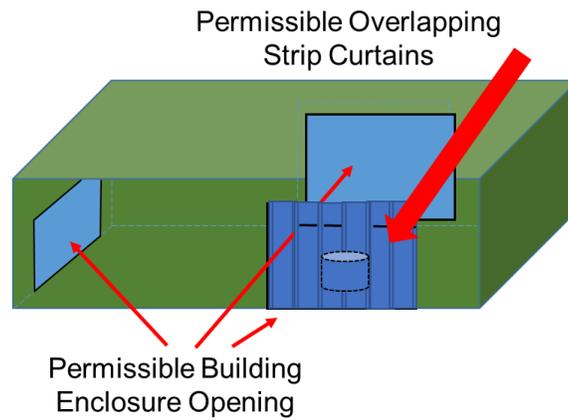


Figure 2-6: Acceptable Building Enclosures Configuration

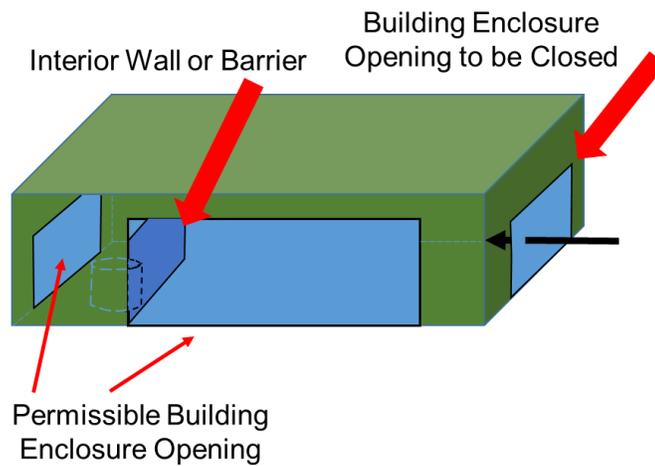


Figure 2-7: Unacceptable Building Enclosures Configuration

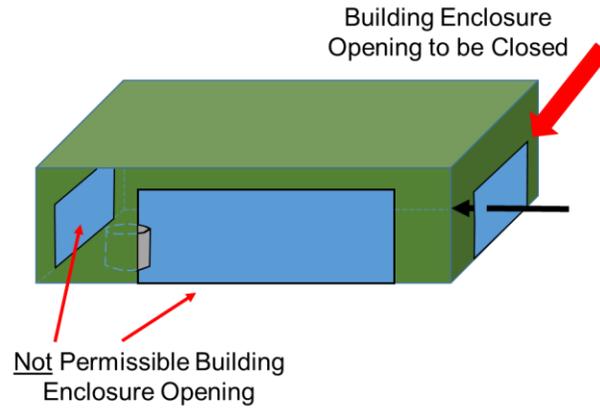


Figure 2-8: Unacceptable Building Enclosures Configuration

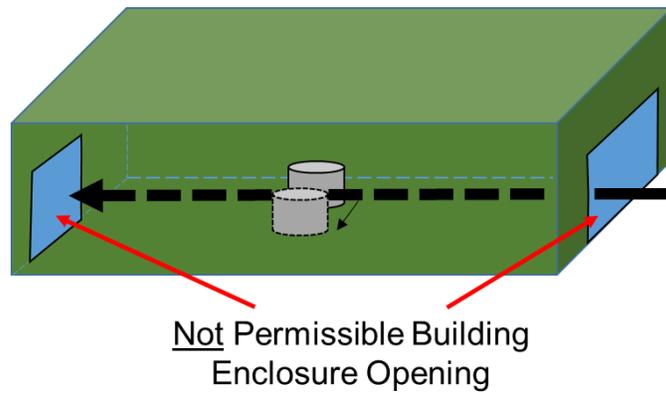


Figure 2-9: Unacceptable Building Enclosures Configuration

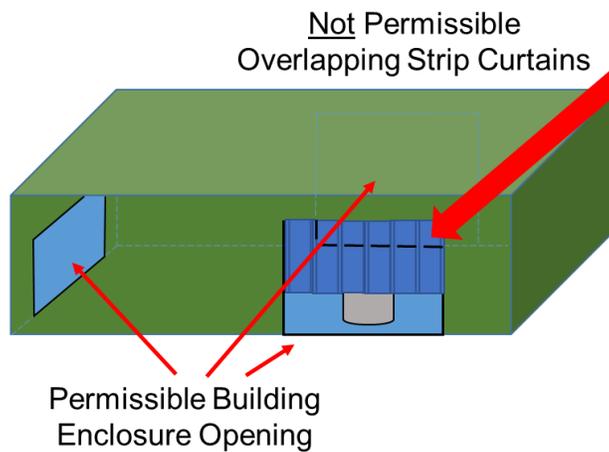
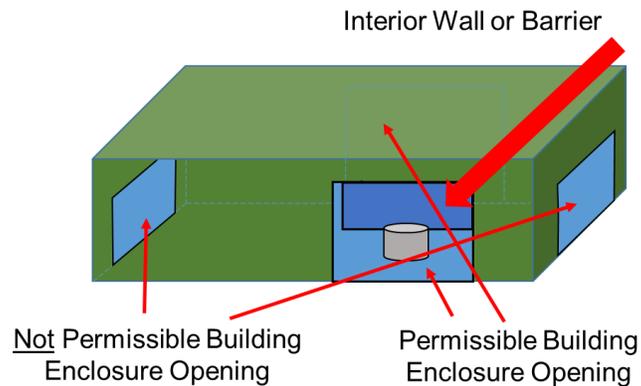


Figure 2-10: Unacceptable Building Enclosures Configuration

In the event that an owner or operator cannot comply with the requirements of paragraph (f)(1) due to conflicts with federal Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health Administration (CAL/OSHA), or other municipal codes or agency requirements directly related to worker safety, paragraph (f)(2) ~~requires~~ allows submittal of a Building Enclosure Compliance Plan. No later than 90 days after rule adoption for existing facilities and prior to initial start-up for all other operations, a Building Enclosure Compliance Plan shall be submitted and shall include the explanation for the conflict and the alternative measures that will be implemented to minimize the release of fugitive emissions to the outside of the building enclosure. This plan will be subject to Rule 306 – Plan Fees. Paragraph (f)(3) establishes procedures for resubmittal and appeal of disapproved Building Enclosure Compliance Plans. If the Building Enclosure Compliance Plan is disapproved, a revised Building Enclosure Compliance Plan must be resubmitted within 30 days of the notification of disapproval. Alternatively, the owner or operator may appeal the disapproval to the Hearing Board per Rule 216 – Appeals and Rule 221 – Plans. The Executive Officer will either approved the revised and resubmitted Building Enclosure Compliance Plan or will modify the plan and approve it as modified. The Executive Officer modified and approved Building Enclosure Compliance Plan can be appealed per Rules 216 and 221. Once the Building Enclosure Compliance Plan is approved, the plan must be implemented within 90 days of approval for facilities existing prior to rule adoption and prior to initial start-up for all other facilities pursuant to paragraph (f)(4).

Source Testing Requirements (Subdivision (g))

Facilities shall submit a source test protocol to the Executive Officer by October 1, 2020 for the initial source test and at least 3 months prior to the deadline for periodic source testing. The source test protocol must specify the information necessary to be included in the source test protocol including: source test criteria, all assumptions, required data; target mass emission standards for arsenic, cadmium and nickel; planned sampling parameters; an evaluation of the emission collection system's capture efficiency and velocity; and information regarding equipment, logistics, personnel and other resources necessary to facilitate an efficient and coordinated source test.

No later than January 1, 2021, PAR 1407 paragraph (g)(2) will require an initial source test and paragraph (g)(3) will require periodic source tests every 60 months, thereafter, to demonstrate compliance with the emission control requirement specified in subdivision (d). The furnace must

be operating at a minimum of 80 percent of its weight capacity and a normal operating temperature during the test. For uncontrolled furnaces, paragraph (g)(4) allows the emission rate determined for one uncontrolled furnace to be applied to all functionally similar furnaces at that facility. Paragraph (c)(~~1617~~) defines functionally similar furnaces as furnaces that: melt the same type of alloys, and are the same type of furnace (electric, induction, cupola, reverberatory, etc.); and similar in size. Similar alloys would be those that have the same base metal. Similar in size means up to a 50 percent or 500 pound difference by charge weight. ~~The furnace must be operating at a minimum of 80 percent of its weight capacity and a normal operating temperature during the test.~~

For new or modified emission control devices that start after the adoption of PAR 1407, paragraph (g)(5) requires an a source test protocol to be submitted within 90 days after the Permit to Construct is issued and to conduct the initial source test within 120 days after the approval of the source test protocol.

The owner or operator shall notify the South Coast AQMD one week prior to conducting any source tests, 24 hours prior to cancelling or rescheduling a test, and within five calendar days of knowing source test results exceeded emission standards. These provisions are contained in paragraphs (g)(6) and (g)(7).

Currently, Rule 1407 emission control requirements are based on particulate matter; PAR 1407 will be basing emission control requirements specifically on the control of arsenic, cadmium, and nickel. Therefore, the source test method requirement in PAR 1407 in paragraph (g)(8) is CARB Method 436 – Determination of Multiple Metal Emissions from Stationary Sources. Source tests shall be conducted while the equipment is operating at a minimum of 80 percent of the equipment's permitted throughput. Additionally, the sample volume must be large enough to achieve analytical results at the method reporting limit or 150 dry standard cubic feet, assuming that the method reporting limit is 0.2 micrograms per sample for arsenic, cadmium, and nickel. If a source test results in all runs below the method reporting limit for a compound, then that compound will be reported as non-detect and will be counted as a zero for purposes of this rule. If a source test results in at least one run below and one run above the method reporting limit for a compound, then the runs that are below the method reporting limit shall be assigned one half of the method reporting limit for that runs². Paragraph (g)(9) allows for the use of an alternative or equivalent test method ~~will be allowed~~ as long as it is approved in writing by the Executive Officer, in addition to the California Air Resources Board, or the U.S. EPA, as applicable.

As required by paragraph (g)(10), the source test shall be performed by a South Coast AQMD approved laboratory. When there is more than one possible source test method, paragraph (g)(11) states that the source test method selected must be approved by the Executive Officer. Additionally, according to paragraph (g)(11), violating any specified source test method constitutes violating the rule.

Paragraph (g)(12) allows a facility to utilize a source test conducted after January 1, 2016 instead of conducting the initial source test required in paragraph (h)(1) provided that the source test:

- Is the most recent completed source test for that equipment;
- Demonstrated compliance with the limits in subdivision(d); and

² South Coast A.Q.M.D Risk Assessment Procedures for Rules 1401, 1401.1 and 1402, Version 8.1, South Coast A.Q.M.D, September 1, 2017

- Was conducted using PAR 1407 applicable and approved test methods.

Reports from source testing must be submitted to the South Coast AQMD within 90 days of completion of source testing in order to comply with (g)(13).

Material Testing Requirements (Subdivision (h))

PAR 1407 will maintain the majority of the material testing methods used in the current rule to determine the composition of alloys used in metal melting operations until January 1, 2021, which coincides with the sunset of current Rule 1407 emission limits and exemptions. The pig lead analysis technique will be removed because it is no longer applicable. PAR 1407 allows for the use of U.S. EPA-approved methods, active ASTM International methods, metallurgical assays, or alternative methods approved by the Executive Office. The method needs to be a method that is appropriate to the sample matrix, has the appropriate method detection limit, and has no interferences, ~~and is approved by the Executive Officer.~~

The following material testing is required in PAR 1407:

- Quarterly analysis of raw materials melted in non-chromium metal melting furnaces; and
- Quarterly analysis of baghouse catches of baghouses associated with non-chromium metal melting operations.

Emission Control Device Monitoring (Subdivision (i))

PAR 1407 includes parametric monitoring to ensure proper operation of the non-chromium metal melting emissions control device. Operational parameters are generally expressed as range parametric measurements within which the air pollution control device functions best and realizes optimum efficiency. Parametric monitoring is conducted separate from source testing and provides a good indicator when there is an issue with the emission control device in between source testing.

Bag Leak Detection System (paragraph (i)(1))

By January 1, 2021, the owner or operator of a non-chromium metal melting operation shall operate, calibrate, and maintain a Bag Leak Detection System for all baghouses pursuant to Rule 1407, regardless of size, pursuant to the Tier 3 requirements of Rule 1155 – Particulate Matter (PM) Control Devices.

Pressure Across an Emission Control Device (paragraph (i)(2))

By January 1, 2021, the pressure across the emission control device shall be continuously measured with a gauge that is visible and in clear line of sight of the operator or maintenance personnel. The reading from the gauge provides an indication of whether the emission control device is operating within the proper range of pressure differential, whether the filters may be clogged or have leaks thereby compromising their effectiveness, or if the scrubber is approaching flooding velocity. The monitoring device shall be required to:

- Be equipped with ports that allow for periodic calibration in accordance with manufacturer's specifications;
- Be calibrated according to manufacturer's specifications at least once every calendar year;
- Be equipped with a continuous data acquisition system (DAS). The DAS shall record the data output from the monitoring device at a frequency of not less than once every sixty (60) minutes;

- Generate a data file from the computer system interfaced with each DAS each calendar day. The file shall contain a table of chronological dates and time and the corresponding data output value from the monitoring device in inches of water column. The operator shall prepare a separate data file each day showing the 4-hour rolling average pressure readings recorded by this device each calendar day; and
- Be maintained in accordance with manufacturer's specifications.

The owner or operator is required to conduct a source test, if the differential pressure emission control device is not maintained within the range or ranges specified in the Permit to Operate or the range specified by the manufacturer or the Executive Officer, based on hourly or more frequent recordings by the DAS for:

- A rolling 4-hour time period on 3 or more separate ~~days~~ occasions over 60 continuous days; or
- Any rolling consecutive 24-hour period.

The acceptable range of pressure across the emission control device may be specified in the Permit to Operate or shall be determined by the Executive Officer based on supporting documentation such as manufacturer specifications and source test results.

Air Flow to the Air Pollution Collection System (paragraphs (i)(4) and (i)(5))

Emission control devices shall be operated at a minimum capture velocity specified in the most current edition of the *Industrial Ventilation: A Manual of Recommended Practice for Design*, published by the American Conference of Governmental Industrial Hygienists, at the time a permit application is deemed complete with the South Coast AQMD. As specified in *Industrial Ventilation*, the minimum collection velocity should be sufficient to overcome the combustion products and heat of combustion.

In addition, for each emission collection system required to be monitored under PAR 1407, a passing periodic smoke test shall be conducted at least once every six months. The periodic smoke test provides a qualitative test for owners and operators to help determine whether cross draft conditions or other activities conducted at the facility are affecting the ability of the emission collection system or hood to effectively capture emissions. It also serves to verify that the airflow is moving towards the air pollution collection system, which verifies the effectiveness of the air pollution control device. Smoke test procedures are outlined in PAR 1407 Attachment B – Smoke Test to Demonstrate Capture Efficiency for Emission Collection Systems of an Emission Control Device. If the smoke test fails, then the associated furnace(s) are not to be used for production until the system can pass a smoke test.

Anemometer (paragraph (i)(6))

The slot velocity of each emission collection system shall be measured at least every six months using a calibrated anemometer. The emission collection system designed with a hood or enclosure shall maintain a capture velocity of at least 200 feet per minute as measured at the face of the enclosure. An emission collection system with slots, but without an enclosure or hood shall maintain slot velocities of at least 2,000 feet per minute. An emission collection system designed with a canopy hood without an enclosure shall maintain a capture velocity of at least 200 feet per minute across all open sides without any cross drafts. For all three of the capture velocities above,

the operator shall maintain at least the minimum slot velocity that verifies 100 percent collection efficiency measured in the most recent source test.

Recordkeeping Requirements (Subdivision (j))

PAR 1407 will require records be kept to assist in verifying compliance. Owners and operators will be required to maintain records for three (3) years, keep the most recent two years onsite, and make them accessible and available to South Coast AQMD compliance staff upon request. Records shall include the following:

- (j)(1) – Type and quantity of raw materials processed, including purchase records to confirm these quantities maintained ~~monthly~~quarterly;
- (j)(2) – Material testing data as required by subdivision (h);
- (j)(3) – Source test data as required by subdivision (g) and paragraph (i)(3);
- (j)(4) – Housekeeping activities completed pursuant to subdivision (e);
- (j)(5) – Parametric device monitoring for emission control devices pursuant to subdivision (i); ~~and~~
- (j)(6) – Anemometer data and calibration documentation as required by paragraph (i)(6); and
- (j)(7) – Smoke test documentation as required in Attachment B

A comparison of current recordkeeping requirements is provided in Table 2-3 below.

Table 2-3: Comparison of Recordkeeping Requirements

Requirement	Rule 1407	PAR 1407*
Types, quantities of metals melted	Yes (For exemption demonstration only)	Yes
Analyses of metals melted	Yes (For exemption demonstration only)	Yes
Baghouse catch analyses	No	Yes
Source test data	Yes	Yes
Housekeeping activities	No	Yes
Parametric monitoring	Yes (Maintenance program)	Yes
Anemometer data	No	Yes
Smoke test documentation	No	Yes

*Records to be maintained for three years (previously two years)

Exemptions (Subdivision (k))

PAR 1407 includes exemptions limiting some requirements that a facility may be subject to:

Small Quantity

The small quantity exemption is included in the existing rule and shall be maintained in paragraph (k)(1) of PAR 1407. Facilities that melt no more than one ton per year of all non-chromium metals are exempt from all requirements except for paragraph (j)(1). Sources will be required to maintain records verifying that they melt less than one ton annually. This will exclude many small operations including universities, artists, and jewelers.

Low Throughput, Clean Aluminum Scrap, and Aluminum Scrap Furnaces

These exemptions are retained in paragraphs (k)(2), (k)(4), and (k)(5) until January 1, 2021 and will be replaced by (k)(3), a revised Metal or Alloy Purity Exemption. As currently written, paragraphs (k)(2), (k)(4), and (k)(5) are overly broad allowing materials with high levels of arsenic, cadmium, or nickel to be excluded from point source requirements because they are merely free from oil, grease, or paint which have nothing to do with arsenic, cadmium, or nickel content.

Metal or Alloy Purity

Equipment and operations that melt raw materials consisting of a metal or an alloy which is shown by laboratory analysis to contain minimal amounts of arsenic and cadmium and melt below a specific threshold shall only be subject to housekeeping, building enclosure, material testing, and recordkeeping requirements of the rule pursuant to paragraph (k)(3). The operator will have to maintain records to demonstrate the exemption and also be required to meet the housekeeping and building enclosure requirements to ensure that fugitive emissions created by the facility's operations are minimized. This incentivizes facilities to melt metals with extremely low levels of toxic air contaminants avoiding the need for costly controls. Many smaller facilities can meet this exemption by utilizing feed materials that have been certified by their suppliers to meet the exemption thresholds.

The metal or alloy purity exemptions in paragraph (k)(3) are based on the purity of the metals melting at a facility:

- A threshold of 8,400 tons of metal melted per year for facilities melting alloys which contain less than 0.002 percent arsenic 0.004 percent cadmium, and 0.5 percent chromium by weight on a ~~monthly~~ quarterly weight average;
- A threshold of 42,000 tons of metal melted per year for facilities melting alloys which contain less than 0.0004 percent arsenic, 0.0008 percent cadmium, and 0.5 percent chromium by weight on a ~~monthly~~ quarterly weight average; and
- A threshold of 84,000 tons of metal melted per year for facilities melting alloys which contain less than 0.0002 percent arsenic, 0.0004 percent cadmium, and 0.5 percent chromium by weight on a ~~monthly~~ quarterly weight average.

The thresholds are based on source test results at an aluminum secondary smelting facility. The test results were used to determine the amount of metals melted before the screening risk used for mass emission limits would be exceeded. This provides a sufficiently conservative limit to ensure that uncontrolled furnace operations will not pose an unacceptably high risk to the surrounding community. To qualify for a metal or alloy purity exemption, the facility must demonstrate compliance through material testing of the raw materials.

Aluminum Pouring

This exemption is included in the existing rule and will be retained in paragraph (k)(6) of PAR 1407. This exemption addresses areas in the proximity of where ladles, launders, and other equipment are used to convey aluminum from a melting or holding furnace to casting equipment. Since these activities involve transfer of molten material, it is believed that only minimal emissions will be involved, but the potential for losses due to spilling of material still exists. As such, staff believes that housekeeping and recordkeeping requirements will be sufficient in mitigating fugitive losses.

Rules 1420, 1420.1 and 1420.2 – Lead Rules

Equipment or operations that are subject to the lead rules listed above are exempted in paragraph (k)(7) and (k)(8) because they are currently subject to requirements which are just as or more stringent for point source and fugitive emission control than the requirements of PAR 1407, with one exception for Rules 1420 and 1420.2 equipment and operations. The exception is the requirement for a gas stream that exceeds 360 degrees Fahrenheit requiring the control device to meet a control efficiency of 99 percent or more for controlling arsenic and cadmium emissions. Therefore, equipment and operations subject to Rules 1420 and 1420.2 are exempt from all requirements of the rule except for this provision (d)(5). If at some future date, Rule 1420 or 1420.2 are amended to address arsenic emissions, then equipment and operations subject to Rules 1420 or 1420.2 will be exempt from all requirements of Rule 1407. Equipment and operations subject to Rule 1420.1 are exempt from the entirety of Rule 1407 because Rule 1420.1 has its own arsenic standards. A facility that is subject to Rule 1420 or 1420.2 but also has furnaces that melt non-chromium metals, excluding lead, would be required to comply with PAR 1407 for those non-chromium metal melting furnaces.

Health Risk Assessment or Air Toxics Inventory Report

Risk analyses demonstrate the risk a facility poses to the surrounding community. Therefore, PAR 1407 includes an exemption in paragraph (k)(9) for facilities with a Health Risk Assessment with a maximum individual cancer risk less than ten in one million or an Air Toxic Inventory Report with a Facility Priority Score of less than ten. Facilities that qualify will be exempt from subdivision (d) and will not be required to put on additional controls.

Maintenance

Brazing, dip soldering, metal cutting, or metal grinding conducted for maintenance purposes, including repair of equipment and structures, are not subject to the requirements of this rule. These operations are not conducted on products that are intended for sale.

Digestion of Metal Aluminum Sample for Determining Arsenic (Attachment A)

Minor changes were made to Attachment A for clarification purposes only.

Smoke Test to Demonstrate Capture Efficiency for Emission Collection Systems of an Emission Control Device (Attachment B)

Attachment B specifies the method for periodic smoke tests to demonstrate qualitative capture efficiency for emission collection systems of add-on air pollution control device(s) pursuant to paragraph (i)(5). A smoke generator is placed within the area where collection of emissions by the ventilation system reveals the capture efficiency. The test is conducted while the emission control device is in normal operation and under typical draft and cross-draft conditions. An acceptable

smoke test shall demonstrate a direct stream to the collection location(s) of the ventilation system without escaping. The periodic smoke test requirement of PAR 1407 will not be required if performing such a test presents an unreasonable risk to safety. An example of such unreasonable risk to safety includes having to conduct a smoke test at collection sites that would be extremely dangerous, if not deadly, for somebody to work in that collection zone.

CHAPTER 3: IMPACT ASSESSMENT

INTRODUCTION

AFFECTED FACILITIES

COMPLIANCE COSTS

EMISSIONS IMPACT

SOCIOECONOMIC ASSESSMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION
40727

Necessity

Authority

Clarity

Consistency

Non-Duplication

Reference

COMPARATIVE ANALYSIS

INTRODUCTION

PAR 1407 is estimated to affect ~~54-60~~ metal melting facilities including those that melt aluminum, brass, bronze, copper, and zinc. These facilities include secondary smelters, foundries, die-casters, galvanizing and tinning coating operations, and other miscellaneous processes such as dip soldering, brazing and aluminum powder coating production.

AFFECTED FACILITIES

The facilities subject to PAR 1407 were identified by reviewing South Coast AQMD permits for metal melting furnaces, reviewing South Coast AQMD inspection reports for metal melting facilities, internet searches for facilities that offer metal melting services, and site visits. Internet searches were conducted to locate facilities where the furnaces do not require permits. Facilities that conduct heat treating or other metalworking operation but do not melt the metal were excluded. Additionally, facilities that melt metals containing chromium were excluded as they will be subject to PR 1407.1. Likewise, facilities that exclusively melt metals containing lead were excluded as they are subject to Rule 1420 – Emissions Standard for Lead, Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Facilities, or Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities. Staff conducted approximately 30 site visits to various metal melting operations. During these site visits, staff gathered facility operations information and data related to melting furnaces, any associated control equipment, and types and amounts of alloys melted. Based on South Coast AQMD staff analysis of compliance and permitting data, there are approximately ~~54-60~~ facilities in the District that meet the applicability requirements of the proposed rule amendment.

COMPLIANCE COSTS

Compliance costs are estimated by observations from site visits and review of permitted equipment. The costs are estimated by actual costs provided by facilities, vendor quotes, and cost estimates from other rules with similar requirements.

All ~~54-60~~ facilities subject to PAR 1407 will be required to conduct housekeeping and to maintain records. Nearly all facilities already conduct weekly cleaning. Covering containers holding dust-forming metal-containing slag, dross, and trash can be accomplished by a simple container with a cover or keeping those materials within a building enclosure. Building enclosure costs are described below. Inspections of control device collection points is required quarterly. The removal of a weather cap is a one-time activity. Nearly all facilities already closely track the speciation of metals in the melted metal and conduct weekly housekeeping. Facilities are expected to record housekeeping activities pursuant to subdivision (e), maintenance of control devices pursuant to subdivision (j), and maintain source test reports, emission control device data, anemometer data, and source test documentation on site. Both proposed housekeeping and recordkeeping provisions are expected to increase labor costs less than \$1,000 annually.

All facilities are assumed to require the purchase of a HEPA vacuum system. Riding vacuum HEPA sweepers cost an estimated \$11,500 and would be utilized by ~~13-17~~ larger facilities. Backpack vacuum HEPA equipment is approximately \$600 and would be utilized by the remaining ~~41-43~~ facilities. Staff estimates that ~~14-17~~ of the ~~54-60~~ facilities (~~26-28~~ percent) subject to PAR 1407 would likely require some minor building upgrades to address doors or openings to comply with subdivision (f) – Building Enclosures. Minor building upgrades are expected to have a one-

time cost of \$44,000 per facility for four facilities to install roll-up doors. Another ten facilities are expected to install plastic curtains at a cost of \$9,000 per facility. Four facilities (seven percent) are expected to require construction of building enclosures to comply with PAR 1407. The cost of the enclosures is approximately \$151,500 for the construction of one wall or barrier based on cost estimates from similar activities required in proposed amended Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities¹. The estimate for the number of facilities needing construction is from site visits to the facilities.

Smaller facilities typically use ingot, billet, and rerun scrap and will likely qualify for the Metal or Alloy Purity Exemption pursuant to paragraph (k)(3). Facilities that qualify for the Metal or Alloy Purity Exemption are only required to operate within a building enclosure, conduct housekeeping, and maintain records. They are expected to have no further costs.

~~Thirteen~~ Fifteen larger facilities will not be eligible for the Metal or Alloy Purity Exemption because their throughput is larger than 8,400 tons per year of non-chromium metal and therefore will be subject to the point source requirements of paragraph (d)(1). To demonstrate compliance with (d)(1), source testing will be required initially and then every 60 months thereafter pursuant to paragraph (h)(3). It is estimated that source testing will cost \$21,000 per source test. For uncontrolled furnaces, a source test result may be applied to functionally similar furnaces. Staff estimated the following number of source tests each facility will be required to perform to demonstrate compliance: ~~fifteen~~ seventeen facilities are expected to conduct only one source test; nine facilities will need to conduct two source tests; two facility will need three source tests; and a final facility is expected to conduct four source tests.

The provisions in paragraph (d)(1) allows a facility to 1) install control equipment that reduces arsenic, cadmium, and nickel emissions by 99 percent each; 2) demonstrate through source testing that annual mass emissions are below a limits specified in paragraph (d)(2); or 3) utilize a combination of control equipment and source testing to demonstrate that 99 percent reduction or annual mass emissions are achieved. Most facilities will conduct source testing to demonstrate that they meet annual mass emission limits as that is the lowest cost option. For uncontrolled furnaces, a source test may be applied to functionally similar furnaces. Nine facilities are expected to only conduct source testing.

Four facilities are estimated to require the installation of ten control devices at an estimated cost of \$256,000² per control device. In addition to installation costs, there would be on-going operating and maintenance costs for the operation of the control devices estimated at \$275,000 annually per control device. For facilities operating control devices, PAR 1407 requires a pressure gauge and data acquisition system at a one-time cost of \$1,400. Baghouses are also required to have a baghouse leak detection system at a cost of \$1,500. Anemometer costs for each baghouse is \$1,000 per anemometer. Slot velocity tests are expected to cost \$80 per set of tests per emission control device for a total of \$2,240 every six months. There will also be an on-going requirement to conduct smoke testing at an annual cost of \$500 for each of the control devices.

¹ Final Socioeconomic Impact Assessment for Proposed Amended Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities, South Coast AQMD, October 2015

² Cost Reports and Guidance for Air Pollution Regulations – EPA Air Pollution Control Cost Manual, U.S. EPA, accessed June 2019, <https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution>

The estimated total costs by expense for all facilities subject to PAR 1407 is presented in Table 3-1 below. The total present worth value cost to meet the 2020 deadline is \$43.4-3 million to \$59.26 million using a 4 percent or 1 percent discount rate respectively. Between \$5.4 and \$6.4 million are one-time costs applicable in 2020 while \$37.738.0 million to \$52.953.2 million are recurring costs over a 21 year period.

Table 3-1: Total Costs by Expense Type

Cost Categories	Present Worth Value (2019)		Annual Average (2019-2040)	
	1% Discount Rate	4% Discount Rate	1% Real Interest Rate	4% Real Interest Rate
One-Time Cost				
Baghouse**	\$4,777,000	\$3,962,000	\$245,000	\$287,000
Bag leak detection system**	\$36,000	\$30,000	\$2,000	\$2,000
Pressure gauge with DAS**	\$34,000	\$28,000	\$2,000	\$2,000
Anemometer**	\$24,000	\$20,000	\$1,000	\$1,000
Major enclosure***	\$627,000	\$602,000	\$32,000	\$43,000
Roll up doors***	\$182,000	\$175,000	\$9,000	\$12,000
Plastic curtains***	\$102,000	\$98,000	\$5,000	\$7,000
Rider HEPA vacuum*	\$507,000	\$412,000	\$26,000	\$29,000
Backpack HEPA vacuum*	\$83,000 88,000	\$68,000 71,000	\$4,000	\$5,000
Total one-time cost	\$6,372,000 \$6,377,000	\$5,395,000 \$5,398,000	\$326,000	\$388,000
Recurring Cost				
Baghouse annual maintenance	\$48,635,000	\$34,545,000	\$2,499,000	\$2,499,000
Smoke test	\$495,000	\$352,000	\$25,000	\$25,000
Source test	\$2,652,000 <u>\$2,956,000</u>	\$1,995,000 <u>\$2,223,000</u>	\$134,000 <u>\$149,000</u>	\$134,000 <u>\$149,000</u>
Slot velocity test	\$40,000	\$28,000	\$2,000	\$2,000
Housekeeping	\$1,062,000 <u>\$1,101,000</u>	\$780,000 <u>\$809,000</u>	\$54,000 <u>\$56,000</u>	\$54,000 <u>\$56,000</u>
Total recurring cost	\$52,884,000 \$53,227,000	\$37,700,000 \$37,957,000	\$2,714,000 \$2,731,000	\$2,714,000 \$2,731,000
Total	\$59,257,000 \$59,604,000	\$43,095,000 \$43,355,000	\$3,041,000 \$3,059,000	\$3,102,000 \$2,731,000

Note: Values rounded to nearest thousand dollars.

*Cost annualized over 6 years

**Cost annualized over 10 years

***Cost annualized over 20 years

Typical cost by facility type is provided in Table 3-2 below. For a small facility, it is assumed that minor building upgrades are needed though that is true in 15 of 41 small facilities. For a large facility processing low-As and low-Cd metals, it was assumed that only minor building upgrades were necessary though one facility would require enclosure construction. For the remaining large facilities, it is assumed that two source tests would be necessary, enclosure construction is required, and that a new control device would be necessary.

Table 3-2: Total Costs by Facility

Facility size	Number potentially affected facilities	Total cost if all PAR 1407 expenses made in 2019	Annualized cost
Small; no existing emissions control device.	3941	\$50,000	\$3,000
Small; with existing emissions control device.	2	\$158,000	\$8,000
Large; processing low arsenic and low cadmium metals.	913	\$1,352,000960,000	\$69,00049,000
Large; PAR 1407 requires new emissions control device installation.	4	\$11,189,000	\$575,000

Note: A small facility is defined to process less than 8,400 tons of metal per year, while a large facility is defined to process 8,400 tons of metal or more per year. Total cost includes all one-time and recurring costs expected due to PAR 1407 from 2019-2040 for an average facility in each facility-size category.

EMISSIONS IMPACT

Implementation of PAR 1407 will reduce both point source and fugitive arsenic, cadmium, and/or nickel emissions, resulting in reduced ambient air concentrations of the toxic air contaminants arsenic, cadmium, and nickel. Point source controls reducing emissions by 99 percent will limit emissions from furnaces, metal cutting, and metal grinding operations. Housekeeping and building enclosures will reduce fugitive emissions from uncontrolled sources. Fugitive emissions are difficult to quantify but have been shown to be a contributing factor to ambient toxic air contaminant concentrations.

PAR 1407 will require controlling arsenic, cadmium, and nickel emissions from point sources associated with metal melting operations. Owner or operators will also be required to conduct

source testing that will provide the South Coast AQMD with data that may be used to improve the quantification of arsenic, cadmium, and nickel emissions.

SOCIOECONOMIC ASSESSMENT

A Draft Socioeconomic Impact Assessment has been prepared and released at least 30 days prior to the South Coast AQMD Governing Board Hearing on PAR 1407 (currently scheduled for September 6, 2019).

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

PAR 1407 is considered a “project” as defined by the California Environmental Quality Act (CEQA) and the South Coast AQMD is the designated lead agency. Pursuant to South Coast AQMD’s Certified Regulatory Program (Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110) and CEQA Guidelines Section 15070, the South Coast AQMD has prepared a Final Environmental Assessment (EA) for PAR 1407, which is a substitute CEQA document, prepared in lieu of a Negative Declaration. The environmental analysis in the Final EA concluded that PAR 1407 would not generate any significant adverse environmental impacts. The Final EA has been included as an attachment to the Governing Board package. Prior to making a decision on the adoption of PAR 1407, the South Coast AQMD Governing Board must review and certify the Final EA, including responses to comments, as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting PAR 1407.

~~Pursuant to the California Environmental Quality Act (CEQA) and South Coast AQMD’s Certified Regulatory Program (Rule 110), the South Coast AQMD, as lead agency for the proposed project, has determined that implementation of PAR 1407 will not be expected to result in any potentially significant adverse environmental impacts. Further, since the proposed project will not be expected to have statewide, regional, or area wide significance, no CEQA scoping meeting is required pursuant to Public Resources Code Section 21083.9(a)(2). As such, South Coast AQMD is preparing an Environmental Assessment (EA) with less than significant impacts for PAR 1407. The EA will allow public agencies and the public the opportunity to obtain, review and comment on the environmental analysis. The EA will include a project description and analysis of potential adverse environmental impacts that could be generated from the proposed project. Upon its completion, a Draft EA will be released for a 30 day public comment and review period. If comments are submitted, the letters and responses to comments will be incorporated into the Final EA.~~

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

California Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

Necessity

PAR 1407 is needed to further protect public health by reducing emissions of arsenic, cadmium, and nickel from non-chromium metal melting operations. The intent of this proposed amendment is to reduce arsenic, cadmium, and nickel emissions. The proposed amendment will reduce arsenic, cadmium, and nickel emissions from point and fugitive sources from metal melting operations.

Authority

The South Coast AQMD Governing Board has authority to adopt PAR 1407 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 41700, 40001, 40440, 40441, 40702, 40725 through 40728, and 41508.

Clarity

PAR 1407 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency

PAR 1407 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.

Non-Duplication

PAR 1407 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

By adopting PAR 1407 the South Coast AQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 39659 (regulations to establish programs for hazardous air pollutants), 39666 (Airborne Toxics Control Measures), 41700 (nuisance), Federal Clean Air Act (CAA) Section 112 (Hazardous Air Pollutants), and CAA Section 116 (more stringent state standards).

COMPARATIVE ANALYSIS

Health and Safety Code section 40727.2 requires a comparative analysis of the proposed amended rule with any Federal or District rules and regulations applicable to the same source. See Table 3-3 below.

Table 3-3: Comparative Analysis

Rule Element	PAR 1407	Rule 1407	40 CFR Part 63 ZZZZZ	40 CFR Part 63 EEEEE	CARB Non-Ferrous Metal Melting ATCM
Applicability	Non-chromium smelters (primary and secondary), foundries, die-casters, coating processes (galvanizing and tinning) and other miscellaneous processes such as dip soldering, brazing and aluminum powder production conducting non-chromium metal melting	Non-ferrous smelters (primary and secondary), foundries, die-casters, coating processes (galvanizing and tinning) and other miscellaneous processes such as dip soldering, brazing and aluminum powder production conducting non-ferrous metal melting	Area source iron and steel foundries emitting less than 10 tons per year of any single hazardous air pollutant or less than 25 tons of any single hazardous air pollutant constructed after September 17, 2007	Major source iron and steel foundries emitting 10 tons per year or more of any single hazardous air pollutant or 25 tons or more of any single hazardous air pollutant	Non-ferrous smelters (primary and secondary), foundries, die-casters, coating processes (galvanizing and tinning) and other miscellaneous processes such as dip soldering, brazing and aluminum powder production conducting non-ferrous metal melting
Requirements	<ul style="list-style-type: none"> •Control emissions of arsenic, cadmium, and nickel by 99% or limit aggregate mass emissions to 0.000066 lb/hr of arsenic, 0.000541 lb/hr of cadmium, and 0.00848 lb/hr of nickel •Building enclosures •Housekeeping •Visible emission standards 	<ul style="list-style-type: none"> •Control particulate emissions from emission collection system by 99% •Temperature in exhaust stream may not exceed 360F •Maintenance program for emission control device monitoring •Housekeeping •Visible emission standards 	<ul style="list-style-type: none"> •New foundries control particulate emissions to 0.1 lb/ton and hazardous air pollutant emissions to 0.008 lb/ton •Pollution prevention management practices for metallic scrap and mercury switches •Maintenance program for emission control device monitoring •Housekeeping •Visible emission standards 	<ul style="list-style-type: none"> •Existing electric arc furnaces control particulate emissions to 0.005 gr/dscf and hazardous air pollutant emissions to 0.0004 gr/dscf •Existing cupolas control particulate emissions to 0.006 gr/dscf and hazardous air pollutant emissions to 0.0005 gr/dscf •New electric induction furnaces control particulate emissions to 0.001 gr/dscf and hazardous air pollutant emissions to 0.00008 gr/dscf •New electric arc furnaces and cupolas control particulate emissions to 0.002 gr/dscf and hazardous air pollutant emissions to 0.0002 gr/dscf •Plan or certification to minimize hazardous air pollutants from scrap •Maintenance program for 	<ul style="list-style-type: none"> •Control particulate emissions from emission collection system by 99% •Temperature in exhaust stream may not exceed 360F •Maintenance program for emission control device monitoring •Housekeeping •Visible emission standards

Rule Element	PAR 1407	Rule 1407	40 CFR Part 63 ZZZZZ	40 CFR Part 63 EEEEE	CARB Non-Ferrous Metal Melting ATCM
				emission control device monitoring •Housekeeping •Visible emission standards	
Reporting	Source test report	None	Semiannual compliance reports for exceedances, parametric monitor downtime, deviations from pollution prevention practices	Semiannual compliance reports for exceedances, parametric monitor downtime, deviations from pollution prevention practices	None
Monitoring	<ul style="list-style-type: none"> •Initial and period source testing •Emission control device monitoring •Material testing 	<ul style="list-style-type: none"> •One time source test on a furnace that is vented to a control device •Parametric monitoring •Bag leak detection system 	<ul style="list-style-type: none"> •Source test on a furnace that is vented to a control device every five years •Parametric monitoring •Bag leak detection system 	<ul style="list-style-type: none"> •Source test on a furnace that is vented to a control device every five years •Parametric monitoring •Bag leak detection system 	<ul style="list-style-type: none"> •One time source test on a furnace that is vented to a control device •Parametric monitoring •Bag leak detection system
Recordkeeping	Melt records, material testing and source testing results, housekeeping log, emission control device monitoring log made available for three years	Source testing results made available for two years	Test reports, notifications, semiannual reports made available for five years	Test reports, notifications, semiannual reports	Source testing results made available for two years

APPENDIX I: COMMENTS AND RESPONSES

Comment Letter #1
The Boeing Company
July 8, 2019



The Boeing Company
4000 Lakewood Blvd.
Long Beach, CA 90808

July 8, 2019

SCAQMD
21865 E. Copley Drive
Diamond Bar, CA 91765

ATTN: Michael Morris
Planning, Rule Development and Area Sources Manager

Re: SCAQMD Rule 1407 Proposed Amendments

Thank you for the opportunity to provide comments relating to the proposed amendments to SCAQMD Rule 1407 (Control of Emissions of Arsenic, Cadmium and Nickel from Non-Chromium Metal Melting Operations). Boeing requests that the following changes/clarifications be incorporated into the proposed amendments to the rule:

- With respect to the proposed language in (k)(1), current proposed language will require that all recordkeeping requirements listed in (g) be followed in order to meet the exemption requirement. Boeing requests that the language be modified to state the following:
 - 'An owner or operator of a non-chromium metal melting operation that melts no more than one ton per year of all non-chromium metals shall maintain records of raw materials processed, including ingots, scrap, and reruns and the associated records to verify these quantities on an annual basis.'
- The proposed language in (k)(9) should be modified to include other maintenance activities such as dip soldering and brazing activities. These activities, while using very small quantities of materials, are typically performed by contractors and the proposed language will result in very burdensome recordkeeping requirements in order to track these types of maintenance activities at a facility.
- Request that (e)(2)(D)(ii) be removed, as appears to be duplicative of the nearly identical requirement stated in (e)(2)(D)(i).

1-1

1-2

1-3

Boeing looks forward to continuing to work with District staff in the development of the proposed amendments to SCAQMD Rule 1407. If you should have any questions or require additional information, please do not hesitate to contact me.

William Pearce
Senior Environmental Engineer
Environmental Services
Environment, Health & Safety

Response to Comment 1-1

Staff agrees and has modified paragraph (k)(1) accordingly to only require ~~monthly~~ quarterly quantities of raw materials processed to be tracked.

Response to Comment 1-2

Rule language for paragraph (k)(9) has been moved to paragraph (k)(10) and will now include dip soldering and brazing as maintenance activities.

Response to Comment 1-3

Staff disagrees that clauses (e)(2)(D)(i) and (e)(2)(D)(ii) are duplicative. A work station dedicated to metal grinding or cutting may not necessarily be within 20 feet of an entrance or exit point of a building enclosure that houses these same operations. Keeping both requirements in the rule language will ensure properly accounting for each individual location and its surrounding area.

Comment Letter #2
California Metals Coalition
July 8, 2019



July 8, 2019

Mr. Mike Morris
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Dear Mr. Morris:

The California Metals Coalition appreciates the opportunity to comment on the South Coast Air Quality Management District ("District" or "SCAQMD") workshop proceedings and consideration of **SCAQMD Proposed Amended Rule (PAR) 1407**.

These comments on PAR 1407 are divided into the following sections: Summary; Background on CMC; Comments on Workshop Presentation and Draft Rule Language; and Recommendations for Further Scoping and Development.

SUMMARY

This comment letter addresses the PAR 1407 slides presented on **June 19, 2019** at the Public Workshop. At the Public Workshop, the SCAQMD provided an overview of the rulemaking, details of the rule requirements, a cost analysis, and draft rule language.

BACKGROUND ON CMC

California is home to approximately 4,000 metalworking facilities, employing over 350,000 Californians. The average industry salary is \$66,400/year in wages and benefits.

8 out of 10 employees in the metalworking sector are considered ethnic minorities or reside in disadvantaged communities throughout Southern California. A job in the metals sector is often the only path to the middle class for many of these Californians.

Here is a breakdown of the metalworking industry's impact on the 4 counties within SCAQMD jurisdiction:

- **Los Angeles County:** 54,290 Direct Jobs | 52,741 Indirect Jobs | \$7 billion wages | \$26 billion economic activity

- **Orange County:** 25,448 Direct Jobs | 18,912 Indirect Jobs | \$2.9 billion wages | \$10.8 billion economic activity
- **San Bernardino:** 9,778 Direct Jobs | 8,378 Indirect Jobs | \$1.2 billion wages | \$4.5 billion economic activity
- **Riverside:** 6,971 Direct Jobs | 7,712 Indirect Jobs | \$957 million wages | \$3.2 billion economic activities
- **Total:** 96,487 Direct Jobs | 87,743 Indirect Jobs | \$12 billion wages | \$33.8 billion economic activity

California metal manufacturers use recycled metal (ex: aluminum, brass, iron and steel) to make parts for the aerospace industry, clean energy technologies, electric cars, biotech apparatuses, medical devices, national defense items, agriculture, infrastructure, construction machinery, household appliances, food processing and storage, movement of water, and millions of other products demanded by society.

COMMENTS ON WORKSHOP PRESENTATION AND DRAFT RULE LANGUAGE

Item #1, PAR 1407’s Non-Detect Calculation and Unintended Consequences within Rule:

As currently written, a metal melting facility may be required to conduct a source test for arsenic, cadmium and nickel. If the source test results are “non-detect,” the non-detect default value (100% of the detection limit) will trigger the facility to install a control device.

As currently written, the control device currently requires a 99% capture efficiency of the “non-detect” value. CMC believes the “non-detect” problem is an unintended consequence of the proposed rule. But the issue still must be addressed.

- **SUGGESTION:** The SCAQMD should align the analysis to be consistent with District R1401 guidance. In this situation, that would mean using a value of zero “0” for ND runs when computing the corresponding emission factor.
 - Once a value is established for “non-detect”, CMC suggests that staff re-run the calculations from the single source test used to establish the tonnage throughput limits [Draft Rule Language (k)(3)] based on the purity limits.

2-1

Item #2, Draft Rule Language Definition #25 RERUN SCRAP”

PAR 1407 currently defines Rerun Scrap as “any material that includes sprues, gates, risers, foundry returns, and similar material intended for remelting that has been generated at the facility as a consequence of a casting or forming process but has not been coated or surfaced with any material.”

There will be some metal melting facilities regulated by PAR 1407 that can satisfy all parts of this definition except “generated at the facility.” A common practice within the metal sector is for customers to return sprues, gates, risers, returns and similar material back to the material provider. Since it is being returned, the material is not “generated at the facility,” but it meets all the quality requirements.

2-2

- **SUGGESTION:** CMC suggests adding “customer returns” to the definition of Rerun Scrap. PAR 1407 can add a new requirement under recordkeeping for customer returns so that an inspector can review the material specification sheets that meet the definition of Rerun Scrap.

2-2
(Cont.)

Item #3: Draft Rule Language (k); Using 1402 Determination for Exemption from Emission Controls and Source Test Requirements:

The source test requirements of PAR 1407 are measured against a cancer risk of 25 in one million. Some metal melting facilities impacted by PAR 1407 have conducted a Rule 1402 cancer risk assessment and continue to update the assessment on a quadrennial basis. Rule 1402 is as strict, and arguably more demanding, than the PAR 1407 source test.

- **SUGGESTION:** CMC suggests allowing facilities that are subject to Rule 1402 requirements, to use the 1402 results or determinations when assessing the need for a control device in PAR 1407. This exemption would not apply to any other part of the rule (ex: recordkeeping, enclosures, housekeeping) and is based on a similar exemption provided in SCAQMD Rule 1469.1.

- Facilities are exempt from the emission control requirements in section (d)(1) though (4) and source test requirements in section (h) if either of the following conditions are met quadrennially;

2-3

1. A facility can successfully demonstrate facility-wide emissions of all toxic air contaminants result in a cancer risk at all receptor locations through submittal of an approved health risk assessment that reflects representative operating conditions, or submittal of a Risk Reduction plan developed pursuant to Rule 1402 that is fully implemented prior to [Rule adoption date], or submittal of evidence of enforceable permit conditions that limit cancer risk to:
 - 25 in a million if a facility is located more than 25 meters from a residential or sensitive receptor; or
 - 10 in a million if a facility is located 25 meters or less than a residential or sensitive receptor, or located 100 meters or less from an existing school.
2. if a facility has been determined to be a low priority or intermediate priority facility based on Rule 1402 Prioritization Score as established by the SCAQMD.

Item #4: Draft Rule Language (e)(2)(E) Actively Depositing Materials:

PAR 1407 includes a housekeeping requirement to keep containers covered at all times “except when material is actively deposited into a receptacle.” The depositing of material during the melting process is ongoing and can happen frequently. Dross and slag may be skimmed from the melt and placed in containers for recycling.

2-4

- **SUGGESTION:** CMC suggests that the language state “except when material is actively deposited into a receptacle during the melting or pouring process.”

Item #5, Slides 41-42; Cost Analysis Overstates Ability to Finance Rule Requirements:

The Workshop presentation included a cost analysis of PAR 1407. CMC strongly disagrees with costs being annualized in any manner. The cost impact of PAR 1407 will occur in year 1 of the rule and draw from the current operating budget of a business.

As an example, building a wall to enclose the building, conducting source tests, or installing a new baghouse are “cash-up-front” transactions.

The only know type of loan that might satisfy this is a “Line of Credit” against the business, which has high interest rates and strict requirements.

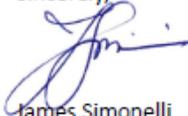
When SCAQMD staff presents a cost analysis for the SCAQMD Stationary Committee or Board, the costs should not be amortized.

2-5

RECOMMENDATIONS FOR FURTHER SCOPING AND DEVELOPMENT

Thank you for your time, and for allowing CMC to participate and comment on PR 1407. We look forward to continued discussions.

Sincerely,



James Simonelli
Executive Director

Response to Comment 2-1

Staff has revised the rule language to indicate that source tests will need to run for a sufficient amount of time to achieve a method reporting limit. Clause (g)(8)(B)(i) states that the compound can also be identified as non-detect if all source test runs are below the method reporting limit. Non-detect results can be reported as the value of zero. Clause (g)(8)(B)(ii) states if one or more source test runs are above the method reporting limit, then the facility should assign half of the method reporting limit for the runs below the method reporting limit.

Response to Comment 2-2

The definition of “Rerun Scrap” in paragraph (c)(26) now include offsite generated materials. Documentation to confirm where materials were generated shall be provided at the request of the South Coast AQMD.

Response to Comment 2-3

Staff has included an exemption in paragraph (k)(9) for facilities with a Health Risk Assessment with a maximum individual cancer risk less than ten in one million or an Air Toxic Inventory Report with a Facility Priority Score of less than ten. Facilities that qualify will be exempt from subdivision (d) and will not be required to put on additional controls. The receptor distance of 100 meters from the source will be retained.

Response to Comment 2-4

Staff has removed “at all times” from subparagraph (e)(2)(E). The purpose of having an enclosed storage area, a building enclosure, or the coverage of containers is to prevent metal dust emissions. If the metal melting container is enclosed within any of the above mentioned methods, then the spread of metal dust emissions would be considered adequately prevented.

Response to Comment 2-5

The staff report includes total costs as requested by the commenter to recognize the costs borne by the facilities subject to PAR 1407. The total present worth value cost to meet the 2020 deadline is ~~\$43.1-4~~ million to ~~\$59.2-6~~ million using a 4 percent or 1 percent discount rate respectively. Between \$5.4 and \$6.4 million are one-time costs applicable in 2020 while ~~\$37.7~~38.0 million to ~~\$52.9~~53.2 million are recurring costs over a 21 year period.

The PAR 1407 Socioeconomic Impact Assessment includes the present worth value of all one-time capital costs (building enclosure, source tests, or installing a new baghouse), in addition to the annualized capital costs assuming a ~~1%-~~ percent and ~~4%-~~ percent real interest rate. The present worth value discounts future capital expenditures to account for the time value of money.

When conducting socioeconomic analyses, the South Coast AQMD typically annualizes capital costs. This allows us to account for the cost of financing and the opportunity cost of capital. The opportunity cost of capital can be defined as the incremental return on investment that a facility must forgo when it allocates funds for regulatory compliance. Total annualized costs (annualized capital costs plus annual operations and maintenance costs) are then used as inputs in our regional dynamic economic modeling analysis. Inputting one-time (non-annualized) capital costs will likely

result in an increase in short-term macroeconomic impacts (job losses), but, ultimately, will result in a reduction in total macroeconomic impacts over the entire analysis time horizon.

Additionally, while it is considered that all estimated costs would be borne by the affected facilities, the compliance costs could potentially be passed onto downstream consumers of services and products. While capital financing could be potentially used by an affected facility to lessen the stress on the facility's cash flow, this analysis does not take into account financial decisions made at the facility or firm level.

Comment Letter #3**Kaiser Aluminum Fabricated Products
July 9, 2019**

Page 1 of 8

July 9, 2019

Mike Morris
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Dear Mr. Morris,

Kaiser Aluminum ("Kaiser" or "the facility") appreciates the opportunity to comment on the South Coast Air Quality Management District ("District" or "SCAQMD") workshop proceedings and consideration of **SCAQMD Proposed Amended Rule 1407 (PAR 1407)**.

General Comment

Kaiser is an AB2588 facility and is thus subject to District Rule 1402 requirements. As a part of these requirements, the facility has previously submitted Air Toxics Inventory Report (ATIR) to the District, most recently on April 30, 2014. That most recent ATIR was approved by the SCAQMD in September 2017 and resulted in a District determination that the Kaiser facility was an Intermediate Priority facility based on a prioritization score of 2.31.¹ As concluded in the District's letter:

"This demonstrates that for the toxics inventory and emissions level reported, Kaiser does not pose a significant health risk to the surrounding communities and as a result no health risk assessment is required."

Kaiser has not materially changed its operations and thus, does not anticipate any material changes to its emissions inventory.

The annual emission thresholds (for control system exemption) and the annual throughput thresholds (for purity exemption from the rule) in the draft PAR 1407 proposal were based on a single source test conducted at the Kaiser facility in December 2015. SCAQMD has used this source test to develop emission factors² and coupled them with a number of conservative assumptions to establish the proposed emission thresholds and throughput thresholds. It appears the current PAR1407 proposal could require Kaiser to install new emission controls despite the fact that the District has already determined (under Rule 1402) that Kaiser does not pose a significant health risk to surrounding communities. We believe such an outcome conflicts with the intent of the PAR1407 rulemaking. Kaiser offers the following comments on the rule.

¹ Letter from SCAQMD to Edward Swistock, dated September 19, 2017 (Attachment A).

² See Comment 2 for more details.

6250 E. Bandini Blvd., Los Angeles, CA 90040



Comment 1: Rule 1407 should provide an exemption for facilities subject to Rule 1402 that have been determined not to pose a significant health impact. Such a provision could be similar to the exemption found under District Rule 1469.1.

Current draft language for PAR 1407 includes several exemptions under section k. To align PAR 1407 applicability with potential facility risk (as determined by the District), Kaiser proposes an additional exemption from the emission control requirements as well as the source testing requirements be included in Section (k) as follows:

A facility is exempt from the emission control requirements in sections (d)(1) through (d)(4) and source test requirements in section (h) if either of the following conditions are met;

1. *A facility can successfully demonstrate facility-wide emissions of all toxic air contaminants result in a cancer risk at all receptor locations through submittal of an approved health risk assessment that reflects representative operating conditions, or submittal of a Risk Reduction plan developed pursuant to Rule 1402 that is fully implemented prior to [Rule adoption date], or submittal of evidence of enforceable permit conditions that limit cancer risk to:

 - a. *25 in a million if a facility is located more than 25 meters from a residential or sensitive receptor; or*
 - b. *10 in a million if a facility is located 25 meters or less than a residential or sensitive receptor, or located 100 meters or less from an existing school.**
2. *if a facility has been determined to be a low priority or intermediate priority facility based on Rule 1402 Prioritization Score as established by the SCAQMD.*

3-1

2. Comment 2: Pounds per ton arsenic emission factor developed during the rulemaking process does not follow correct SCAQMD guidance. This should be revised in accordance with District R1401 guidance.

AQMD has presented a 700 tons/month or 8,400 tons/year threshold (currently proposed in PAR 1407) based on an emission factor of 1.06E-05 lb of arsenic (As) per ton of scrap processed. At Working Group Meeting #3, staff discussed the calculations used to find this as a maximum throughput required to reach cancer screening risk thresholds of 25 in a million at 100-meter receptor distance. The pounds per ton emission factor was calculated for toxic air contaminants using Kaiser's 2015 source test results. Based on source test results and emission screening levels, the arsenic emission factor drives the calculated throughput limit.

3-2

We note that in two of the three air samples from the Kaiser 2015 data, arsenic was reported as Non-Detect. AQMD used the arsenic detection level (for these two ND runs) to calculate an emission factor. However, this methodology does not follow AQMD's Rule 1401 guidance³, which specifies that in cases where less than 10 samples are collected, and a TAC has been detected in only one sample, non-detect runs are to be assigned a value of zero. If AQMD had followed the R1401 guidance, the correct emission factor would be 2.62E-06 lb of As per ton

³ SCAQMD 2018. Available at: <http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12>.

6250 E. Bandini Blvd., Los Angeles, CA 90040



of scrap processed⁴. Kaiser believes using published guidance under Regulation XIV is appropriate for Regulation XIV rule development. Assigning detection level values to non-detect runs materially overstates emissions. Kaiser recommends that the District correct this emission factor and update all necessary calculations for the next version of the draft PAR 1407 using a 2.62E-06 lb/ton emission factor.

3-2
(Cont.)

Comment 3: Annual Emission Thresholds proposed under section (d) should use a tiered receptor distance approach.

Existing Rule 1407 (d)(2) states that "The gas stream from any emission collection system shall be ducted to a control device which shall reduce the particulate emissions by 99 percent or more by weight." This condition is slightly changed in the PAR Rule 1407. PAR 1407 (d)(3) states that "by January 1, 2021, owners or operators of non-chromium metal melting operations shall reduce emissions from furnaces by a minimum of 99 percent or meet facility-wide annual mass emission limits as noted in (d)(4)(A), (d)(4)(B), and (d)(4)(C)." As per these subsection conditions, annual emission limits for As, Cd and Ni are 0.095 lbs/year, 0.74 lbs/year and 12.2 lbs/year respectively, before a control equipment is required.

These annual emission thresholds were back-calculated using emission screening levels for a cancer risk of 25 in a million and a receptor placed 100 meters away from the source. This scenario is not representative of all facilities and unnecessarily imposes requirements on facilities which may not present a significant health risk. Kaiser recommends that PAR 1407 be revised to provide annual emission thresholds that are based on tiered receptor distances, as set forth in the following **Table I**:

3-3

Table I. PAR 1407 (d)(4)(A) – Annual Emission Thresholds

Distance ¹	Toxic Air Contaminant		
	Arsenic (lbs/year)	Cadmium (lbs/year)	Nickel (lbs/year)
100	0.095	0.74	12.2
200	0.295	2.296	37.9
300	0.775	6.039	99.6
400	1.152	8.975	148.0
500	2.243	17.469	288.0

1. Screening emissions at 100 meters based on SCAQMD Rule 1401 risk assessment screening levels for a risk of 25 in a million as currently proposed in PAR 1407.
 2. Emission levels at 200, 300, 400 and 500 meters based on scaling x/Q dispersion factors published in the 1401 risk guidance. Assumes a stack height between 14 and 25 feet and facility operation greater than 12 hours per day for worst case meteorology (Banning station).

Comment 4: Purity Exemption Thresholds also need a tiered receptor distance approach.

Draft language for PAR 1407 (i)(2) states that the Metal or Alloy Purity Exemption applies to facilities with an annual throughput of less than 8,400 tons per year⁵ of non-chromium metal.

3-4

⁴ All calculations and comments in this letter use the corrected arsenic emission factor which was developed following published AQMD R1401 guidelines.
⁵ Note, Annual allowable throughput limits should be based on an EF that is developed in accordance with the AQMD R1401 risk assessment guidance.

6250 E. Bandini Blvd., Los Angeles, CA 90040



The annual throughput proposed is based on a cancer risk of 25 in a million for a receptor placed 100 meters away from the source. As mentioned above, this scenario is not representative of facilities with receptors at distances well beyond 100 meters and therefore may unnecessarily limit facility throughput with no corresponding health benefit. Kaiser proposes that annual throughput thresholds for purity exemption be provided as a tiered approach with receptors at various distances from the source. See **Table II** as a proposed update to PAR 1407. Under this proposal, facilities would periodically confirm their nearest receptor location (e.g., quadrennially). The thresholds shown would correlate to a risk of 25 in a million at that receptor distance. Emissions shown in Table I were used to establish these proposed throughputs.

Table II. Proposed Annual Throughput

Distance to Receptor (meters)	Proposed Annual Throughput Threshold (tons) ¹	Alternative Proposed Annual Throughput Threshold (tons) ²
100	8,400	36,294
200	27,904	112,632
300	73,378	296,180
400	109,057	440,193
500	212,272	856,805

¹ Throughputs are calculated incorrectly assuming non-detect compound emissions are equal to the detection limit.
² Throughputs are calculated correctly assuming non-detect compound emissions are equal to 0 per SCAQMD guidance.

3-24
(Cont.)

Comment 5: Draft Rule Language Definition of RERUN SCRAP should include customer returns.

As per the definition of 'Rerun Scrap' in the current draft rule language material that has left the facility—but is returned as sprues, gates, risers, foundry returns, or similar material is not included. The district staff has expressed concern that once it leaves the facility, an outside process could add oil, coatings, or some other contaminants that could produce emissions. A common practice within the metal sector is for customers to return sprues, gates, risers, returns and similar material back to the material provider. Since it is being returned, the material is not "generated at the facility," despite meeting the quality requirements.

Additionally, there are both industry standards and regulatory definitions which control the quality of scrap returned to a foundry for reprocessing. Because of these standards and regulatory requirements, the metal quality of third-party scrap is compositionally indistinguishable from internally generated Rerun Scrap.

For example, the federal MACT regulations for secondary aluminum production (40 CFR 63 Subpart RRR) strictly regulates the types and quality of aluminum which can be introduced into foundry furnaces. Subpart RRR defines the following terms (40 CFR §63.1503):

Clean charge means furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; aluminum scrap known by the owner or

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3-5



operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650 °F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher, and runaround scrap. Customer returns means any aluminum product which is returned by a customer to the aluminum company that originally manufactured the product prior to resale of the product or further distribution in commerce, and which contains no paint or other solid coatings (i.e., lacquers).

3-5
(Cont.)

In the case of Subpart RRR, clean charge, customer returns, and internal scrap are considered equivalent feedstocks. As such, Kaiser believes the industry standards and regulations are sufficient to protect returned materials from including oil, coatings, or other contaminants. Kaiser suggests adding "customer returns" to the definition of Rerun Scrap and adding a new recordkeeping requirement for customer return logs to be maintained at the facility to note down the material specifications that meet the definition of Rerun Scrap.

Comment 6: There are significant safety and implementation concerns with the housekeeping requirements. Housekeeping requirements currently proposed in the draft rule language require use of approved cleaning methods. APPROVED CLEANING METHODS are techniques to clean while minimizing fugitive dust emissions consisting of wet wash, wet mop, damp cloth, low pressure spray, or vacuum equipped with filter(s) rated by the manufacturer to achieve a 99.97% control efficiency for 0.3 micron particles.

Using any of the approved cleaning methods (other than a "HEPA" vacuum) would involve introducing water or moisture. There are significant safety concerns introducing moisture in high heat environments in aluminum smelting facilities.

1. Explosion possibility

Explosions have occurred in the past at aluminum smelting facilities when any water or similar liquids comes in contact with molten aluminum, including dross tubs. Kaiser's casthouse safety protocols, which conform to The Aluminum Association Molten Aluminum Handling Guidelines, precludes the use of liquids in areas which may come into contact with molten aluminum, regardless of alloy or size. Consequently, none of the suggested wet methods can be used in the casthouse area where there is any potential for exposure to molten aluminum.

2. Release of toxics

When dross comes in contact with water, there is also a significant health and safety risk of byproduct gaseous emissions that result from the exothermic reaction of dross and water. Ammonia, methane, and hydrogen can be created, with ammonia being the most prevalent. Kaiser makes considerable efforts to not allow water to come in contact with the dross.

3-6

The only remaining alternative in the proposed rule language are "HEPA" vacuums. For Kaiser, given the layout and size of the facility, using a vacuum for cleaning purposes is not a practical cleaning methodology for all areas.

Although an explosion-proof floor sweeper with "HEPA" filters could conceivably work in some of the floor areas; our initial research of that type of equipment suggests that the commercially available units may not be able to meet the removal efficiency requirements set forth in the current draft of the new rules. Additionally, much of the non-dust debris that is typically present in some areas of the cast house is of sufficient size that it would not be picked up by a vacuum device, and must be mechanically; i.e., dry swept, to be disposed of.

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Kaiser recognizes that cleaning is important to reduce the potential release of fugitive emissions; however, the allowable cleaning techniques need to be feasible. Particularly in Kaiser's case where the metals (arsenic and cadmium, and nickel) that drive the risk assessment results are not used by Kaiser in our manufacturing operations, but are rather low level or non-detect background impurities that are not unlike native area soils. Therefore, Kaiser requests that AQMD revisit the cleaning requirements to provide cleaning options/protocols that are both practical and achievable so that Kaiser, and facilities similar to Kaiser, can continue to safely operate.

Thank you for the opportunity to comment and we would appreciate if the district considered and incorporated these in the next version of the rule.

Sincerely,

Edward E. Swistock, PE
Project Manager
Kaiser Aluminum Fabricated Products, LLC

3-6
(Cont.)

6250 E. Bandini Blvd., Los Angeles, CA 90040



Attachment A - SCAQMD ATIR Approval Letter



Via E-mail, Certified Mail and Return Receipt

September 19, 2017

Mr. Edward E. Swistock, P.E.
Project Manager
Kaiser Aluminum Fabricated Products, LLC
6250 E. Bandini Blvd.
Los Angeles, CA 90040

Subject: AB2588 Air Toxics Inventory Report (ATIR) Approval
Kaiser Aluminum Fabricated Products, LLC (SCAQMD Facility ID No. 16338)

Dear Mr. Swistock:

The South Coast Air Quality Management District (SCAQMD) staff notified you by letter dated October 11, 2013 to prepare a detailed ATIR. Your ATIR submitted on April 30, 2014 for calendar year (CY) 2010 emissions has been reviewed and SCAQMD staff has updated your facility's priority score. As noted in the Facility Priority Score Form attached to this letter, the updated priority score is in the Intermediate Priority (Category B, 1 - Priority Score <= 10) specified in the "SCAQMD Supplemental Guidelines for Preparing Risk Assessments and Risk Reduction Plan for the Air Toxics 'Hot Spots' Information and Assessment Act, November 4, 2010."¹ Therefore, a Health Risk Assessment (HRA) is not required.

Background

In accordance with the State of California's Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and SCAQMD Rule 1402, SCAQMD staff notified your facility on October 11, 2013 that it must submit a detailed ATIR because of the high priority scores from the emissions inventory report for CY 2010. The ATIR prepared pursuant to this request was submitted on April 30, 2014.

A source test for dioxin/furan emissions was conducted from September 24-26, 2014 and the report was submitted to us on October 28, 2014. The source test report was conditionally approved by

¹ Available here: <http://www.scaqmd.gov/home/resolutions/compliance/airtox-hat-meth-ab-2588>

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Kaiser Aluminum Fabricated Products, LLC

2

September 19, 2017

SCAQMD's Source Test staff on November 14, 2014. A site visit to your facility was conducted on October 8, 2014 to understand your facility's operational activities.

A multiple metals, total chromium, hexavalent chromium and hydrogen sulfide compounds source test for the natural gas fired aluminum melting furnace (D9) was conducted from December 15-16, 2015. The source test report was submitted on February 25, 2016 and correction pages were submitted on June 9, 2016. The source test report was conditionally approved by SCAQMD's Source Test staff on June 23, 2016.

Incorporating the results of the source tests, SCAQMD staff recalculated your facility's 2010 priority score and determined it to be 2.31. Your facility's revised Priority Score demonstrates that for the toxics inventoried and the emission levels reported, your facility does not pose a significant health risk to the surrounding community and as a result no Health Risk Assessment is required. Therefore, you have complied in full with your obligations under AB 2588 Program. Please be aware that your facility is still in the "District Tracking" category of the AB 2588 Program and you are required to submit a quadrennial emissions inventory for year 2018. Your facility continues to be subject to an annual Hot Spots fee (refer to Table I of Rule 307.1) based on the results of your approved ATER. Should your facility have significant changes in activities or operations, please notify SCAQMD promptly.

We thank you for your participation in the AB 2588 program. If you have any questions regarding this letter, please contact Victoria Moravai at (909) 396-2455, or myself.

Sincerely,

A handwritten signature in black ink that reads "Julian Wong".

Julian Wong, Ph.D.
Planning and Rules Manager

Attachment: Facility Priority Score (2010)

PW:VM:WK

6250 E. Bandini Blvd., Los Angeles, CA 90040

Response to Comment 3-1

See response to comment 2-3.

Response to Comment 3-2

See response to comment 2-1.

Response to Comment 3-3

See response to comment 2-3.

Response to Comment 3-4

See response to comment 2-3.

Response to Comment 3-5

Customer returns has been defined in paragraph (c)(8). The metal or alloy purity exemptions in paragraph (k)(3) excludes customer returns as part of the 1 percent scrap allowed.

Response to Comment 3-6

Staff recognizes the need for a moisture-free cleaning technique for aluminum smelting facilities. Paragraph (c)(2) allows for a vacuum equipped with HEPA filters as an option for housekeeping requirements. Both riding HEPA vacuum and backpack HEPA vacuums are available that can be used to meet the cleaning requirement without the use of water. Larger metal pieces may be cleaned using an alternative that does not result in fugitives, such as a flat edged shovel or picking up large debris by hand (insulated glove due to heat). Even with using HEPA, there will still be contamination left on the ground and debris. ~~A HEPA is not expected to completely abate the metal dust emissions in the area, so even sweeping after HEPA usage may generate fugitive emissions. Recent fugitive emission events due to sweeping and compressed air used for cleaning have impacted nearby ambient monitors. A provision is included in paragraph (e)(3) allowing an alternative cleaning process to be used by facilities provided the alternative cleaning process meets the same objectives and effectiveness, ensures that metal dust will not be generated by the alternative housekeeping procedure, and is submitted and approved by the South Coast AQMD as part of a Housekeeping Compliance Plan. Examples of alternative cleaning processes that can replace the required housekeeping measures could be using a HEPA vacuum then dry sweeping the larger metal pieces within one hour or using a HEPA vacuum with an attached broom head.~~

COMMENT LETTER #4

Los Angeles Waterkeeper
July 10, 2019



July 10, 2019

Mr. Michael Morris
Planning, Rule Development, and Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Comments on Proposed Amended Rule 1407—Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations

Sent via e-mail to mmorris@aqmd.gov

Dear Mr. Morris,

Los Angeles Waterkeeper (LAW) submits the following comments on Proposed Amended Rule 1407—Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations.

LAW is a nonprofit environmental organization composed of over 3,000 members that works to protect and restore the inland and coastal surface and groundwaters throughout Los Angeles County. The South Coast AQMD jurisdiction includes the South Coast Air Basin, which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernadino counties. Los Angeles Waterkeeper and its partner organizations thus advocate for improved water quality of many waterbodies within the South Coast AQMD jurisdiction.

Aerial pollutants such as arsenic, cadmium, and nickel from industrial sources can cause or exacerbate water quality problems both directly by deposition into waterbodies and indirectly by deposition onto land and subsequent runoff into water bodies. LAW has reviewed the Proposed Amended Rule 1407 and supports eliminating Rule 1407's overly broad exemptions, such as the "metal or alloy purity" and "clean aluminum scrap" exemptions, as metals containing arsenic, cadmium, and/or nickel pose a risk to the health of surrounding communities and waterbodies.

4-1

Effect of Particulate Matter on Waterbodies

Air serves as a medium for metals to directly and indirectly enter inland and coastal waterbodies. Particulate matter can increase acidity and/or change nutrient balances in waterbodies, deplete nutrients in soil, contribute to acid rain effects, and affect overall ecosystem

diversity.¹ These combined effects damage ecosystem health and threaten the water quality of streams, lakes, and the oceans in the South Coast AQMD jurisdiction. Further, metal particles are not biodegradable, allowing them to remain in waterbodies and contaminate drinking water supply.²

The Clean Water Act, Water Quality Standards, and Air Pollution

The federal Clean Water Act (CWA) aims to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”³ The CWA requires states to adopt water quality standards that support the waterbody’s uses and protect the public health and welfare. The CWA presumes all water bodies should be fishable and swimmable.⁴ States must monitor water quality and identify impaired or threatened waters. Once a state designates a waterbody as impaired, it must develop a strategy to restore the water quality. The California Water Code §13020, known as the Porter-Cologne Water Quality Act, enables the State Water Resources Control Board and Regional Water Quality Control Boards to implement the federal Clean Water Act pursuant to the California Water Code.

Airborne pollution affects this process in two ways. First, the Environmental Protection Agency has declared the direct and indirect deposition of particulate matter into waterbodies as a source of nonpoint pollution. Section 319 of the CWA requires states to develop nonpoint source pollution management programs. Additionally, stormwater runoff transports fallen particulate matter from surfaces (such as buildings and streets) into bodies of water. The CWA designates stormwater runoff as point source pollution and requires cities to implement Stormwater Management programs.

LAW therefore supports the Proposed Amended Rule 1407 with a few additional suggestions. First, we ask for more coordination between the South Coast Air Quality Management District and the Los Angeles Regional Water Quality Board in recognition that air, land, and water pollution do not respect the jurisdictional boundaries of regulatory agencies. In particular, SCAQMD should consider the effect of air pollution on waterbodies within its jurisdiction. Fugitive gases especially pose a risk of degrading water quality when metal burning operations are situated in close proximity to waterbodies such as the Los Angeles River, which suffers numerous water quality impairments. Additionally, while the Proposed Amended Rule 1407 will sunset the majority of Rule 1407’s exemptions, certain exemptions remain. For example, facilities that melt less than one ton per year are only subject to recordkeeping provisions. We request clarification to what extent fugitive emissions could pose a threat to water quality, even from relatively small sources, from facilities in close proximity to waterbodies.

4-2

4-3

¹ <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm> (Accessed July 10, 2019).

² Geiger, A., & Cooper, J. (2010). Overview of airborne metals regulations, exposure limits, health effects, and contemporary research. *Environmental Protection Agency, Air Quality: Washington, DC, USA*.

³ 33 U.S.C. 1251 (a)

⁴ 33 U.S.C. 1251 (a)(2) states, “it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983”

Lastly, we recommend that SCAQMD include cost savings when conducting the Socioeconomic Impact Assessment of Proposed Amended Rule 1407. Reduced emissions of arsenic, cadmium, and nickel will lead to improved health of the surrounding communities and waterbodies. This translates into economic benefits, such as lowered health care costs and lowered costs from compliance with water quality standards.⁵ While these metrics can be difficult to calculate, they should at the very minimum be noted in the overall cost benefit analysis of the Proposed Amended Rule 1407 to ensure a more accurate socioeconomic impact analysis.

4-4

Thank you for this opportunity to comment on the Proposed Amended Rule 1407.

Sincerely,



Kathryn Pettit
Law Fellow,
Los Angeles Waterkeeper

⁵ See, for example, *The Cost of Air Pollution: Strengthening the economic case for action*, a report by the World Bank and Institute for Health Metrics and Evaluation, finding that air pollution cost the United States over \$450 billion in total welfare losses in 2013. The U.S. Office of Management and Budget reported that U.S. Environmental Protection Agency regulations issued between 2004 to 2014 to improve air quality provided between \$157 billion and \$777 billion in economic benefits to the United States.

Response to Comment 4-1

Staff acknowledges the support for limiting the overly broad exemptions.

Response to Comment 4-2

The California Environmental Quality Act report is provided to other regulatory agencies, including water quality boards, for their review. The report includes a detailed analysis of potential water impacts from the proposed rule.

Response to Comment 4-3

The scope of PAR 1407 does not change the impacts to facilities that melt less than 1 ton per year of non-chromium metals. Staff did not analyze the extent of fugitive emissions impacts on water quality from facilities in close proximity to waterbodies because it is outside the scope of the proposed rule. Impacts, if any, would be unchanged by the amendments to the rule.

Response to Comment 4-4

Improved public health due to reduced air pollution emissions may also result in a positive effect on worker productivity and other economic factors; however, public health benefit assessment requires the modeling of air quality improvements. Therefore, it is conducted for Air Quality Management Plans and not for individual rules or rule amendments.

Comment Letter #5**Kaiser Aluminum Fabricated Products
August 2, 2019**

Page 1 of 3

02 August, 2019

Mike Morris
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Dear Mr. Morris,

Kaiser Aluminum ("Kaiser" or "the facility") appreciates the opportunity to comment on the South Coast Air Quality Management District ("District" or "SCAQMD") workshop proceedings and consideration of **SCAQMD Proposed Amended Rule 1407 (PAR 1407)**.

General Comment:

Kaiser previously provided comments in regards to this matter on or about 09 July, 2019 inclusive of six specific comments. We appreciate the dialogue that we have had with District staff as a result of these previous comments. In addition to the previous six comments we offer an additional three comments, and elaborate on comment #6, included below for clarity.

Comment 6: *There are significant safety and implementation concerns with the housekeeping requirements. Housekeeping requirements currently proposed in the draft rule language require use of approved cleaning methods. **APPROVED CLEANING METHODS** are techniques to clean while minimizing fugitive dust emissions consisting of wet wash, wet mop, damp cloth, low pressure spray, or vacuum equipped with filter(s) rated by the manufacturer to achieve a 99.97% control efficiency for 0.3 micron particles.*

Using any of the approved cleaning methods (other than a "HEPA" vacuum) would involve introducing water or moisture. There are significant safety concerns introducing moisture in high heat environments in aluminum smelting facilities.

1. **Explosion possibility**
Explosions have occurred in the past at aluminum smelting facilities when any water or similar liquids comes in contact with molten aluminum, including dross tubs. Kaiser's casthouse safety protocols, which conform to The Aluminum Association Molten Aluminum Handling Guidelines, precludes the use of liquids in areas which may come into contact with molten aluminum, regardless of alloy or size. Consequently, none of the suggested wet methods can be used in the casthouse area where there is any potential for exposure to molten aluminum.
2. **Release of toxics**
When dross comes in contact with water, there is also a significant health and safety risk of byproduct gaseous emissions that result from the exothermic reaction of dross and water. Ammonia, methane, and hydrogen can be created, with ammonia being the most prevalent. Kaiser makes considerable efforts to not allow water to come in contact with the dross.

The only remaining alternative in the proposed rule language are "HEPA" vacuums. For Kaiser, given the layout and size of the facility, using a vacuum for cleaning purposes is not a practical cleaning methodology for all areas.

5-1

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Although an explosion-proof floor sweeper with "HEPA" filters could conceivably work in some of the floor areas; our initial research of that type of equipment suggests that the commercially available units may not be able to meet the removal efficiency requirements set forth in the current draft of the new rules. Additionally, much of the non-dust debris that is typically present in some areas of the cast house is of sufficient size that it would not be picked up by a vacuum device, and must be mechanically removed; i.e., dry swept, to be disposed of.

Kaiser recognizes that cleaning is important to reduce the potential release of fugitive emissions; however, the allowable cleaning techniques need to be feasible. Particularly in Kaiser's case where the metals (arsenic and cadmium, and nickel) that drive the risk assessment results are not used by Kaiser in our manufacturing operations, but rather are trace level or non-detect background impurities that are not unlike native area soils. Therefore, Kaiser requests that AQMD revisit the cleaning requirements to provide cleaning options/protocols that are both practical and achievable so that Kaiser, and facilities similar to Kaiser, can continue to safely operate.

Update to comment #6: (#6.a): Kaiser remains concerned with compliance on this issue. In further researching the availability of HEPA dry sweepers with a 99.97% 0.3 micron capture efficiency, there are some models that appear to be available. As a point of reference, the vendor we contacted refers to this as a "MERV 17" filtration system, using the OSHA nomenclature. In contacting these vendor(s), they do not offer explosion proof unit, which may limit their safe use for aluminum dust

We also believe that we will need to scrap and/or "dry-sweep" the floor surface to remove the larger metal pieces. These materials do not meet the definition of "dust" as contained in PAR 1407 Draft Rule Language. Since weekly housekeeping will be required using "Allowable Methods" as defined in the current rule language, we request that clarifying language be added that recognizes and allows cleaning of "non-dust" materials by other methods.

It is worth noting that this dust does not contain free elemental forms of the toxic metals in question, since the trace elements are contained in the stable aluminum alloy matrix, and are only potentially liberated in the presence of very high temperatures or purposeful chemical reactions that dissolve the aluminum matrix.

Comment #7: Housekeeping - e.1.C-D states the "All areas where furnace and casting operations occur... " shall be cleaned at least weekly..." The word "All" is troublesome from an enforcement standpoint. It could be interpreted to mean the 30' ceiling, crane rails, purlins, etc. Will it be possible to use the same language that is in the cutting and grinding sections of the rule specifying floors within 20 feet?

Comment #8: In the definition of "Metal Cutting" in section c.18 the word "abrasively"; i.e. non-mechanical, is used in the definition. This verbiage is not included in subsequent sections where [metal] cutting is referenced. Will it be possible to be consistent in the rule language to differentiate between "abrasive" cutting and non-abrasive mechanical cutting?

5-1
(Cont.)

5-2

5-3

6250 E. Bandini Blvd., Los Angeles, CA 90040



Comment #9: Effective date – housekeeping. It is very unlikely that Kaiser would be able to specify and purchase the required HEPA compliant equipment within 30 days as specified in the rule. Will it be possible to change the effective date to 01 July 2020 to align with the building enclosure requirements?

5-4

Thank you for the opportunity to comment and we would appreciate if the district considered and incorporated these in the next version of the rule.

Sincerely,

Edward E. Swistock, PE
Project Manager
Kaiser Aluminum Fabricated Products, LLC

6250 E. Bandini Blvd., Los Angeles, CA 90040

Response to Comment 5-1

See response to comment 3-6.

Response to Comment 5-2

The housekeeping requirements in subparagraph (e)(1)(C) have been clarified to specify cleaning of floor areas within 20 feet of applicable operations.

Response to Comment 5-3

As the commenter notes, Metal Cutting is defined in the rule as abrasive cutting. Other forms of cutting, including mechanical, machining, milling, turning, laser, water jet are not subject to the rule. Additionally, abrasive metal cutting conducted under a continuous flow of metal removal fluid is not subject to the rule.

Response to Comment 5-4

The effective date of the new housekeeping requirements will be July 1, 2020 to allow the purchase of specialized equipment and to make changes to storage and buildings.

ATTACHMENT H

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations

August 2019

South Coast AQMD Number: 06282019LE

State Clearinghouse Number: 2019069121

Executive Officer

Wayne Nastri

Deputy Executive Officer

Planning, Rule Development and Area Sources

Philip Fine, Ph.D.

Assistant Deputy Executive Officer

Planning, Rule Development and Area Sources

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Barbara Radlein Program Supervisor, CEQA
William Wong Principal Deputy District Counsel
Michael Morris Planning and Rules Manager

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD**

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JANICE RUTHERFORD
Supervisor, Second District
County of San Bernardino

VACANT
Governor's Appointee

EXECUTIVE OFFICER:
WAYNE NASTRI

PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations. A Draft EA was circulated for a 32-day public review and comment period from June 28, 2019 to July 30, 2019 and one comment letter was received. The comment letter and response relative to the Draft EA have been included in Appendix D of this Final EA.

Analysis of PAR 1407 in the Draft EA indicated that reducing arsenic, cadmium, and nickel emissions is a direct environmental benefit, and furthermore, no secondary significant adverse environmental impacts were expected for any environmental topic areas. Since no significant adverse impacts were identified, an alternatives analysis and mitigation measures are not required. [CEQA Guidelines Section 15252].

To facilitate identification of the changes between the Draft EA and the Final EA, modifications to the document were included as underlined text and text removed from the document was indicated by ~~striketrough~~. Subsequent to the release of the Draft EA for public review and comment, modifications were made to PAR 1407 and some of the revisions were made in response to verbal and written comments received during the rule development process. The modifications include: 1) adding and revising definitions; 2) rewording and renumbering rule language; 3) adding requirements relative to the enforcement of visible emissions; 4) revising effective dates; 5) establishing minimum sample volumes for source testing and protocol for results below the detection limit; 6) adding analysis guidelines for conducting materials testing; 7) updating the exemption for very clean melting facilities; and 8) including other minor edits and clarifications. To avoid confusion, minor formatting changes are not shown in underline or strikethrough mode.

Staff has reviewed the modifications to PAR 1407 and has updated the CEQA analysis accordingly. Staff has concluded that none of the revisions: 1) constitute significant new information; 2) constitute a substantial increase in the severity of an environmental impact; or, 3) provide new information of substantial importance relative to the Draft EA. In addition, revisions to the proposed project in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft EA has been revised to include the aforementioned modifications such that is now the Final EA for PAR 1407.

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CHAPTER 1

PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

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Project Background

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Project Description

Summary of Affected Facilities

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (South Coast AQMD) in 1977¹ as the agency responsible for developing and enforcing emission control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, South Coast AQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas under South Coast AQMD's jurisdiction². Furthermore, South Coast AQMD must adopt rules and regulations that carry out the AQMP³. The AQMP is a regional blueprint for how South Coast AQMD will achieve air quality standards and healthful air and the 2016 AQMP⁴ contains multiple goals promoting reductions of criteria air pollutants, greenhouse gases, and toxics. In particular, the 2016 AQMP includes control measure TXM-06: Control of Toxic Emissions from Metal Melting Facilities, which seeks to further reduce arsenic, cadmium, nickel, other toxic metals, and particulates from foundry operations.

Emissions of arsenic, cadmium, and nickel are currently regulated by South Coast AQMD Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations, which was adopted in July 1994. Since its adoption, South Coast AQMD staff was tasked with exploring reducing emissions from ferrous metal melting facilities and to further reduce arsenic, cadmium, and nickel from non-ferrous metal melting operations. South Coast AQMD staff discovered that a majority of facilities process very large quantities of metals containing arsenic, cadmium, and/or nickel but are currently exempt from most of the requirements in Rule 1407 under the “metal or alloy purity” exemption. In addition, Rule 1407 also exempts “clean aluminum scrap” without limiting the content of arsenic, cadmium, or nickel contained in the scrap. Because these overly broad exemptions have had the inadvertent effect of allowing facilities to have emissions that pose a risk to the surrounding community, South Coast AQMD staff is proposing amendments to Rule 1407 that would impose stricter criteria for a facility to qualify for an exemption.

Also, since the type of toxic air contaminants emitted from non-ferrous and ferrous metal melting operations are different and approaches to controlling these varying toxic air contaminant emissions would also differ depending on the potency of the toxic air contaminant, South Coast AQMD staff decided to pivot from combining requirements for ferrous and non-ferrous metal melting operations into one rule (e.g., Rule 1407). In particular, because certain ferrous alloys do not contain chromium and some non-ferrous alloys contain chromium, South Coast AQMD staff decided to address non-chromium metal melting operations by amending Rule 1407 and revising the rule's title to “Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations” accordingly. Chromium melting operations will be addressed by a separate rule development effort under Proposed Rule 1407.1 – Emissions of Toxic Air Contaminants from Chromium Alloy Melting Operations.

Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations (PAR 1407) proposes to establish additional emission control requirements to reduce arsenic, cadmium, and nickel emissions from non-chromium metal

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch. 324 (codified at Health and Safety Code Section 40400-40540).

² Health and Safety Code Section 40460(a).

³ Health and Safety Code Section 40440(a).

⁴ South Coast AQMD, 2016 Air Quality Management Plan. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf>

melting operations. PAR 1407 applies to facilities that are melting metals that contain no more than 0.5 percent chromium content, including, but not limited to aluminum, brass, bronze, carbon steel, and zinc. Potential metal melting operations include smelting, tinning, galvanizing, and other miscellaneous processes where metals are processed in molten form, since these operations have the potential to emit such metal emissions in the form of toxic air contaminants and particulate matter. PAR 1407 also establishes new requirements for conducting housekeeping, building enclosures, keeping records, conducting source tests, monitoring emission control devices, qualifying for an exemption, and demonstrating capture efficiency for emission collection systems.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), California Public Resources Code Section 21000 *et seq.*, requires environmental impacts of proposed projects to be evaluated and feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects to be identified and implemented. The lead agency is the “public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment.” [Public Resources Code Section 21067]. Since PAR 1407 is a South Coast AQMD-proposed amended rule, the South Coast AQMD has the primary responsibility for supervising or approving the entire project as a whole and is the most appropriate public agency to act as lead agency. [CEQA Guidelines⁵ Section 15051(b)].

CEQA requires that all potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented if feasible. The purpose of the CEQA process is to inform the lead agency, responsible agencies, decision makers and the general public of potential adverse environmental impacts that could result from implementing PAR 1407 (the proposed project) and to identify feasible mitigation measures or alternatives, when an impact is significant.

Public Resources Code Section 21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The South Coast AQMD’s regulatory program was certified by the Secretary of Resources Agency on March 1, 1989 per CEQA Guidelines Section 15251(l), and has been adopted as South Coast AQMD Rule 110 – Rule Adoption Procedures to Assure Protection and Enhancement of the Environment.

PAR 1407 will further reduce arsenic, cadmium, and nickel emissions from non-chromium metal melting facilities. Because PAR 1407 requires discretionary approval by a public agency, it is a “project” as defined by CEQA⁶. The proposed project will further reduce public health impacts by reducing exposure to arsenic, cadmium, and nickel, and will provide an overall environmental benefit to air quality. However, South Coast AQMD’s review of the proposed project also shows activities that facility operators may undertake to comply with PAR 1407 may also create secondary adverse environmental impacts that would not result in significant impacts for any environmental topic area. Thus, the type of CEQA document appropriate for the proposed project is an Environmental Assessment (EA). The EA is a substitute CEQA document, prepared in lieu of a Negative Declaration with no significant impacts (CEQA Guidelines Section 15252), pursuant to the South Coast AQMD’s Certified Regulatory Program. [Public Resources Code Section 21080.5; CEQA Guidelines Section 15251(l); and South Coast AQMD Rule 110]. The EA is also a public disclosure document intended to: 1) provide the lead agency, responsible agencies,

⁵ The CEQA Guidelines are codified at Title 14 California Code of Regulations Section 15000 *et seq.*

⁶ CEQA Guidelines Section 15378

decision makers and the general public with information on the environmental impacts of the proposed project; and, 2) be used as a tool by decision makers to facilitate decision making on the proposed project.

Thus, the South Coast AQMD, as lead agency for the proposed project, prepared a Draft EA pursuant to its Certified Regulatory Program. The Draft EA included a project description in Chapter 1 and an Environmental Checklist in Chapter 2. The Environmental Checklist provides a standard tool to identify and evaluate a project's adverse environmental impacts and the analysis concluded that no significant adverse impacts would be expected to occur if PAR 1407 is implemented. Because PAR 1407 will have no statewide, regional or areawide significance, no CEQA scoping meeting is required to be held for the proposed project pursuant to Public Resources Code Section 21083.9(a)(2). Further, pursuant to CEQA Guidelines Section 15252, since no significant adverse impacts were identified, no alternatives or mitigation measures are required.

The Draft EA ~~was is being~~ released for a 32-day public review and comment period from June 28, 2019 to July 30, 2019. ~~One All~~ comments letter was received during the public comment period on the analysis presented in the Draft EA; ~~the comment letter and the will be responded to and is included in an Appendix D of this to the~~ Final EA.

Staff has reviewed the modifications to PAR 1407 and has updated the CEQA analysis accordingly. Staff has concluded that none of the revisions: 1) constitute significant new information; 2) constitute a substantial increase in the severity of an environmental impact; or, 3) provide new information of substantial importance relative to the Draft EA. In addition, revisions to the proposed project in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft EA has been revised to include the aforementioned modifications such that is now the Final EA for PAR 1407.

Prior to making a decision on the adoption of PAR 1407, the South Coast AQMD Governing Board must review and certify the Final EA as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting PAR 1407.

PROJECT LOCATION

PAR 1407 applies to any owner or operator of non-chromium metal melting operations, including, but not limited to, smelters, foundries, die-casters, coating processes, and other miscellaneous processes such as dip soldering, brazing and aluminum powder production. The South Coast AQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of South Coast AQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. A federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the

San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (see Figure 1-1).

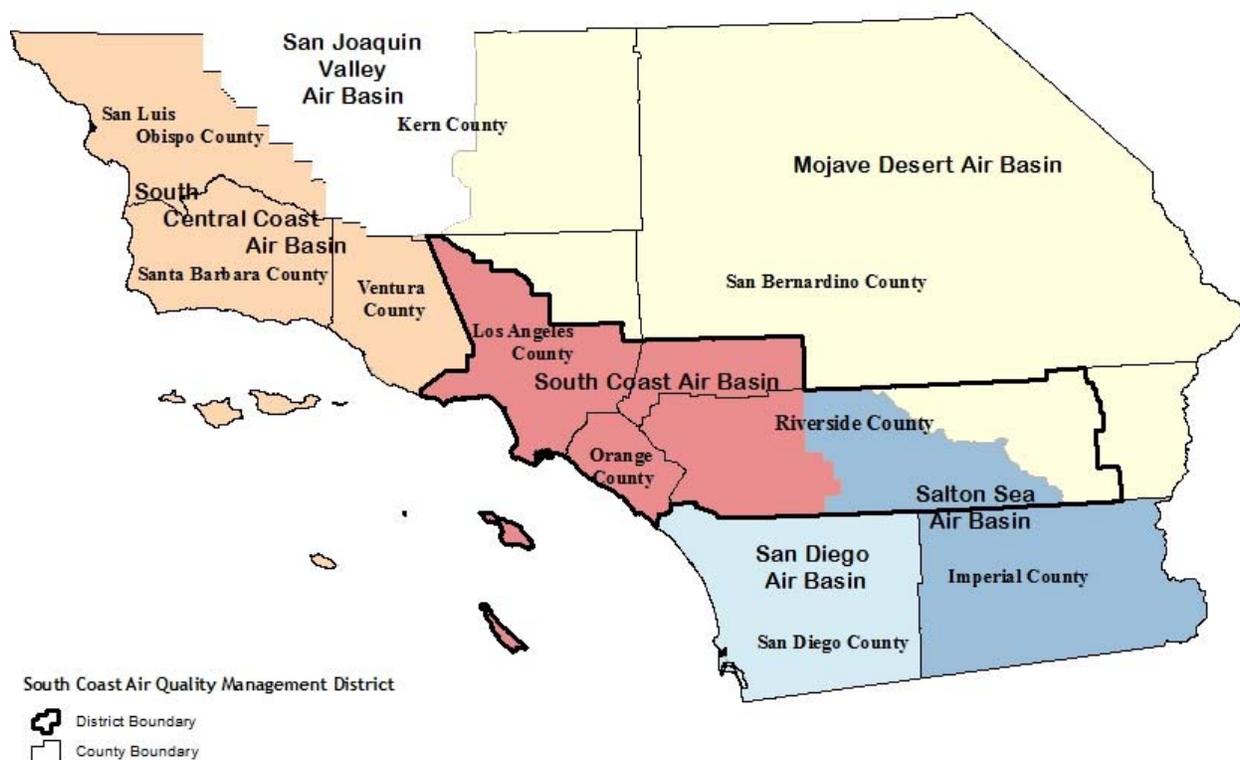


Figure 1-1
Southern California Air Basins

PROJECT BACKGROUND

In 1983, the California Legislature established Assembly Bill 1807, a two-step process to identify toxic air contaminants and to propose airborne toxic control measures (ATCMs) for the identified toxic air contaminants from specific sources. In January 1993, the California Air Resources Board (CARB) adopted the non-ferrous metal melting ATCM⁷ and established January 6, 1994 as the effective date of the ATCM. The South Coast AQMD was given a May 9, 1994 deadline to implement and enforce the ATCM or to propose regulations implementing the ATCM. On July 8, 1994, the South Coast AQMD adopted Rule 1407 – Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Melting Operations, to reduce emissions of arsenic, cadmium, and nickel from non-ferrous metal melting operations by requiring air pollution control equipment to be installed on affected equipment, and requiring parametric monitoring and housekeeping to be conducted. At the time of its rule development and subsequent adoption, Rule 1407 focused on non-ferrous metal melting operations because arsenic and cadmium, both toxic metals, were associated with this source category.

Rule concepts from three lead emission reduction rule development efforts were relied upon to craft PAR 1407. For example, during the rule development process for South Coast AQMD Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid

⁷ California Air Resources Board, Non-Ferrous Metal Melting ATCM, December 30, 1998.
<https://arb.ca.gov/toxics/atcm/metaatcm.htm>

Battery Recycling Facilities⁸, fugitive emissions were determined to be a contributing factor to ambient lead concentrations. Further, feasibility studies concluded that emission control equipment achieving greater than 99 percent emission reductions would not be expected to achieve additional reductions in ambient lead levels. For this reason, Rule 1420.1 was designed to require facility owners/operators to conduct comprehensive housekeeping and to employ building enclosures to reduce fugitive lead emissions from these facilities. Other South Coast AQMD rules that regulate lead emissions, Rule 1420 – Emissions Standard for Lead, and Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities, also contain similar housekeeping and building enclosure requirements.

Early considerations as to whether to amend Rule 1407 originally examined whether hexavalent chromium emissions should be included in the rule’s applicability because ambient air monitoring that was conducted by South Coast AQMD staff in 2013 in response to burning metallic odor and metal particulate complaints⁹ identified two metals of concern: hexavalent chromium and nickel. In 2016, South Coast AQMD staff deployed monitors which identified elevated levels of hexavalent chromium. Also, the 2016 AQMP includes control measure TXM-06: Control of Toxic Emissions from Metal Melting Facilities, which seeks to further reduce arsenic, cadmium, nickel, other toxic metals, and particulates from foundry operations.

In accordance with control measure TXM-06, South Coast AQMD staff was tasked initiating rule development for amending Rule 1407 to explore reducing emissions from ferrous metal melting facilities and to further reduce arsenic, cadmium, and nickel from non-ferrous metal melting operations. South Coast AQMD staff discovered that a majority of facilities process very large quantities of metals containing arsenic, cadmium, and/or nickel but are currently exempt from most of the requirements in Rule 1407 under the “metal or alloy purity” exemption. In addition, Rule 1407 also exempts “clean aluminum scrap” without limiting the content of arsenic, cadmium, or nickel contained in the scrap. Because these overly broad exemptions have had the inadvertent effect of allowing facilities to have emissions that pose a risk to the surrounding community, South Coast AQMD staff is proposing amendments to Rule 1407 that would impose stricter criteria for a facility to qualify for an exemption.

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⁸ South Coast AQMD, Final Staff Report for Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, February 2015. <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2015/2015-mar6-028.pdf>

⁹ South Coast AQMD, Paramount – Ongoing Air Monitoring Activities, Accessed June 2019. <http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities>

TECHNOLOGY OVERVIEW

The following discussion provides a general overview of the most likely emission control options that will be employed to comply with PAR 1407.

Building Enclosure

A building enclosure, as defined in PAR 1407, is a structure, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation or wind), with limited openings to allow access and egress for people, vehicles, equipment, or parts. Cross-draft conditions of a building enclosure shall be minimized by not allowing openings on opposite ends of the building to be open simultaneously. Minimizing cross-draft conditions will help prevent a loss in the efficiency of an emission collection system. Openings are vents, windows, passages, doorways, bay doors. Methods to close openings, include use of automatic doors, installation of overlapping plastic strip curtains, vestibules, and airlock systems. Barriers, such as large pieces of equipment may also be used to block openings. Under PAR 1407, a minimum of two walls on adjacent sides of a metal melting operation would satisfy the building enclosure requirements. Alternatively, an enclosure could consist of a smaller structure within a building that provides containment of emissions from metal melting operations.

Baghouse

A baghouse is an air filtration control device designed to remove particulate matter (PM) from an exhaust gas stream using filter bags, cartridge-type filters, or envelope-type filters. A baghouse consists of the following components: filter medium and housing for the filter, filter cleaning device, collection hopper, shell, and fan. Most baghouse designs in the United States consist of long cylindrical tubes (bags) made of fabric which acts as the filter medium. A baghouse functions like a vacuum cleaner with a fan either blowing air from the grinding source through (positive pressure) the filter or drawing air into (negative pressure) the filter. When PM laden air flows to the inlet of a baghouse, the PM is captured in the filter bags inside the baghouse and filtered air flows from the outlet of the baghouse. Dust layers (dust cakes) deposit on the surface of the bags which need to be cleaned periodically to ensure proper baghouse function.

Effective performance of a baghouse is determined by pressure drop which is a measurement of the difference in air pressure between the clean and dirty sides of the filter. Static pressure gauges can be installed at the inlet and outlet of the fabric filter to determine the pressure drop across the filter. In addition, baghouses can be equipped with a bag leak detection system (BLDS) to continuously monitor the performance of the baghouse functions by detecting early bag leak or malfunction. A BLDS consists of a stainless steel probe that is energized with a direct current (DC) electrical voltage. When the particles flow near the probe placed in the PM laden exhaust gas stream, the small current changes (called triboelectric current) in its electric field are measured.

Pressure drop monitoring is a useful indicator of baghouse performance since pressure drop measurements can help determine if the filter media is being properly cleaned and whether the baghouse is operating in accordance with manufacturer specifications. For example, during operation of the baghouse, an increased pressure drop signals that the filter media is becoming clogged and needs to be cleaned. Similarly, a low pressure drop may indicate that there are holes in the filter media or a mechanical failure of baghouse components. In either case, there will be a reduction in the baghouse's ability to efficiently capture and control PM emissions. For these reasons, the filter media need to be cleaned periodically to prevent excessive increases in pressure drop, leaking bag, and improper baghouse function.

Baghouses are typically cleaned in sections, with jets of counter-flowing air used to blow dust build-up off of the filter and into a hopper. For many baghouse installations, the baghouse follows a routine cycle with the pressure drop increasing as the bag becomes coated with dust, and dropping back to a baseline value after it is cleaned. Common types of baghouses include reverse-air, pulse-jet, and cartridge type baghouse. A reverse air-type baghouse uses a low pressure flow of air to break the dust cake and clean the bags of material build-up. Cleaning air is supplied by a separate fan which is normally smaller than the main stream fan, since only one compartment is cleaned at a time. A pulse jet-type baghouse uses a high pressure jet of compressed air to back-flush the bags. Cleaning is performed while the baghouse remains in operation. Cartridge (cylindrical) type filters have pleated, non-woven filter media supported on a perforated metal cartridge. Due to its pleated design, total filtering area is greater than in a conventional bag of the same diameter, resulting in reduced air-to-cloth ratio, pressure drop, and overall collector size. Too heavily loaded cartridges can either be cleaned by a pulse jet compressed air or replaced with new cartridges. Cartridge type filters have high particle collection efficiency of, at a minimum, 99.9 percent, and are usually used for industrial process handling exhaust gas flow rates less than 50,000 cubic feet per minute (cfm).

The National Fire Protection Association has special designations for deflagrations (e.g., explosion prevention) from metal dust. Therefore, operators of metal grinding activities that require baghouse emission control technologies will also need to select reliable, economical, and effective means of explosion control such as baghouse explosion suppression, containment, and venting. Additional information pertaining to these types of protective measures is available in Chapter 8 of the *Industrial Ventilation, A Manual for Recommended Practice for Design* 28th Edition, published by the American Conference of Governmental Industrial Hygienists, ©2013.

PROJECT DESCRIPTION

The purpose of PAR 1407 is to reduce point and fugitive emissions of arsenic, cadmium, and nickel, thereby minimizing public health impacts by reducing exposure to toxic air contaminants. To accomplish this goal, PAR 1407 proposes emission control requirements to reduce arsenic, cadmium, and nickel emissions from non-chromium metal melting operations. PAR 1407 applies to facilities that melt metals that contain no more than 0.5 percent chromium content, including, but not limited to aluminum, brass, bronze, carbon steel, and zinc. Potential metal melting operations include smelting, tinning, galvanizing, and other miscellaneous processes where metals are processed in molten form, since these operations have the potential to emit such metal emissions in the form of toxic air contaminants and PM. PAR 1407 also revises emission standards, establishes monitoring provisions for air pollution control equipment, adds building enclosure provisions to limit fugitive emissions, and updates housekeeping, source testing, monitoring, recordkeeping, and reporting requirements. Subsequent to the circulation of the Draft EA for public comment and review, several changes were made to PAR 1407. Specifically, the facility-wide emission limits for all furnaces were revised, and changed from a monthly limit to an hourly limit. Additionally, housekeeping requirements were revised to allow a housekeeping compliance plan for approved alternative housekeeping measures. Further, source testing requirements were revised to set minimum sample volumes which will allow for mass emission limit compliance when sample concentrations are determined to be below the method detection limit during laboratory analysis. In addition, numerous editorial revisions, clarifications, and updates to enhance rule enforceability were made.

South Coast AQMD staff identified facilities subject to PAR 1407 by reviewing South Coast AQMD permits for metal melting furnaces, reviewing South Coast AQMD inspection reports for

metal melting facilities, conducting internet searches for facilities that offer metal melting services, and conducting site visits. Internet searches were utilized in order to locate facilities with furnaces that are currently exempt from South Coast AQMD permitting requirements. Facilities that conduct heat treating or other metalworking operations but do not melt metal were excluded from PAR 1407. Additionally, facilities that melt metals containing chromium were excluded from PAR 1407 because they will be subject to Proposed Rule 1407.1 which is undergoing a separate rule development process. Likewise, facilities that melt metals containing lead were excluded from PAR 1407 because they are subject to South Coast AQMD's other rules for lead (e.g., Rule 1420, Rule 1420.1, and/or Rule 1420.2). Staff visited 30 facilities with a variety of metal melting operations. During these site visits, staff gathered information and data related to facility operations, the metal melting furnaces and any associated emissions control equipment, and the types and amounts of alloys melted. Subsequent to the circulation of the Draft EA for public comment and review, six additional facilities were identified as being subject to the requirements of PAR 1407. In addition, as a result of further refinement of facility data, updates to the air quality and GHG, energy, and transportation analysis were made. As discussed later, these changes have been analyzed and determined to not result in significant effects.

Based on South Coast AQMD staff analysis, approximately ~~54~~ 60 facilities within the South Coast AQMD jurisdiction were identified as meeting the applicability requirements of PAR 1407 because they melt aluminum, brass, bronze, copper, and/or zinc. These facilities also operate secondary smelters, foundries, and die-casters, and conduct galvanizing and tinning coating operations, and other miscellaneous processes such as dip soldering, brazing and aluminum powder coating production. If PAR 1407 is adopted, all ~~54~~ 60 facilities will be required to comply with the requirements to conduct housekeeping, construct building enclosures, and maintain records. In addition, in order to comply with PAR 1407:

- ~~19~~ 16 facilities would need to complete minor building upgrades such as installing roll-up doors or plastic strips;
- Four facilities would need to construct two walls each to satisfy the building enclosure requirements;
- ~~13~~ 23 facilities would need to complete ~~21~~ 35 source tests every 60 months;
- Four facilities would need to install 10 emission control devices;
- ~~Eight~~ 13 facilities would need to install ~~8~~ 13 anemometers, ~~19~~ 28 bag leak detection systems ~~total~~ with 28 pressure gauges, and ~~19~~ 28 data acquisition systems; and
- ~~Eight~~ 13 facilities would be required to perform ~~19~~ 28 smoke tests once every six months.

While implementation of PAR 1407 would be expected to reduce public health impacts from point and fugitive emissions, South Coast AQMD has not quantified the emission reductions at each point source per affected facility.

The following is a detailed summary of the key elements contained in PAR 1407. A draft of PAR 1407 can be found in Appendix A.

Purpose – subdivision (a)

Subdivision (a) proposes to change the purpose of the rule from reducing emissions of arsenic, cadmium, and nickel from non-chromium metal melting operations instead of non-ferrous metal melting operations.

Applicability – subdivision (b)

Subdivision (b) proposes to change the applicability of the rule to all persons who own or operate non-chromium metal melting operations, instead of non-ferrous melting operations.

Definitions – subdivision (c)

The following new definitions are proposed to be added: Approved Cleaning Methods; Bag Leak Detection System; Building Enclosure; Capture Velocity; Customer Returns; Emission Control Device; Enclosure Opening; Foundry; Functionally Similar Furnace; Low Pressure Spray; Metal Cutting; Metal Grinding; Metal Removal Fluid; and Non-Chromium Metal.

The following definitions are proposed to be revised in order to clarify the meaning of terms used throughout the rule: Aluminum and Aluminum-Based Alloy; Copper or Copper Based Alloy; Dust Forming Material; Emission Collection System; Facility; Fugitive Metal Dust Emissions; Metal Melting Furnace; Molten Metal; ~~and~~ Rerun Scrap; Ringelmann Chart; and Scrap.

The following definitions are proposed to be deleted: District; Emission Point; Fine Particulate Matter or PM10; Fugitive Emissions Control; Good Operating Practices; Hard Lead; Non-Ferrous Metal; Particulate Matter or PM; Particulate Matter Control System; Person; Process Emission Control; Pure Lead; and Type Metal.

Emissions Control Requirements– subdivision (d)

The following changes to subdivision (d) are proposed:

The introductory statement to subdivision (d) is proposed for deletion because it is obsolete.

Original paragraphs ~~(d)(1)~~-(d)(4); and (d)(5) are proposed for deletion.

Interim Emission Limits: Updates to paragraphs (d)(1) and (d)(2) are proposed that would clarify that non-chromium melting operations shall vent all maintain-current emission points to an emission control device in addition to an emission collection system and gas temperature requirements until the new rule compliance is demonstrated with the requirements in paragraph (d)(3) or (d)(4) take effect.

Mass Emission Limits Emission Reduction Requirements: ~~Modifications to~~ New paragraph (d)(3) is ~~are~~ proposed that would require, effective January 1, 2021, emissions of arsenic, cadmium, and nickel from each non-chromium metal melting furnace point source to be vented to an emission control device to be reduced the total mass of arsenic, cadmium, and nickel by a minimum of 99 percent each, or alternatively under as demonstrated by a source test pursuant to subdivision (g).

Mass Emission Limits: New paragraph (d)(4) proposes an alternative to complying with the requirements in paragraph (d)(3), by allowing non-chromium metal melting operations to meet the following annual-aggregate mass emission outlet-limits, as demonstrated through a source test pursuant to subdivision (g): arsenic – 0.0953 less than 0.000066 pounds per hour, cadmium – 0.74 less than 0.0000514 pounds per hour, and nickel – 12.2 less than 0.00848 pounds per hour.

Temperature of Gas Stream: Previous requirements originally in paragraph (d)(3) are proposed to be renumbered as paragraph (d)(5). Modifications to paragraph (d)(5) are

proposed that would to clarify that the temperature of the gas stream entering any emission control device requirement of cannot exceed 360 degrees Fahrenheit applies to the gas stream entering any device used to control emissions generated by a non-chromium metal melting operation until unless it can be demonstrated and approved by the Executive Officer in writing that either a control efficiency of 99 percent or more for arsenic and cadmium, as demonstrated through a source test pursuant to subdivision (g), will be achieved at a higher temperature, or it can be demonstrated that the non-chromium metal melting operation is in compliance with paragraph (d)(3) or (d)(4) is achieved.

Fugitive Emission Control: Previous requirements originally in paragraph (e)(1) are proposed to be renumbered as paragraph (d)(6). In addition, the phrase “non-ferrous” is proposed to be changed to “non-chromium,” the phrase “emission control system and operation” is proposed to be changed to “emission collection system and emission control device operation,” and the spelling of Ringelmann Chart is proposed to be corrected.

Visible Emissions: New paragraph (d)(7) proposes to require an owner or operator of a non-chromium metal melting operation to ensure visible emissions from a non-chromium metal melting furnace do not escape from the collection location of an emission collection system.

Permit Applications: New paragraph (d)(8) proposes to require, no later than July 1, 2020, the owner or operator of all non-chromium metal melting furnaces existing prior to the date of rule adoption to submit a complete South Coast AQMD permit application for each emission control device to the Executive Officer, unless there is an approved source test demonstrating compliance with paragraphs (d)(3) through (d)(5).

Equipment Not Requiring a Written Permit: New paragraph (d)(9) proposes, beginning July 1, 2020, that any emission control device subject to this rule shall no longer be exempt from the requirement of a written permit pursuant to South Coast AQMD Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II.

Housekeeping Requirements – subdivision (e)

Original subdivision (e) - “Fugitive Emission Control” is proposed to be renamed as “Housekeeping Requirements.” New subdivision (e) proposes to delete existing paragraph (e)(4), and to establish housekeeping requirements to control fugitive metal-containing dust emissions, which will go into effect no later than 30 days after the date of rule adoption, unless otherwise specified:

Housekeeping Requirements Effective upon Rule Adoption: Changes to paragraph (e)(1) propose to incorporate existing paragraphs (e)(2) and (e)(3), and clarify requirements for an enclosed storage area of dust-forming metal-containing material, such as dross, ash, or feed materials, to also include trash or debris. In addition to an enclosed storage area, this paragraph proposes to allow dust-forming metal-containing material to be stored in a building enclosure or within covered containers provided that the covered containers are free of liquid and dust leaks and are only opened when material is actively being deposited or removed. This paragraph also proposes ~~d~~ two new housekeeping measures that will go into effect upon rule adoption: 1) conduct cleaning, on a weekly basis using an approved cleaning method, all floor areas within 20 feet of where furnace and casting operations occur and waste generated from housekeeping activities is stored, disposed of, recovered,

or recycled; and 2) clean all areas where furnace and casting operations occur without using dry sweeping, unless dry sweeping is allowed in an approved Housekeeping Compliance Plan, or ~~and~~ compressed air cleaning.

Housekeeping Requirements Effective ~~30 days after Rule Adoption~~ July 1, 2020: New paragraph (e)(2) proposes to establish the following housekeeping requirements, that will go into effect ~~within 30 days of rule adoption~~ July 1, 2020:

- Conduct quarterly inspections of, and clean using an approved cleaning method if necessary, ~~of~~ collection vents, openings, and ducting of each non-chromium metal melting operation emission control devices to prevent dust building up and clogging;
- Remove weather caps that restrict the flow of exhaust air on any stack that is a source of emissions from non-chromium metal melting operations;
- Transport dust-forming slag and waste materials, which are at a temperature less than or equal to 500 degrees Fahrenheit and which are generated during housekeeping and building enclosure construction or ~~and~~ maintenance, within closed conveyor systems or in covered containers, unless these materials are located ~~conducted~~ within a building enclosure or an enclosed storage area;
- For metal cutting or metal grinding operations not conducted under a continuous flood of metal removal fluid, cConduct weekly cleaning using an approved cleaning method of: 1) floors within 20 feet of a ~~near~~ work station or work stations dedicated to metal grinding or metal cutting operations, 2) floors within 20 feet of any entrance/exit point of an enclosed storage area or ~~openings of~~ building enclosures that houses the grinding or cutting operations, and 3) floors within 10 feet of the transfer points of an emission control devices utilized for metal cutting or metal grinding operations ~~not conducted under a continuous flood of metal removal fluid;~~
- Store dust-forming metal-containing materials, including slag or materials generated from housekeeping, construction, or maintenance, in an enclosed storage area, in a covered container, ~~or~~ in a building enclosure or covered containers, provided that the containers are free of liquid and dust leaks and remain covered except when material is being actively deposited into or actively removed from a receptacle; and
- Clean the area using ~~by~~ an approved cleaning method within one hour of where construction, ~~or~~ maintenance or other event occurred, including but not limited to accidents, process upsets or equipment malfunction, that results in the deposition of fugitive metal dust emissions.

Housekeeping Compliance Plan: New paragraph (e)(3) proposes to require an owner or operator who wishes to use an approved alternative housekeeping measure in lieu of an approved cleaning method to submit a Housekeeping Compliance Plan to the Executive Officer for approval, subject to plan fees specified in Rule 306 – Plan Fees. Proposed new paragraph (e)(3) includes the following requirements:

- The Housekeeping Compliance Plan shall include information to substantiate that the alternative housekeeping measure meets the same air quality objective and effectiveness of the housekeeping requirement it is replacing.

- The Executive Officer may request additional information from the owner or operator.
- The owner or operator will be required to submit all requested information within 14 days of the request for additional information.
- The Executive Officer will review the request for a Housekeeping Compliance Plan and will approve the Housekeeping Compliance Plan if the alternative housekeeping measure can clean or remove accumulated dust-forming metal-containing material for the areas specified in subparagraph (e)(1)(C) at a frequency that provides the same or better efficiency than implementing an approved cleaning method and the alternative housekeeping measure minimizes generation of dust-forming metal-containing material. The Executive Office will notify the owner or operator in writing of approval or disapproval.
- If the Housekeeping Compliance Plan is disapproved, an owner or operator shall resubmit the Housekeeping Compliance Plan within 30 calendar days after notification of disapproval of the Housekeeping Compliance Plan. The resubmitted Housekeeping Compliance Plan will need to include any information to address the deficiencies identified in the disapproval letter. An owner or operator may appeal a disapproved Housekeeping Compliance Plan to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.
- Approved alternative housekeeping measures may not be used retroactively.

Building Enclosure Requirements – subdivision (f)

Original subdivision (f) - “Compliance Schedule” is proposed to be renamed as “Building Enclosure Requirements” New subdivision (f) which proposes to establish the following requirements for building enclosures:

Original paragraphs (f)(1) and (f)(2) are proposed for deletion.

Cross Draft Minimization: New paragraphs (f)(1) and (f)(2) proposes to require the owner or operator of a non-chromium metal melting operation to conduct all metal melting, metal grinding and metal cutting operations within a building enclosure that minimizes cross draft conditions no later than by July 1, 2020. ~~The enclosure may consist of a structure within a building that encloses metal melting, casting, or metal cutting and grinding not conducted under a continuous flood of metal removal fluid operations. The intent of these requirements is to provide containment, impede cross-drafts, and minimize fugitive emissions generated in areas where metal melting operations occur. If the building contains enclosure openings to the exterior that are on opposite ends of the building enclosure where air can pass through any space where non-chromium metal melting, metal grinding, or metal cutting operations occur,~~ Except during the passage of vehicles, equipment, or people, at least one end for each pair of the opposing ends of a building enclosure must be closed using one or more of the following:

- Automatically closing doors;
- Overlapping floor to ceiling plastic strip curtains;
- Vestibule;

- Airlock system;
- Use of a barrier, such as a large piece of equipment that restricts air from moving through the building enclosure; or
- Approved aAlternative method to minimize the release of metal containing fugitive emissions from the building enclosure that the owner or operator of a facility has ~~can~~ demonstrated to the Executive Officer is an equivalent or more effective method(s) to minimize the movement of air within the prevent dust-forming metal-containing fugitive emissions escaping from a building enclosure.

Building Enclosure Compliance Plan: New paragraph (f)(~~23~~) proposes to allow ~~require~~ a Building Enclosure Compliance Plan within 60 days of rule adoption to be submitted in the event that an owner or operator cannot comply with the requirements of paragraphs (f)(1)~~and (f)(2)~~ due to conflicts with ~~federal~~the United States Department of Labor Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health Administration (Cal/OSHA), or other municipal codes or agency requirements directly related to worker safety. The Building Enclosure Compliance Plan shall be submitted to the Executive Officer for review and approval no later than 90 days after rule adoption for existing facilities existing before the date of rule adoption and prior to initial start-up for all other operations, ~~and~~The Building Enclosure Compliance Plan shall include the explanation for why the conflict exists and the alternative compliance measures that will be implemented to minimize the release of dust-forming metal-containing fugitive emissions to the outside of the building enclosure. This plan will be subject to Rule 306 – Plan Fees.

Paragraph (f)(~~34~~) proposes to establish procedures for resubmittal and appeal of disapproved Building Enclosure Compliance Plans. If the Building Enclosure Compliance Plan is disapproved, a revised Building Enclosure Compliance Plan containing information to address deficiencies identified in the disapproval letter shall ~~must~~ be resubmitted within 30 calendar days of the notification of disapproval. Alternatively, the owner or operator may appeal the disapproval to the Hearing Board in accordance with the requirements in Rule 216 – Appeals, and Rule 221 – Plans. The Executive Officer will either approve the revised and resubmitted Building Enclosure Compliance Plan or will modify the plan and approve it as modified. The Executive Officer-modified and approved Building Enclosure Compliance Plan can be appealed per Rules 216 and 221.

Once the Building Enclosure Compliance Plan is approved, the plan must be implemented within 90 days of approval for facilities existing prior to rule adoption and prior to initial start-up for all other facilities pursuant to paragraph (f)(~~45~~). Compliance with the approved alternative compliance measures shall constitute compliance with the applicable provisions in paragraph (f)(1).

Recordkeeping – Original subdivision (g)

Original recordkeeping requirements in paragraphs (g)(1) and (g)(2) are proposed for deletion. New recordkeeping requirements are proposed to be relocated to subdivision (j).
New subdivision (g) proposes to establish the following recordkeeping requirements for owners or operators on a non-chromium metal metaling operation.

~~Monthly Quantities:~~ New paragraph (g)(1) proposes to require records to be kept of monthly quantities of raw materials processed, including ingots, scrap and internal and external reruns and the purchase records to verify these quantities where applicable.

~~Monthly Analyses:~~ New paragraph (g)(2) proposes to require monthly analyses to determine the weighted average percentage of arsenic, cadmium and nickel contained in metals and alloys using one of the following:

- ~~A US EPA approved method or methods;~~
- ~~Applicable method or methods pursuant to subdivision (i);~~
- ~~Metallurgical assay or;~~
- ~~An alternative method approved by the Executive Officer.~~

~~Additional Record Maintenance:~~ New paragraphs (g)(3) through (g)(8) propose to require the maintenance of the following additional records:

- ~~Quarterly analyses to determine the weight percentage of arsenic, cadmium, chromium, and nickel contained in bulk samples of baghouse catches;~~
- ~~Source test data as required by subdivision (h) and paragraph (j)(3);~~
- ~~Housekeeping activities completed as required by subdivision (e);~~
- ~~Data files, inspection and maintenance of emission collection devices as required by subdivision (j), including the name of the person conducting the activity and the dates and times at which specific activities were completed;~~
- ~~Anemometer data collected, including capture velocities, dates of measurement, and calibration documentation as required by paragraph (j)(6); and~~
- ~~Smoke test documentation as required in Attachment B – Smoke Test to Demonstrate Capture Efficiency for Emission Collection Systems of an Emission Control Device Pursuant to Paragraph (j)(5).~~

~~Record Retention:~~ Subdivision (g) will also require the maintenance of all records for three years, with at least the two most recent years kept onsite and made available to the South Coast AQMD upon request.

Source Testing Requirements – New subdivision (gh)

New subdivision (gh) proposes to establish the following source testing requirements:

Source Test Protocol: New paragraph (hg)(1) proposes to require a source test protocol to be submitted to the Executive Officer for approval no later than October 1, 2020 for the initial source test required pursuant to paragraph (g)(2), and no later than three months prior to the deadline for the periodic source test required pursuant to paragraph (g)(3) at least 60 days prior to conducting a source test pursuant to paragraphs (h)(2) through (h)(4). The source test protocol will be required to include the source test criteria of the end user, all assumptions, required data, calculated targets for testing, and the following:

- Target arsenic, cadmium and nickel mass emission standards;

- Planned sampling parameters;
- Information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated source test; and
- Evaluation of the emission collection system.

Initial Source Test: New paragraph (gh)(2) proposes to require the owner or operator of a non-chromium metal melting operation to conduct a source test for all non-chromium melting furnaces no later than January 1, 2021.

Source Testing of Point Sources: New paragraph (gh)(3) proposes to require source testing to be conducted for all non-chromium metal melting point sources once every 60 months, after the initial source test to demonstrate compliance with the facility mass emissions standards specified in paragraph (d)(1). If the source test demonstrates compliance with paragraph (d)(3), then the next source test must be completed within 84 months after the date of the most recent source test.

Uncontrolled Furnace Testing: New paragraph (gh)(4) proposes to allow a facility to source test an uncontrolled furnace and apply the emission rate established by the source test results proportionately to all similar uncontrolled furnaces at that facility.

Source Testing for Scrap Melting: For new or modified emission control devices or non-chromium metal melting furnace that start installed after the adoption of PAR 1407, paragraph (gh)(5) proposes to require the submittal of a source test protocol within 90 days after the Permit to Construct is issued and to conduct the initial source test within 120 days after the approval of the source test protocol.

Source Testing Notification: New paragraph (gh)(6) proposes to require the notification to 1-800-CUT-SMOG of the Executive Office, writing, of the intent to conduct source testing, one week prior to conducting source testing pursuant to paragraphs (gh)(2) through (gh)(5). Changes in the source test date will be required to be reported to 1-800-CUT-SMOG at least 24 hours prior to cancelling or rescheduling.

Notification for Source Test Results: New paragraph (gh)(7) proposes to require the owner or operator of a non-chromium metal melting operation to notify the Executive Officer within five calendar days of when the facility knew or should have known of any source test results that exceed any of the emission standards specified in subdivision (d). Notifications will be required to be made to 1-800-CUT-SMOG and followed up in writing to the Executive Officer with the results of the source tests within 10 calendar days of notification.

Minimum Operating Capacity for Source Test: New paragraph (gh)(8) proposes to require source tests to be conducted while operating at a minimum of 80 percent of the equipment's permitted capacity throughput and in accordance with CARB Method 436 – Determination of Multiple Metal Emissions from Stationary Sources. Additionally, new subparagraph (g)(8)(A) proposes to set a minimum sample volume of 150 dry standard cubic feet for each sample, assuming method reporting limits of less than 0.2 micrograms per sample, or a minimum sample volume sufficient to achieve analytical results at the method reporting limit. New subparagraph (g)(8)(B) proposes to state that in situations in which all test runs and analyses

consistently indicate levels below the limit of detection, the compound can be identified as “not detected” and its inclusion will not be required and in cases in which one or more of the test runs and analyses show measured values above the limit of detection, the runs or analysis that were below the limit of detection shall be assign one half of the limit of detection for that run.

Alternative Source Test Methods: New paragraph (gh)(9) proposes to allow alternative or equivalent source test methods as defined in U.S. EPA 40 CFR Part 60 Section 60.2, if approved in writing by the Executive Officer, in addition to the CARB, or the U.S. EPA, as applicable.

Laboratory Approval: New paragraph (gh)(10) proposes to require the use of a test laboratory approved under the South Coast AQMD Laboratory Approval Program for the source test methods cited in subdivision (gh). If there is no approved laboratory, then approval of the testing procedures used by the laboratory can be granted by the Executive Officer on a case-by-case basis based on South Coast AQMD protocols and procedures.

Multiple Source Test Methods: New paragraph (gh)(11) proposes to clarify that when there is more than one possible source test method, the source test method selected must be approved by the Executive Officer. In addition, a violation established by any one of the specified source test methods or set of source test methods will constitute a violation of the rule.

Existing Source Test: New paragraph (gh)(12) proposes to allow an existing source test conducted on or after January 1, 2016 for a non-chromium metal melting operation emission control device existing before the date of rule adoption to be used as the initial source test specified in paragraph (gh)(1) to demonstrate compliance with the metal emission control standards of subdivision (d). The source test will be required to meet, at a minimum, the following criteria:

- The source test is the most recent conducted since January 1, 2016;
- The source test demonstrated compliance with the control requirements in subdivision (d);
- The source test demonstrated compliance with emission collection system requirements of paragraph (i)(4)~~The source test is representative of a method used to test emissions from control devices currently in use; and~~
- The source test was conducted using applicable and approved test methods specified in paragraphs (gh)(6) through (gh)(8).

Submittal of Source Test Reports: New paragraph (gh)(13) proposes to require reports from source tests that were conducted pursuant to subdivision (gh) and paragraph (i)(3) to be submitted to the South Coast AQMD within 90 days of completion of source testing.

Alternative Emissions Control – Original subdivision (h)

Original alternative emissions control requirements in subdivision (h) are proposed for deletion.

Applicable Material Testing Requirements Methods – New subdivision (hi)

Subdivision (h) proposes minor editorial revisions for consistency and clarity and to add new paragraphs (h)(2) and (h)(3).

Materials Testing Methods: New paragraph (h)(2) proposes to require an owner or operator of a non-chromium metal melting operation to use one of the following test methods most applicable to the sample matrix, method detection limit, and interferences for materials testing:

- A US EPA-approved method or methods;
- Most current ASTM methods;
- Metallurgical assay; or
- An alternative method approved by the Executive Officer.

Quarterly Analysis: New paragraph (h)(3) proposes to allow the owner or operator of a non-chromium metal melting operation to use one of the methods identified in paragraph (h)(2) to conduct the following material testing:

- Quarterly analyses to determine the weighted average percentage of arsenic, cadmium, chromium, and nickel contained in metals and alloys melted in non-chromium metal melting furnaces; and
- Quarterly analyses to determine the weight percentage of arsenic, cadmium, chromium, and nickel contained in bulk samples of baghouse catches of baghouses associated with non-chromium metal melting operations.

Exemptions – Original subdivision (i)

Exemptions that were previously in original subdivision (i) are proposed to be relocated to subdivision (k).

Emission Control Device Monitoring – New subdivision (ij)

New subdivision (ij) is proposed to establish the following requirements for conducting source tests monitoring:

Bag Leak Detection System: Effective January 1, 2021~~19~~, paragraph (ij)(1) proposes to require the owner or operator of a non-chromium metal melting operation to ~~apply for a permit to install, operate, calibrate, and to maintain a~~ Bag Leak Detection System for all baghouses subject to Rule 1407, regardless of size, pursuant to the Tier 3 requirements of South Coast AQMD Rule 1155 – Particulate Matter (PM) Control Devices.

Pressure Monitoring: Effective January 1, 2021~~19~~, paragraph (ij)(2) proposes to require the owner or operator of a non-chromium metal melting operation to continuously monitor the pressure drop across the ~~filter of an~~ emission control device used to control metal emissions with a gauge. The ~~location of the~~ gauge will need to be located so that it is easily visible and in clear sight of the owner or operator or maintenance personnel. For the purposes of this requirement, the owner or operator shall ensure that the monitoring device:

- Is equipped with ports to allow for periodic calibration in accordance with manufacturer's specifications;
- Is calibrated according to manufacturer's specifications at least once every calendar year;

- Is equipped with a continuous data acquisition system (DAS) ~~capable of that recording~~ the data output from the monitoring device at a frequency of at least once every 60 minutes;
- Generates a data file from the computer system interfaced with each DAS each calendar day saved in Microsoft Excel (xls orxlsx) format or other format as approved by the Executive Officer. The file shall contain a table with the chronological date and time and the corresponding data output value from the monitoring device in units of inches of water column. The operator shall prepare a separate data file each day showing the 4-hour average pressure readings recorded by this device each calendar day; and
- Is maintained in accordance with manufacturer's specifications.

Source Test after Deficient Filter Pressure: Paragraph (ij)(3) proposes to require the owner or operator of a non-chromium metal melting operation emission control device to conduct a source test pursuant to subdivision (h), if the pressure across the filter-emission control device is not maintained within the range specified by the manufacturer or according to conditions of the Permit to Operate for the emission control device as determined by hourly or more frequent recordings by the DAS for the following averaging periods, no later than 30 days after the discrepancy is detected:

- A 4-hour time period on three or more separate days over 60 continuous days; or
- Any consecutive 24-hour period.

Minimum Collection Induced Capture Velocity: Effective January 1, 2021~~19~~, paragraph (ij)(4) proposes to require operation of the emission collection system associated with the emission control device at a minimum ~~collection induced~~ capture velocity specified in the most current edition of the Industrial Ventilation, A Manual of Recommended Practice for Design, published by the American Conference of Governmental Industrial Hygienists, at the time a permit application is deemed complete by the South Coast AQMD.

Periodic Smoke Test: Effective January 1, 2021~~19~~, paragraph (ij)(5) proposes to require a periodic smoke test to be conducted and passed during source testing, pursuant to paragraphs (gh)(1) (g)(2) through (g)(5), and at least once every six months thereafter, using the procedure set forth in Attachment B of this rule. The smoke test will not be required if it can be is demonstrated to the Executive Officer that conducting the smoke test it presents creates an unreasonable risk. If the emission collection system failed a smoke test, the owner or operator of a non-chromium metal melting operation shall not use the associated furnace(s) for production until the emission collection system passes a smoke test.

Anemometer: Effective January 1, 2021~~19~~, paragraph (ij)(6) proposes to require the use of a calibrated anemometer to measure the slot capture-velocity of each emission collection system slot and pressure at each push air manifold at least once monthly every six months, based on its location within a non-chromium metal melting operation and its design configuration as follows:

- *Emissions collection system designed with a hood or enclosure:* maintain a capture velocity of at least 200 feet per minute as measured at the face of the enclosure or the minimum slot velocity measured in the most recent source test that verifies 100 percent collection efficiency.

- Emission collection system without an enclosing hood that is designed with collection slots: maintain a capture velocity of at least 2,000 feet per minute, or maintain at least the minimum slot velocity measured in the most recent source test that verifies 100 percent collection efficiency measured in the most recent source test.
- Emission collection system designed with a canopy hood without an enclosure: maintain a capture velocity of at least 200 feet per minute across the entirety of all open sides extending from the perimeter of the hood and operating without cross drafts or maintain at least the minimum slot velocity that verifies 100 percent collection efficiency measured in the most recent source test.

Reporting of Failures: New paragraph (i)(7) proposes to require the owner or operator of a non-chromium metal melting operation to report within 24 hours to 1-800-CUT-SMOG a malfunctioning data acquisition system, failed smoke test pursuant to paragraph (i)(5), or anemometer reading indicating that the required velocity in paragraph (i)(6) has not been maintained.

Recordkeeping Requirements – subdivision (j)

Ssubdivision (j) proposes to require an owner or operator of a non-chromium metal melting operation to maintain the following records:

Quarterly Quantities: New paragraph (j)(1) proposes to require the maintenance of records of monthly quantities of raw materials processed, including ingots, scrap, customer returns, and rerun scrap and the purchase records, if applicable, to verify these quantities.

Additional Record Maintenance: New paragraphs (j)(2) through (j)(7) propose to require the maintenance of the following records:

- Quarterly quantities of raw materials processed, including ingots, scrap, customer returns, and rerun scrap and the purchase records, if applicable, to verify these quantities;
- Material testing data as required by subdivision (h);
- Source test data as required by subdivision (g) and paragraph (i)(3);
- Housekeeping activities conducted as required by subdivision (e);
- Inspection, calibration documentation, and maintenance of emission control devices as required by subdivision (i), including the name of the person conducting the activity and the dates and times at which specific activities were completed;
- Anemometer data collected, including capture velocities, dates of measurement, and calibration documentation as required by paragraph (i)(6); and
- Smoke test documentation as required in Attachment B – Smoke Test to Demonstrate Capture Efficiency for Emission Collection Systems of an Emission Control Device.

Records shall be maintained for three years, with at least the two most recent years kept onsite, and made available to the South Coast AQMD upon request. Records kept offsite shall be made available within one week.

Exemptions – New subdivision (k)

Exemptions that were previously in subdivision (i), are proposed to be moved to new subdivision (k) and updated to establish new exemptions and remove other exemptions which no longer apply.

Small Quantity Exemptions: New paragraph (k)(1) proposes to allow the owner or operator of a non-chromium metal melting operation that processes no more than one ton per year of the total of all non-chromium metals melted to only be subject to the recordkeeping provisions of the rule, pursuant to paragraph (j)(1) subdivision (g).

Low Throughput, Clean Aluminum Scrap, and Aluminum Scrap Furnaces: The exemptions originally in paragraphs (i)(1), (i)(3), and (i)(4) are proposed to be renumbered as paragraphs (k)(2), (k)(4), and (k)(5), -and revised to remain in effect until January 1, 2021.

Metal or Alloy Purity Exemption: Updates to paragraph (k)(3) are proposed that would exempt equipment and operations from the emission control requirements, source testing requirements, and emission control device monitoring requirements in subdivisions (d), (g), and (i), respectively, provided that the facility: 1) that melts less than 8,400 tons per year of raw materials non-chromium metal in furnaces which do not melt more than one percent scrap except rerun scrap and customer returns, and which melt a-metals or alloys which are is-shown by laboratory analysis to contain less than 0.002 percent of arsenic, and less than 0.004 percent cadmium, and less than 0.5 percent chromium by weight based on a monthly-quarterly weighted average; ~~from all provisions of the rule except the emission control requirements, source testing requirements, and emission control device monitoring requirements in subdivisions (d), (h), and (j), respectively.~~ 2) melts less than 42,000 tons per year of non-chromium metal in furnaces which: do not melt more than one percent scrap except rerun scrap and customer returns; and which melt a-metals or alloys which are shown by laboratory analysis to have less than 0.0008 percent cadmium, less than 0.0004 percent arsenic, and less than 0.5 percent chromium by weight on a quarterly weighted average; or 3) melts less than 84,000 tons per year of non-chromium metal in furnaces which: do not melt more than one percent scrap except rerun scrap and customer returns; and which melt a metal or alloy which is shown by laboratory analysis to have less than 0.0004 percent cadmium, less than 0.0002 percent arsenic , and less than 0.5 percent chromium by weight on a quarterly weighted average. An owner or operator seeking exemption under subparagraphs (k)(3)(A) through (k)(3)(C) shall demonstrate eligibility through material testing pursuant to paragraph (h)(3).

Aluminum Pouring Exemption: Updates to paragraph (k)(6) are proposed for consistency, and to clarify that ladles, launders or other equipment used to convey aluminum from a melting or holding furnace to casting equipment will only be subject to the requirements of subdivisions (e), (f) and (jg) of this rule.

Rules 1420, ~~1420.1~~ and 1420.2: New paragraph (k)(7) proposes to exempt equipment and operations subject to Rule 1420 – Emissions Standard for Lead, ~~Rule 1420.1 – Emission Standards for Lead and Other Toxic Contaminants from Large Lead Acid Battery Facilities,~~ and ~~or~~ Rule 1420.2 – Emissions Standards for Lead from Metal Melting Facilities from all of the requirements of this rule, except for paragraph (d)(5). If a Regulation XIV rule is adopted or amended that includes a provision for facilities subject to Rules 1420 and 1420.2 that addresses arsenic emissions, equipment and operations subject to the requirements of Rules 1420 and 1420.2 will be exempt from the requirements of this rule.

Rule 1420.1: New paragraph (k)(8) proposes to exempt equipment and operations subject to the requirements of Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Facilities from all of the requirements of this rule.

Health Risk Assessment or Toxics Inventory Report: New paragraph (k)(9) proposes to exempt any facility from the requirements in subdivision (d) if it has a Health Risk Assessment or Air Toxics Inventory Report approved or prepared by the South Coast AQMD for the purpose of the Hot Spots Act or this rule that, as approved or prepared by the South Coast AQMD, is currently below a maximum individual cancer risk of ten in one million pursuant to Rule 1402 – Control of Toxic Air Contaminants from Existing Sources, or has a current Facility Priority Score of less than ten pursuant to the most recent version of the South Coast AQMD Facility Prioritization Procedure for the AB 2588 Program. An owner or operator seeking exemption under this paragraph shall notify the Executive Officer in writing and maintain onsite the Health Risk Assessment or Air Toxics Inventory Report as approved or prepared by the South Coast AQMD, and made available to the South Coast AQMD upon request.

Metal Grinding and Cutting with Metal Removal Fluids: New paragraph (k)(8) proposes to exempt metal grinding or cutting conducted under a continuous flood of metal removal fluid from the building enclosure requirements.

Repair and Maintenance: New paragraph (k)(109) proposes to exempt dip soldering, brazing, metal grinding, or metal cutting operations conducted for repair or during maintenance activities purposes from the requirements of this rule.

Digestion of Metal Aluminum Sample for Determining Arsenic (Attachment A)

Attachment A proposes minor editorial revisions for consistency and clarity.

Smoke Test to Demonstrate Capture Efficiency for Emission Collection Ventilation Systems of an Emission Control Device Pursuant to Paragraph (j)(5) (Attachment B)

New Attachment B specifies the ~~method requirements~~ for conducting periodic smoke tests to demonstrate maintenance of 100 percent capture efficiency for the emission collection system of an emission control device ~~pursuant to paragraph (j)(5)~~. A smoke test is conducted by placing a smoke generator within the area where collection of emissions by the emission collection system occurs reveals the capture efficiency. The smoke test shall be conducted while the emission collection system and the emission control device are in normal operation and under typical draft conditions representative of the facility's non-chromium metal melting operations. An acceptable smoke test shall demonstrate a direct stream to the collection location(s) of the emission collection system without meanderings out of this direct path. If performing such a test presents an unreasonable risk to safety, a facility owner or operator will not be required to conduct a periodic smoke test. An example of what would qualify as unreasonable risk to safety would be having to conduct a smoke test at collection sites that would be extremely dangerous, if not deadly, for somebody to work in that collection zone.

SUMMARY OF AFFECTED FACILITIES

Approximately ~~54~~ 60 facilities are expected to be subject to PAR 1407. ~~All~~ Most of the affected facilities are considered foundries or metal casting businesses as generally classified pursuant to the North American Industry Classification System (NAICS) code 331XXX, as follows:

- 3312XX – Steel Product Manufacturing from Purchased Steel;
- 3313XX – Alumina and Aluminum Production and Processing; and
- 3315XX – Foundries.

Additional facilities are classified as follows:

- 3321XX – Forging and Stamping;
- 3332XX – Industrial Machinery Manufacturing
- 3335XX – Metalworking Machinery Manufacturing
- 3364XX – Aerospace Products and Parts Manufacturing; and
- 4235XX –Metal and Mineral (except Petroleum) Merchant Wholesalers

Table 1-1 identifies the number and type of affected facilities according to the NAICS code.

**Table 1-1
Number of Affected Facilities per Industry Type Subject to PAR 1407**

NAICS Code	Industry Type	Number of Facilities
331524	Aluminum Foundries (except Die-Casting)	24
331523	Nonferrous Metal Die-Casting Foundries	12
331314	Secondary Smelting and Alloying of Aluminum	5
331511	Iron Foundries	5
331222	Steel Wire Drawing	3
331529	Other Nonferrous Metal Foundries (except Die-Casting)	2
331221	Rolled Steel Shape Manufacturing	1
332111	Iron and Steel Forging	1
331513	Steel Foundries (except Investment)	1
<u>331512</u>	<u>Steel Investment Foundries</u>	<u>1</u>
<u>332322</u>	<u>Sheet Metal Work Manufacturing</u>	<u>1</u>
<u>333514</u>	<u>Special Die and Tool, Die Set, Jig, and Fixture Manufacturing</u>	<u>1</u>
<u>336413</u>	<u>Other Aircraft Parts and Auxiliary Equipment Manufacturing</u>	<u>2</u>
<u>423510</u>	<u>Metal Service Centers and Other Metal Merchant Wholesalers</u>	<u>1</u>
TOTAL		54 <u>60</u>

CHAPTER 2

ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Draft – <u>Final</u> Environmental Assessment for Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Mr. Luke Eisenhardt, (909) 396-2324
PAR 1407 Contact Person:	Mr. Michael Morris, (909) 396-3282
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	PAR 1407 applies to metal melting operations such as smelting, tinning, galvanizing, and other miscellaneous processes where non-chromium, instead of non-ferrous, metals such as aluminum, brass, bronze, carbon steel, and zinc are processed in molten form. PAR 1407 revises emission standards, establishes monitoring provisions for air pollution control equipment, adds building enclosure provisions to limit fugitive emissions, and updates housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Some sites affected by PAR 1407 may be identified on lists compiled by the California Department of Toxic Substances Control per Government Code Section 65962.5. The analysis of PAR 1407 in the Draft – <u>Final</u> EA did not result in the identification of any environmental topic areas that would be significantly adversely affected.
Surrounding Land Uses and Setting:	Various
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" involve at least one impact that is a "Potentially Significant Impact". An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Air Quality and Greenhouse Gas Emissions | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid and Hazardous Waste |
| <input type="checkbox"/> Cultural and Tribal Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Mandatory Findings of Significance | | |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guidelines Section 15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and, 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: 1) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards; and, 2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: June 27, 2019

Signature:



Barbara Radlein
Program Supervisor, CEQA
Planning, Rules, and Area Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

PAR 1407 proposes to establish requirements to reduce arsenic, cadmium, and nickel emissions from metal melting operations. Applicability extends to facilities that melt metals that contain no more than 0.5% chromium content, including, but not limited to aluminum, brass, bronze, copper, and zinc. These facilities include secondary smelters, foundries, die-casters, galvanizing and tinning coating operations, and other miscellaneous processes such as dip soldering, brazing and aluminum powder coating production. PAR 1407 is estimated to be applicable to ~~54~~ 60 metal melting facilities.

As explained in Chapter 1, the main focus of PAR 1407 is to reduce point and fugitive emissions of arsenic, cadmium, and nickel, and in turn minimize public health impacts by reducing exposure to toxic air contaminants. PAR 1407 also proposes to revise emission standards, establish monitoring provisions for air pollution control equipment, add building enclosure provisions to limit fugitive emissions, and update housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Implementing PAR 1407 would be expected to result in some facilities making building improvements to meet the enclosure requirement and the activities associated with making these physical changes may also create secondary adverse environmental impacts. Similarly, activities associated with conducting source tests and smoke tests, and implementing housekeeping requirements may also create secondary adverse environmental impacts.

While there are other requirements in PAR 1407 that are necessary to support compliance with the rule, the following components of PAR 1407 are administrative or procedural in nature and as such, would not be expected to cause any physical changes: revising, adding, or deleting definitions; clarifying applicability; adding test methods; conducting monitoring of emission collection systems and emission control devices; keeping records; applying for permit applications; and preparing and submitting source testing protocols. As such, these components of PAR 1407 would not be expected to create any secondary adverse environmental impacts.

For these reasons, the analysis in this ~~Final Draft~~ EA focuses on the potential secondary adverse environmental impacts associated with physical activities associated with constructing building enclosures and installing emission control devices, conducting source tests and smoke tests, and implementing housekeeping requirements. The key components of PAR 1407 that are expected to involve physical activities, the number facilities affected by each provision are summarized in Table 2-1.

Subsequent to the circulation of the Draft EA for public comment and review, several changes were made to PAR 1407. Specifically, the facility-wide emission limits for all furnaces were revised, and changed from a monthly limit to an hourly limit. Further, source testing requirements were revised to set minimum sample volumes which will allow for mass emission limit compliance when sample concentrations are determined to be below the method detection limit during laboratory analysis. Numerous editorial revisions, clarifications, and updates to enhance rule enforceability were also made. Six additional facilities were identified as being subject to the requirements of PAR 1407. As a result of further refinement of facility data, updates to the air quality and GHG, energy, and transportation analysis were made. However, despite these updates, the impacts on a peak day remained the same. The conclusions of less than significant impacts to the topics of air quality and GHG, energy, and transportation as well the other 15 environmental topic areas remain unchanged.

Thus, staff's review of the modifications to PAR 1407 since the Draft EA was released indicate that none of the resulting revisions to the Draft EA: 1) constitute significant new information; 2) constitute a substantial increase in the severity of an environmental impact; or, 3) provide new information of substantial importance relative to the Draft EA. In addition, revisions to the proposed project in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5.

Table 2-1
Key Components of PAR 1407 with Physical Effects on Affected Facilities

PAR 1407 Category	Number of Affected Facilities	Potential Physical Effects on Affected Facilities
Subdivision (d): Emission Control Requirements	4	10 emission control devices (e.g., baghouses) will need to be installed at four facilities.
Subdivision (e): Housekeeping Requirements	54 60	While nearly all facilities currently conduct some housekeeping, PAR 1407 contains new housekeeping requirements, as follows: 1. Conduct weekly cleaning for areas where furnace and casting operations occur and waste generated from housekeeping activities is stored, disposed of, recovered, or recycled; 2. Conduct weekly cleaning of locations where cutting and grinding occur; 3. Conduct quarterly cleaning and inspect equipment at all facilities that currently operate or will operate emission control devices; 4. Clean, using an approved method, the areas containing deposition of fugitive metal dust emissions within one hour of an event that results in the dust emissions; 5. Remove weather caps that restrict the flow of exhaust on any stack that is a source of emissions from non-chromium metal melting operations; 6. Store and transport slag, housekeeping waste, and building enclosure construction and maintenance materials within closed conveyer systems, in covered containers, or within a building enclosure; and 7. Clean all areas where furnace, casting, metal cutting and metal grinding operations occur without using dry cleaning or compressed air cleaning.
Subdivision (f): Building Enclosure Requirements	19 14	Overlapping plastic stripping at entryways or roll-up doors to minimize cross drafts will need to be installed in order to comply with building enclosure requirements.
	4	Two new walls per facility will need to be constructed to satisfy enclosure requirements.
Subdivision (f): Emission Control Device Monitoring	8 13	Monitoring equipment and anemometers for 13 <u>8</u> facilities with emission control devices will be need to be installed. In addition, 19-28 baghouse leak detection systems with <u>28</u> pressure gauges with and 19-28 data acquisition systems will need to be installed.
Subdivision (h): Source Testing	13 23	21-35 initial source tests will need to be conducted for 21-35 equipment units by January 1, 2021, with additional source testing required every 60 months thereafter.
Attachment B: Smoke Test	19 28	Smoke tests will need to be conducted at each facility once every six months to determine effective emission control device operation.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point(s).) If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

I. a), b), c) & d) No Impact. To reduce fugitive arsenic, cadmium, and nickel emissions from affected facilities, four facilities would need to make install two walls and ~~19~~16 facilities would need to make minor improvements to comply with building enclosure requirements, and four facilities would need to install baghouses to comply with the emission limits in PAR 1407. The use of heavy-duty construction equipment such as forklifts, tractors/loaders/backhoes, and cement mixers will be needed to make these physical changes at the affected facilities. The construction equipment is expected to be low in height and not substantially visible to the surrounding area due to construction occurring within each existing facility's property line, existing fencing along property lines, and existing structures currently within each facility's boundaries that may buffer the views of the construction activities.

Since the affected facilities are located in existing industrial areas, the construction equipment is not expected to be substantially discernable from other off-road equipment that exists on-site for routine operations and maintenance activities. Further, the construction activities are not expected to adversely impact views and aesthetics resources since most of the construction equipment and activities are expected to occur within the confines of each existing facility and are expected to introduce only minor visual changes to areas outside each facility, if at all, depending on the location of the construction activities within each affected facility. In addition, the construction activities are expected to be temporary in nature and will cease following the completion of the building enclosures and baghouse installations. Once construction is completed, all construction equipment will be removed from each facility. Construction is expected to be completed by January 1, 2021. Once construction of the building enclosures and installation of the baghouses is completed, these changes would be expected to reduce particulate emissions and minimize cross-draft conditions, thus serving to prevent visible emissions from non-chromium metal melting operations at the affected facilities.

Construction of the building enclosure modifications, installation of baghouses, and the removal of weather caps will result in slight changes to the appearance of the affected facilities. However, due to the nature of the modifications and baghouse installations, any altered appearances will be minor and will not substantially alter the visual character of the existing facilities.

Since none of the ~~54~~60 affected facilities are located within the views of a scenic vista or state scenic highway, implementation of PAR 1407 would have no substantial adverse effect on scenic vistas or other scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Also, all ~~54~~60 of the affected facilities are located in urbanized areas, and any changes to the buildings or structures will require approvals from the local city or county planning departments. Therefore, PAR 1407 would not be expected to conflict with applicable zoning or other regulations governing scenic quality.

PAR 1407 also contains requirements for conducting housekeeping, maintenance and source tests. These activities would be low-profile would be expected to blend in with routine day-to-day activities within the fence line of each affected facility. Therefore, housekeeping, maintenance and source testing will not be expected to cause any discernable aesthetic impacts.

PAR 1407 does not include any components that would require construction activities to occur at night. Further, cities often have their own limitations and prohibitions that restrict construction from occurring during evening hours and weekends. Therefore, no additional temporary construction lighting at the facility would be expected. However, if facility operators determine that the construction schedule requires nighttime activities, temporary lighting may be required.

Nonetheless, since construction activities would be completely located within the boundaries of each affected facility, additional temporary lighting is not expected to be discernable from the existing permanent night lighting. For these reasons, the proposed project would not create a new source of substantial light or glare at any of the affected facilities in a manner that would adversely affect day or nighttime views in the surrounding areas.

Conclusion

Based upon these considerations, significant adverse aesthetics impacts are not expected from implementing PAR 1407. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agriculture and forest resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g)).

- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

II. a), b), c), d), & e) No Impact. The affected facilities and their immediately surrounding areas are not located on or near areas zoned for agricultural use, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency. Therefore, the proposed project would not result in any construction of new buildings or other structures that would require converting farmland to non-agricultural use or conflict with zoning for agriculture use or a Williamson Act contract. The construction and operation activities would be expected to occur within the confines of existing industrial facilities, thus the proposed project is not expected to result in converting farmland to non-agricultural use; conflict with existing zoning for agricultural use, or a Williamson Act Control.

All of the facilities are located in industrial use areas in the urban portion of the Basin that is not near forest land. Therefore, the proposed project is not expected to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)) or result in the loss of forest land or conversion of forest land to non-forest use. Consequently, the proposed project would not create any significant adverse agriculture or forestry impacts.

Conclusion

Based upon these considerations, significant adverse agriculture and forestry resources impacts are not expected from implementing PAR 1407. Since no significant agriculture and forestry resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

To determine whether or not air quality and greenhouse gas impacts from implementing PAR 1407 are significant, impacts will be evaluated and compared to the criteria in Table 2-2. PAR 1407 will be considered to have significant adverse impacts if any one of the thresholds in Table 2-2 are equaled or exceeded.

**Table 2-2
South Coast AQMD Air Quality Significance Thresholds**

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM₁₀	150 lbs/day	150 lbs/day
PM_{2.5}	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden $>$ 0.5 excess cancer cases (in areas \geq 1 in 1 million) Chronic & Acute Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO₂ 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM₁₀ 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
PM_{2.5} 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
SO₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal)	

^a Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on South Coast AQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq = greater than or equal to
MT/yr CO₂eq = metric tons per year of CO₂ equivalents $>$ = greater than

Revision: April 2019

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

III. a) No Impact. The South Coast AQMD is required by law to prepare a comprehensive district-wide Air Quality Management Plan (AQMP) which includes strategies (e.g., control measures) to reduce emission levels to achieve and maintain state and federal ambient air quality standards, and to ensure that new sources of emissions are planned and operated to be consistent with the South Coast AQMD's air quality goals. The AQMP's air pollution reduction strategies include control measures which target stationary, area, mobile and indirect sources. These control measures are based on feasible methods of attaining ambient air quality standards. Pursuant to the provisions of both the state and federal Clean Air Acts, the South Coast AQMD is also required to attain the state and federal ambient air quality standards for all criteria pollutants.

The most recent regional blueprint for how the South Coast AQMD will achieve air quality standards and healthful air is outlined in the 2016 AQMP¹⁰ which contains multiple goals of promoting reductions of criteria air pollutants, greenhouse gases, and toxics. In particular, the 2016 AQMP contains control measure TXM-06: Control of Toxic Emissions from Metal Melting Facilities, which will reduce nickel, arsenic, and cadmium emissions through the implementation of PAR 1407. PAR 1407 will reduce these emissions by setting stricter emission controls and housekeeping and enclosure requirements at non-chromium metal melting facilities.

PAR 1407 is not expected to obstruct or conflict with the implementation of the 2016 AQMP because the emission reductions from implementing PAR 1407 are in accordance with the emission reduction goals in the 2016 AQMP. PAR 1407 would reduce arsenic, cadmium, and nickel emissions and therefore, be consistent with the goals of the 2016 AQMP. Thus, implementing PAR 1407 would not conflict with or obstruct implementation of the applicable air quality plans.

III. b) and e) Less Than Significant Impact. While PAR 1407 is designed to reduce arsenic, cadmium, and nickel emissions, secondary air quality impacts are expected from its implementation due to physical activities that may need to occur. For example, the requirements in PAR 1407 to install building enclosures and emission control devices would be expected to result in construction impacts from building new walls and installing baghouses at affected facilities. Further, secondary air quality impacts are also expected to occur as a result of facilities conducting source tests on baghouses.

¹⁰ South Coast AQMD, Final 2016 Air Quality Management Plan, March, 2017. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf>

Table 2-3 summarizes the key requirements in PAR 1407 that may result in secondary adverse air quality and greenhouse gas (GHG) impacts during construction and operation.

Table 2-3
Sources of Potential Secondary Adverse Air Quality and GHG Impacts
During Construction and Operation

Key Requirements in PAR 1407	Physical Effects Anticipated During:	
	Construction	Operation
Emission Control Requirements	Emissions from vehicle trips and construction equipment to install 10 baghouses at 4 facilities	<ol style="list-style-type: none"> 1. Vehicle emissions from transporting increased amounts of baghouse waste for disposal and/or recycling 2. Electricity to power baghouse
Housekeeping Requirements	Emissions from construction equipment to remove weather caps	No change from existing setting since cleaning and other housekeeping activities can be performed by existing staff
Enclosures	Emissions from vehicle trips and construction equipment to: <ol style="list-style-type: none"> 1. Construct 2 walls at each of the 4 facilities; and 2. Install roll-up doors or plastic stripping at 19<u>16</u> facilities. 	No operational impacts
Emission Control Device Monitoring Equipment	Emissions from vehicle trips to deliver and install equipment	No operational impacts
Source and Smoke Testing	None	Emissions from vehicle trips to perform periodic tests

For the purpose of conducting a worst-case CEQA analysis for the ~~54~~60 facilities that will be subject to PAR 1407, the following assumptions have been made:

Housekeeping

- All ~~54~~60 facilities will be required to perform housekeeping. The majority of housekeeping requirements are expected to be completed by existing staff such that no new vehicle trips would be needed and no new air quality impacts will occur. Because each affected facility currently has periodic waste collection activities occurring as part of the existing setting, no additional waste or hauling trips are anticipated to be necessary as a result of conducting routine housekeeping activities required by PAR 1407.

- All facilities will be required to remove weather caps that restrict the flow of exhaust on any stack that is a source of emissions from non-chromium metal melting operations. The number of existing weather caps to be removed is not known. Removal of weather caps can be accomplished within a short amount of time with the use of electric or manual hand tools, ladders, and a minimal number of on-site workers (e.g., one to two employees).. The analysis assumes no gasoline or diesel-fueled construction equipment or additional vehicle trips will be necessary to accomplish this task.

Emission Control Device Monitoring Equipment

- ~~Eight-13~~ facilities will be required to install anemometers (e.g., one anemometer per facility). Additionally, at these ~~eight-13~~ facilities, ~~19-28~~ bag leak detection systems with pressure gauges and data acquisition systems will need to be installed. The installation of anemometers, bag leak detection systems, pressure gauges, and data acquisition systems can be accomplished within a relatively short amount of time with the use of electric or manual hand tools, ladders, and a minimal number of construction workers. The analysis assumes that two construction workers will commute approximately 30 miles round trip each day by driving gasoline-fueled vehicles with an average fuel economy of 21 miles per gallon (mpg) and one worker will drive a vendor truck 15 miles round trip with an average fuel economy of 6.6 mpg .

Source Testing and Smoke Tests

- ~~21-35~~ source tests for ~~21-35~~ equipment units will need to be conducted at ~~13-23~~ facilities, with the initial source tests to be completed by January 1, 2021 and additional source testing required every 60 months thereafter, at each facility. Owners/operators of affected facilities would be expected to hire a source testing company to do the work. This analysis assumes that one light duty source testing truck with a fuel economy averaging 21 mpg and one medium duty maintenance truck with a fuel economy averaging 10 mpg will each drive approximately 40 miles round trip to conduct the source tests at each facility.
- ~~19-13~~ facilities will be required to conduct smoke tests every six months. This analysis assumes that one light duty testing truck with a fuel economy averaging 21 mpg will drive approximately 40 miles round trip to conduct the required smoke tests at each facility.

Enclosures

- ~~23-18~~ facilities will need to make the following physical modifications in order to comply with the building enclosure requirements in PAR 1407:
 - Four facilities will need to construct two new walls per facility. Construction is assumed to require one crane, one forklift, and one welder at each of the four facilities. Each piece of equipment is assumed to be operated for four hours per day, for five days. Three construction workers per facility are assumed to commute approximately 30 miles round trip each day driving vehicles with an average fuel economy of 21 mpg. In addition, the analysis assumes that one worker will drive a vendor delivery truck and one worker will drive a heavy duty hauling truck each with an average fuel economy of 6.6 mpg for a distance of 15 miles and 40 miles round trip, respectively per facility.

- 19-16 facilities will need to either install overlapping plastic stripping on entryways or roll-up doors to minimize cross drafts. These installations are assumed to be accomplished within a relatively short amount of time with electric or manual hand tools, ladders, and a minimal number of construction workers. Two workers are assumed to commute approximately 30 miles round trip each day driving vehicles with an average fuel economy of 21 mpg. In addition, the analysis assumes that one worker will drive a vendor truck with an average fuel economy of 6.6 mpg approximately 15 miles round trip per facility.

Emission Control Devices (Baghouses)

- Four facilities will need to install 10 emission control devices to comply with PAR 1407 and the analysis assumes that baghouses will be the technology selected for installation. Each baghouse is assumed to contain 4,000 square feet of fabric. Each baghouse is expected to require approximately 24 watts of electric power to operate.
- Installation of one baghouse will require one aerial lift, air compressor, forklift, and welder, operating four hours per day for five days. For each baghouse installation, five workers are assumed to commute approximately 30 miles round trip each day driving vehicles with an average fuel economy of 21 mpg, and one worker will drive a vendor truck with an average fuel economy of 6.6 mpg a distance of 15 miles round trip per affected facility.
- Baghouses will generate approximately one additional drum (0.25 cubic yard) of waste per every three months per baghouse. The analysis assumes that the additional waste will be collected and hauled away once every three months per facility by a medium-duty truck with an average fuel economy of 10 mpg, traveling 40 miles round trip.
- The analysis assumes that one additional employee may be hired to operate and maintain the new baghouses to be installed at four facilities.

Timing of Construction and Operation Activities

PAR 1407 will require building enclosures to be constructed by July 1, 2020. In addition, implementation of housekeeping requirements, installation of baghouses and monitoring equipment, completion of source testing and smoke testing are required to be completed by January 1, 2021. Therefore, the analysis assumes that construction activities to implement the aforementioned requirements will overlap with each other, and that some construction activities may overlap with the conducting of initial source tests.

The construction impact analysis assumes that construction will take five days to complete two walls to satisfy enclosure requirements, and five days to install a baghouse to satisfy emission control device requirements. Because some facilities will need to install multiple baghouses, the analysis assumes that the installations will occur in series, with no more than one installation at a time per facility. PAR 1407 requires building enclosures to be completed six months before the emission control devices and monitoring equipment need to be installed. However, it is possible that some or all of the affected facilities may choose to comply early with all PAR 1407 requirements (e.g., before July 1, 2020). While the potential for all construction activities would overlap at the same time is unlikely, as a worst-case scenario, the analysis assumes that two enclosures (construction of two walls), four enclosure improvements (roll-up doors or plastic

strips), four baghouses and four sets of emission control device monitoring equipment will be installed on the same day.

Operational impacts will result from vehicle trips associated with contractors hired to perform source tests and smoke tests, hauling trips to deliver supplies and/or remove waste from baghouses, and electricity usage from operating baghouses. The analysis assumes that two source tests, two smoke tests, and one supply or waste hauling trip will occur on a peak day. A peak day will occur after rule adoption but prior to January 1, 2021 (e.g., the period of time when all ~~24~~35 initial source tests are required to be conducted).

Additionally, because of the aforementioned timing associated with the construction schedules, it is possible, though extremely unlikely, that a peak construction day and peak operational day could occur on the same day. The peak operational impacts are expected to occur during the initial source testing period (e.g., between rule adoption and July 1, 2020). Similarly, this same period of time is when all of the construction impacts are expected to occur. Therefore, a peak day during the construction and operational overlap phase is comprised of the construction of two building enclosures (construction of two walls), four enclosure improvements (roll-up doors or plastic strips), four baghouses and four sets of emission control device monitoring equipment, two source tests, two smoke tests, and one supply delivery or waste hauling trip will occur on a peak day.

Construction and Operational Impacts

Criteria pollutant emissions were calculated for all off-road construction equipment and on-road vehicles transporting workers, vendors, and material removal and delivery during construction using the California Emissions Estimator Model¹²® (CalEEMod), version 2016.3.2. The detailed output reports for the CalEEMod¹¹ runs are included in Appendix B. The following tables present the results of the construction air quality analysis by phase. Appendix B also contains the spreadsheets with the results and assumptions used for this analysis.

Total operational emissions were estimated using emission factors for on-road vehicles from CARB's EMFAC2017¹² for the following mobile sources: heavy-duty diesel fueled trucks used to haul baghouse waste, medium-duty diesel fueled trucks used to deliver equipment and supplies and provide source testing support; light duty gasoline-fueled passenger vehicles used for transporting workers to facilities in order to install equipment or building enclosures, as well as conduct source tests and smoke tests. Table 2-4 summarizes the peak daily emissions associated with construction activities occurring at all affected facilities.

¹¹ CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects.

¹² The EMFAC emissions model is developed and used by CARB to assess emissions from on-road vehicles including cars, trucks, and buses in California. It should be noted that EMFAC2017 has not yet been approved by U.S. EPA but does provide the latest emission factors available. https://www.arb.ca.gov/msei/categories.htm#onroad_motor_vehicles

**Table 2-4
Peak Daily Construction Emissions by Pollutant (lb/day)**

Construction Activity	VOC	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Install 1 Baghouse	0.50	3.17	3.53	0.01	0.26	0.21
Construct 1 Building Enclosure (2 Walls)	0.46	4.57	2.95	0.01	0.27	0.23
One Medium-Duty Vendor Truck Trip to Deliver Emission Control Device Monitoring Equipment or Roll-up Doors or Plastic Strips	0.01	0.00	0.05	0.00	0.00	0.00
One Light-Duty Auto Worker Trip to Install Emission Control Device Monitoring Equipment or Roll-up Doors or Plastic Strips	0.02	0.19	0.10	0.00	0.02	0.01
Subtotal: Construct One Enclosure, Install One Baghouse, One Vendor Trip, and One Worker Trip	0.96	7.74	6.47	0.01	0.54	0.44
Significance Threshold for Construction	75	100	550	150	150	55
Significant?	No	No	No	No	No	No
Install 4 Baghouses	1.99	12.68	14.11	0.02	1.05	0.85
Construct 2 Enclosures (4 Walls)	0.92	9.15	5.89	0.01	0.54	0.46
8 Medium-Duty Vendor Truck Trips to Deliver Emission Control Device Monitoring Equipment (4), and Rollup Doors or Plastic Strips (4)	0.14	1.50	0.78	0.01	0.12	0.08
16 Light-Duty Auto Worker Trips to Install (4) Emission Control Device Monitoring Equipment and (4) Roll-up Doors or Plastic Strips	0.28	3.00	1.55	0.01	0.25	0.16
Total: 4 Baghouses, 2 Enclosures (4 Walls), 8 Vendor Deliveries, and 16 Worker Trips	3.34	26.32	22.34	0.05	1.97	1.54
Significance Threshold for Construction	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Assumptions: Installation of emission control device monitoring equipment requires 2 workers. A peak day will involve four baghouse installations, construction of two enclosures (two walls), four minor enclosure improvements and installation of emission control device monitoring equipment (anemometers, bag leak detection systems, pressure gauges, data acquisition systems) at four facilities. Delivery of emission control device monitoring equipment or roll-up doors or plastic trips is assumed to require one vendor trip, and installation is assumed to require two worker trips each. See Appendix B for additional assumptions and calculations.

The air quality analysis indicates that the peak daily emissions do not exceed the South Coast AQMD's air quality significance thresholds for any pollutant during construction; thus, the

analysis concludes that the air quality impacts during construction are expected to be less than significant.

Operational Impacts

Table 2-5 summarizes the peak daily emissions associated with operation. A peak day of operation is assumed to consist of two source tests, two smoke tests, and one waste hauling trip occurring on the same day. Additional details of the assumptions and calculations can be found in Appendix B.

**Table 2-5
Peak Daily Operation Emissions by Pollutant (lb/day)**

Operation Activity	VOC	NOx	CO	SOx	PM10	PM2.5
1 Light-Duty Auto Worker Trip to Conduct Source Testing	0.02	0.19	0.10	0.00	0.02	0.01
1 Medium-Duty Truck Trip to Conduct Source Testing	0.02	0.01	0.15	0.00	0.00	0.00
Subtotal: 1 Source Test	0.03	0.20	0.24	0.00	0.02	0.01
Significance Threshold for Operation	55	55	550	150	150	55
Significant?	No	No	No	No	No	No
1 Light-Duty Auto Worker Trip to Conduct Smoke Testing	0.02	0.19	0.10	0.00	0.02	0.01
Subtotal: 1 Smoke Test	0.02	0.19	0.10	0.00	0.02	0.01
Significance Threshold for Operation	55	55	550	150	150	55
Significant?	No	No	No	No	No	No
1 Heavy-Duty Waste Truck Trip to Collect Baghouse Waste	0.02	0.48	0.10	0.00	0.02	0.01
Subtotal: 1 Waste Haul Trip	0.02	0.48	0.10	0.00	0.02	0.01
Significance Threshold for Operation	55	55	550	150	150	55
Significant?	No	No	No	No	No	No
Total: 2 Source Tests, 2 Smoke Tests and 1 Waste Haul Trip	0.12	1.25	0.78	0.00	0.09	0.05
Significance Threshold for Operation	55	55	550	150	150	55
Significant?	No	No	No	No	No	No

Assumptions: Though unlikely, a peak day is assumed to include two source tests, two smoke tests, and one waste haul trip. See Appendix B for additional assumptions and calculations.

The air quality analysis indicates that the peak daily emissions do not exceed the South Coast AQMD's air quality significance thresholds for any pollutant during operation; thus, the analysis concludes that the air quality impacts during operation are expected to be less than significant.

Construction and Operation Overlap Impact

Table 2-6 summarizes the peak daily emissions from overlapping construction and operation activities. A peak day is assumed to consist of the peak construction (construction of two enclosures (two walls each), four enclosure improvements (roll-up doors and plastic strips), four baghouses, and four sets of emission control device monitoring equipment) and operation activities (two source tests, two smoke tests, and one waste hauling trip) occurring on the same peak day. Additional details of the assumptions and calculations can be found in Appendix B. According to South Coast AQMD policy, in the event that there is an overlap of construction and operation phases, the peak daily emissions from overlapping construction and operation activities should be summed and compared to the South Coast AQMD's air quality significance thresholds for operation because they are more stringent than the construction air quality significance thresholds.

**Table 2-6
Peak Daily Construction and Operation Overlap Emissions (lb/day)**

Activity	VOC	NOx	CO	SOx	PM10	PM2.5
2 Smoke Tests (2 Light-Duty Autos)	0.04	0.37	0.19	0.00	0.03	0.02
2 Source Tests (2 Light-Duty Autos and 2 Medium-Duty Trucks)	0.07	0.40	0.49	0.00	0.04	0.02
1 Heavy-Duty Waste Truck Trip to Collect Baghouse Waste	0.02	0.48	0.10	0.00	0.02	0.01
Install 4 Baghouses	1.99	12.68	14.11	0.02	1.05	0.85
Construct 2 Enclosures (4 Walls)	0.92	9.15	5.89	0.01	0.54	0.46
8 Medium-Duty Vendor Truck Trips to Deliver Emission Control Device Monitoring Equipment (4), and Rollup Doors or Plastic Strips (4)	0.14	1.50	0.78	0.01	0.12	0.08
16 Light-Duty Auto Worker Trips to Install (4) Emission Control Device Monitoring Equipment and (4) Roll-up Doors or Plastic Strips	0.28	3.00	1.55	0.01	0.25	0.16
Total	3.46	27.57	23.11	0.06	2.06	1.59
Significance Threshold for Operation^a	55	55	550	150	150	55
Significant?	No	No	No	No	No	No

^aWhen construction and operation phases overlap, the operational air quality significance thresholds are applied.

None of the emissions during construction only, operation only, or construction and operation overlap exceed the South Coast AQMD’s air quality significance thresholds. Therefore, the air quality impacts during construction only, operation only, or construction and operation overlap are all considered to be less than significant. The proposed project is not expected to result in significant adverse air quality impacts. Since no significant air quality impacts were identified, no mitigation measures are necessary or required.

Cumulatively Considerable Impacts

Based on the foregoing analysis, since criteria pollutant project-specific air quality impacts from implementing PAR 1407 would not be expected to exceed any of the air quality significance thresholds in Table 2-2, cumulative air quality impacts are also expected to be less than significant. South Coast AQMD cumulative air quality significance thresholds are the same as project-specific air quality significance thresholds. Therefore, potential adverse impacts from implementing PAR 1407 would not be “cumulatively considerable” as defined by CEQA Guidelines Section 15064(h)(1) for air quality impacts. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.

The South Coast AQMD’s guidance on addressing cumulative impacts for air quality is as follows: “As Lead Agency, the South Coast AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR.” “Projects that exceed the project-specific significance thresholds are considered by the South Coast AQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”¹³

This approach was upheld by the Court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the South Coast Air Quality Management District’s established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines Section 15064.7, stating, “The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect.” The court found that, “Although the project will contribute additional air pollutants to an existing non-attainment area, these increases are below the significance criteria...” “Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact.” As in *Chula Vista*, here the South Coast AQMD has demonstrated, when using accurate and appropriate data and assumptions, that the project will not exceed the established South Coast AQMD significance thresholds. See also, *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. Here again the court upheld the South Coast AQMD’s approach to utilizing the established air quality significance thresholds to determine whether the impacts of a project would be cumulatively

¹³ South Coast AQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3. <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf>

considerable. Thus, it may be concluded that the proposed project will not contribute to a significant unavoidable cumulative air quality impact. Since no cumulatively significant air quality impacts were identified, no mitigation measures are necessary or required.

III. c) Less Than Significant Impact.

Toxic Air Contaminants (TACs) During Construction and Operation

Diesel powered vehicles and equipment would be utilized during construction activities. Diesel PM is considered a carcinogenic and chronic TAC. The construction activities will be completed within six months at all of the ~~eight~~ 13 affected facilities, thus a Health Risk Assessment (HRA) was not conducted, which is consistent with the Office of Environmental Health Hazard Assessment (OEHHA) Guidance Manual (2015)¹⁴. The analysis in Section III b) and e) concluded that the quantity of pollutants that may be generated from implementing the proposed project would be less than significant during construction only, operation only, and the construction and operation overlap period. Because the emissions from all activities that may occur as part of implementing PAR1407 are at less than significant levels, the emissions that may be generated from implementing the proposed project would not be substantial, regardless of whether sensitive receptors are located near the affected facilities. Furthermore, through implementation of PAR 1407, conducting housekeeping activities, constructing building enclosures, and installing emission control devices will decrease emissions of arsenic, cadmium, and nickel from non-chromium metal melting facilities. Overall, the implementation of PAR 1407 will reduce TACs, an air quality benefit. Therefore, PAR 1407 is not expected to generate significant adverse TAC impacts from construction or expose sensitive receptors to substantial pollutant concentrations. Since no significant air quality impacts were identified for TACs, no mitigation measures are necessary or required.

III. d) Less Than Significant Impact.

Odor Impacts

Odor problems depend on individual circumstances. For example, individuals can differ quite markedly from the populated average in their sensitivity to odor due to any variety of innate, chronic or acute physiological conditions. This includes olfactory adaptation or smell fatigue (i.e., continuing exposure to an odor usually results in a gradual diminution or even disappearance of the small sensation).

During both construction and operation, diesel-fueled equipment and vehicles will be operated. Diesel fuel is required to have a low sulfur content (e.g., 15 ppm by weight or less) in accordance with South Coast AQMD Rule 431.2 – Sulfur Content of Liquid Fuels¹⁵; thus, the fuel is expected to have minimal odor. The operation of construction equipment will occur within the confines of existing affected facilities. It would be expected sufficient dispersion of diesel emissions over distance generally occurs such that odors associated with diesel emissions may not be discernable to off-site receptors, depending on the location of the equipment and its distance relative to the nearest off-site receptor. The diesel trucks and equipment that will be operated on-site as a part of

¹⁴ OEHHA, Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments, March 6, 2015. <https://oehha.ca.gov/air/cmr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0>

¹⁵ South Coast AQMD, Rule 431.2 – Sulfur Content of Liquid Fuels, September 15, 2000. <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-431-2.pdf>

construction activities will not be allowed to idle longer than five minutes per any one location in accordance with the CARB idling regulation¹⁶, so lingering odors from idling vehicles would not be expected. In addition, construction activities for constructing building enclosures and installing emission control devices would be temporary (completed by July 1, 2020 and January 1, 2021, respectively). Operation within the building enclosures and having equipment within the buildings vented to baghouses would be expected to reduce any odors from facilities. The use of trucks as part of conducting source tests, smoke tests, replacing baghouse filters, hauling waste, etc.) would be intermittent and occur over a relatively short period of time; therefore, the proposed project would not be expected to generate diesel exhaust odor greater than what is already typically present at the affected facilities. Thus, PAR 1407 is not expected to create significant adverse objectionable odors during construction or operation. Since no significant air quality impacts were identified for odors, no mitigation measures for odors are necessary or required.

III. f) and g) Less Than Significant Impacts.

Greenhouse Gas (GHG) Impacts

Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming. State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (Health and Safety Code Section 38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

Traditionally, GHGs and other global warming pollutants are perceived as solely global in their impacts and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. A study conducted on the health impacts of CO₂ “domes” that form over urban areas cause increases in local temperatures and local criteria pollutants, which have adverse health effects¹⁷.

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO₂ is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame. As a result, the South Coast AQMD's current position is to evaluate the effects of GHGs over a longer timeframe than a single

¹⁶ CARB, Multi-Regulation Summary (MRS) Requirements for Diesel Truck and Equipment Owners, <https://www.arb.ca.gov/msprog/onrdiesel/documents/multirule.pdf>

¹⁷ Jacobsen, Mark Z. “Enhancement of Local Air Pollution by Urban CO₂ Domes,” Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: <http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html>.

day (i.e., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects.

The South Coast AQMD convened a “Greenhouse Gas CEQA Significance Threshold Working Group” to consider a variety of benchmarks and potential significant thresholds to evaluate GHG impacts. On December 5, 2008, the South Coast AQMD adopted an interim CEQA GHG Significance Threshold for projects where the South Coast AQMD is the lead agency (South Coast AQMD 2008). This GHG interim threshold is set at 10,000 metric tons (MT) of CO₂ equivalent emissions (CO₂eq) per year. Projects with incremental increases below this threshold will not be cumulatively considerable. GHG impacts from the implementation of PAR 1407 were calculated at the project-specific level during construction and operation activities.

Table 2-7 summarizes the GHG analysis which shows that PAR 1407 may result in the generation of ~~2,096~~ 3.25 MT per year of CO₂eq, which is less than the South Coast AQMD’s air quality significance threshold for GHGs. The detailed calculations of project GHG emissions can be found in Appendix B.

Table 2-7
Summary of GHG Emissions from Affected Facilities

Phase	Activity	CO ₂ eq Emissions (MT/yr)
Construction	Enclosure Construction	0.19
	Baghouse Installation	0.40
	Medium Duty Vendor Truck Trips to Deliver Emission Control Device Monitoring Equipment, and Rollup Doors or Plastic Strips	0.01
	Light Duty Auto Worker Trips to Install Emission Control Device Monitoring Equipment and Roll-up Doors or Plastic Strips	0.02
	Construction Subtotal	0.61
Operation	Smoke Test Trips	0.80 <u>0.55</u>
	Source Test Trips	0.39 <u>0.24</u>
	Baghouse Waste Hauling	0.77
	Baghouse Operation (Electricity)	0.68
	Operation Subtotal	2.63 <u>2.20</u>
Total Emissions		2.81 <u>3.25</u>
Significance Threshold		10,000
Significant?		No

Note: 1 metric ton = 2,205 pounds. GHGs from short-term construction activities are amortized over 30 years.

As shown in Table 2-7, the South Coast AQMD air quality significance threshold for GHGs would not be exceeded. For this reason, implementing the proposed project would not be expected to generate significant adverse cumulative GHG air quality impacts. Further, as noted in Section III. a), implementation of PAR 1407 would not be expected to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing criteria pollutants and the same is true for GHG emissions since GHG emissions would not be impacted in any way by PAR 1407. Therefore, GHG impacts are not considered significant. Since no significant air quality impacts were identified for GHGs, no mitigation measures are necessary or required.

Conclusion

Based upon these considerations, significant air quality and GHG emissions impacts are not expected from implementing PAR 1407. Since no significant air quality and GHG emissions impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

IV. a), b), c), & d) No Impact. Implementation of PAR 1407 would occur at existing affected facilities, which are located in industrial areas. Thus, PAR 1407 is not expected to adversely affect in any way habitats that support riparian habitat, federally protected wetlands, or migratory corridors. Similarly, special status plants, animals, or natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service are not expected to be found on or in close proximity to affected facilities. Therefore, PAR 1407 would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely. PAR 1407 does not require the acquisition of additional land or further conversions of riparian habitats or sensitive natural communities where endangered or sensitive species may be found. In addition, any construction from the implementation of 1407 would take place at the existing facilities and would not be built on or near a wetland or in the path of migratory species.

IV. e) & f) No Impact. The proposed project is not expected to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans, because land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by implementation of PAR 1407. Additionally, PAR 1407 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because compliance with PAR 1407 would occur at existing facilities in previously disturbed areas which are not typically subject to Habitat or Natural Community Conservation Plans.

Conclusion

Based upon these considerations, significant biological resource impacts are not expected from implementing PAR 1407. Since no significant biological resource impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL AND TRIBAL CULTURAL RESOURCES.				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code §21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is either:				
• Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code §5024.1(c)? (In applying the criteria set forth in Public Resources Code §5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance, or tribal cultural significance to a community or ethnic or social group or a California Native American tribe.
- Unique resources or objects with cultural value to a California Native American tribe are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

V. a) No Impact. There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. For example, CEQA Guidelines state that generally, a resource shall be considered “historically significant” if the resource meets the criteria for listing in the California Register of Historical Resources, which include the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possesses high artistic values;
- Has yielded or may likely to yield information important in prehistory or history (CEQA Guidelines Section 15064.5).

Buildings, structures, and other potential culturally significant resources that are less than 50 years old are generally excluded from listing in the National Register of Historic Places, unless they are shown to be exceptionally important. Buildings or structures that may be affected by PAR 1407 are used for industrial purposes and would generally not be considered to be historically significant, since they would not have any of the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values. Therefore, PAR 1407 is not expected to cause any impacts to significant historic cultural resources.

V. b), c), & d) No Impact. Construction-related activities are expected to be confined within the affected existing industrial facilities with the implementation of PAR 1407. Thus, PAR 1407 is not expected to require physical changes to the environment which may disturb paleontological or

archaeological resources. Furthermore, it is envisioned that these areas are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed. Therefore, PAR 1407 has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly to destroy a unique paleontological resource or site or unique geologic feature, or to disturb any human remains, including those interred outside formal cemeteries. Implementing PAR 1407 is, therefore, not anticipated to result in any activities or promote any programs that could have a significant adverse impact on cultural resources.

PAR 1407 is not expected to require physical changes to a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American Tribe. Furthermore, PAR 1407 is not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources. Similarly PAR 1407 is not expected to result in a physical change to a resource determined by the South Coast AQMD to be significant to any tribe. For these reasons, PAR 1407 is not expected to cause any substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074.

As part of releasing this CEQA document for public review and comment, the South Coast AQMD also provided a formal notice of the proposed project to all California Native American Tribes (Tribes) that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code Section 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which a Tribe may respond to the formal notice, in writing, requesting consultation on the proposed project.

In the event that a Tribe submits a written request for consultation during this 30-day period, the South Coast AQMD will initiate a consultation with the Tribe within 30 days of receiving the request in accordance with Public Resources Code Section 21080.3.1(b). Consultation ends when either: 1) both parties agree to measures to avoid or mitigate a significant effect on a Tribal Cultural Resource and agreed upon mitigation measures shall be recommended for inclusion in the environmental document [see Public Resources Code Section 21082.3(a)]; or, 2) either party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached [see Public Resources Code Section 21080.3.2(b)(1)-(2) and Section 21080.3.1(b)(1)].

Conclusion

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PAR 1407. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with or obstruct adopted energy conservation plans, a state or local plan for renewable energy, or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Require or result in the relocation or construction of new or expanded electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to energy resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses energy resources in a wasteful and/or inefficient manner.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air

pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

VI. a), e) & f) No Impact. PAR 1407 is not expected to conflict with any adopted energy conservation plans or violate any energy conservation standards because existing facilities would be expected to continue implementing any existing energy conservation plans that are currently in place regardless of whether PAR 1407 is implemented. The implementation of PAR 1407 will apply to existing facilities; however, it will also apply to any new non-chromium metal melting facilities in the future. South Coast AQMD staff is not aware of any new facilities planned to be constructed in the immediate future and is unable to predict or forecast, when, if any, would be built in the long-term. Any energy resources that may be necessary to install building enclosures, baghouses, and monitoring equipment, and conduct source tests and smoke tests would be used to achieve reductions in arsenic, cadmium, and nickel; and therefore, would not be using non-renewable resources in a wasteful manner. For these reasons, PAR 1407 is not expected to conflict with energy conservation plans or existing energy standards, or use non-renewable resources in a wasteful manner.

VI. b), c), d), & g) Less Than Significant Impact. Implementation of PAR 1497 will result in the construction of baghouses and building enclosures, and the installation of emission control device monitoring equipment. Once baghouses are operational, electricity will be used to power blowers to draw exhaust fumes through the baghouses. The increased electricity to power 10 new baghouses will not result in a need for new or substantially altered power systems, because the baghouses will be served by existing power supplies. The projected increased electricity demands that may result from PAR 1407 are presented in Table 2-8.

**Table 2-8
Increases in Electricity Demand For Operating Baghouses**

Equipment	Energy Demand (GWhr)^c
Baghouse ^a	0.002
South Coast AQMD Jurisdiction Electricity End Use Consumption ^b	120,210
Total Increase Above Baseline	0.000002%
Significance Threshold	1%
Significant?	No

Notes:

- This analysis assumes baghouse blowers operate at 75 kilowatts, 24 hours per day, 365 days per year
- South Coast AQMD, 2016 Air Quality Management Plan, Chapter 10 (<https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/chapter10.pdf?sfvrsn=4>)
- One GWhr (Gigawatt-hour) = 10⁹ watt-hours

Implementing PAR 1407 would not require utilities providing additional electricity to the affected facilities to substantially alter their power systems because any additional energy needed can be provided from existing supplies. Further, since natural gas would not be needed to implement any of the physical changes that may occur as part of implementing PAR 1407, no change to existing natural gas supplies and usage would be expected to occur. In addition, because PAR 1407 will not require new facilities to be constructed and because new energy demands can be satisfied from existing power systems, implementation PAR 1407 would not result in the relocation or construction of new or expanded electric power, natural gas or telecommunication facilities.

Fuel Usage during Construction

During construction, portable construction equipment (e.g., welders, cranes, etc.) used to construct building enclosures and install baghouses will consume diesel fuel, as will vendor trucks that provide deliveries of equipment and building materials. Gasoline will be required to operate workers' vehicles as they commute to the construction sites as well.

To estimate “worst-case” energy impacts associated with construction activities, South Coast AQMD staff estimated the total gasoline and diesel fuel consumption for each affected facility during construction and operation based on CARB’s OFFROAD2011 model.

CalEEMod version 2016.3.2 was used to calculate construction emissions for baghouse installation and building enclosure construction (two walls per facility) which was determined from the default trip lengths for construction worker commute trips (e.g., 30 miles per worker round trip to/from the construction site per day) and vendor trips (e.g., 15 miles per vendor round trip to/from the construction site per day). Additional worker trips and vendor trips were modeled to account for additional minor enclosure improvements at ~~19~~16 facilities and emission control device monitoring equipment installation at ~~eight~~13 facilities. Worker trips were assumed to occur in gasoline vehicles, getting a fuel economy rate of approximately 21 mpg, and vendor truck trips were assumed to be fueled by diesel, getting approximately 10 mpg. Table 2-9 summarizes the projected fuel use impacts associated with construction activities. Detailed fuel use calculations can be found in Appendix B.

Table 2-9
Annual Total Projected Fuel Usage for Construction Activities

	Diesel	Gasoline
Projected Operational Energy Use (gal/yr)^a	158	520
Year 2017 South Coast AQMD Jurisdiction Estimated Fuel Demand (gal/yr)^b	775,000,000	7,086,000,000
Total Increase Above Baseline	0.00002%	0.000007%
Significance Threshold	1%	1%
Significant?	No	No

Notes:

- Estimated peak fuel usage from construction activities. Diesel usage estimates are based on the vendor trips and off-road equipment. Gasoline usage estimates are derived from worker trips.
- California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets, 2017 California Energy Commission (http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html). [Accessed June 21, 2019.]

The 2017 California Annual Retail Fuel Outlet Report Results from the California Energy Commission (CEC) show that 775 million gallons of diesel and 7,086 million gallons of gasoline were consumed in 2017 in the Basin. Thus, even if an additional 158 gallons of diesel and 520 gallons of gasoline are consumed during construction, the fuel usages are 0.00002% and 0.00007% above the 2017 baseline for diesel and gasoline, respectively, and both projected increases are well below the South Coast AQMD's significance threshold for fuel supply. Thus, no significant adverse impact on fuel supplies would be expected during construction.

Fuel Usage during Operation

Once construction is completed, waste generated from 10 baghouses at four facilities will need to be collected and hauled away at least once every three months by diesel trucks. Further, diesel-fueled source testing support trucks and gasoline-fueled source testing worker vehicles will travel to ~~13-23~~ facilities to conduct ~~21-35~~ source tests, once every five years. In addition, gasoline-fueled vehicles will be used to transport technicians to perform smoke tests at ~~19-13~~ facilities every six months. The analysis assumes that each source testing, smoke test and waste hauling trip will be 40 miles round trip. The analysis assumes an average fuel economy of 21 mpg for gasoline-fueled passenger vehicles, 10 mpg for diesel-fueled source testing trucks, and 6.6 mpg for diesel-fueled hauling trucks. The projected fuel demand during operation is presented in Table 2-10.

Table 2-10
Annual Total Projected Fuel Usage for Operation Activities

	Diesel	Gasoline
Projected Operational Energy Use (gal/yr)^a	<u>229 157</u>	<u>181 412</u>
Year 2017 South Coast AQMD Jurisdiction Estimated Fuel Demand (gal/yr)^b	775,000,000	7,086,000,000
Total Increase Above Baseline	0.0000 <u>32</u> %	0.0000 <u>32</u> %
Significance Threshold	1%	1%
Significant?	No	No

Notes:

- Estimated peak fuel usage from construction activities. Diesel usage estimates are based on source test and hauling trips. Gasoline usage estimates are derived from source test and smoke test trips.
- California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets, 2017 California Energy Commission (http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html). [Accessed June 21, 2019.]

Operational gasoline truck usage is only expected to consume about ~~112-181~~ gallons of gasoline, approximately 0.000032% of the annual gasoline supply. Diesel operated heavy duty truck usage could consume ~~157-229~~ gallons of diesel, which is only 0.000032% of the annual diesel supply. The projected increased use of gasoline and diesel fuels as a result of implementing PAR 1407 are well below the South Coast AQMD significance threshold for fuel supply. Thus, no significant adverse impact on fuel supplies would be expected during operation.

Based on the foregoing analyses, the construction and operation-related activities associated with the implementation of PAR 1407 would not use energy in a wasteful manner and would not result

in substantial depletion of existing energy resource supplies, create a significant demand of energy when compared to existing supplies. Thus, there are no significant adverse energy impacts associated with the implementation of PAR 1407.

Conclusion

Based upon these considerations, significant adverse energy impacts are not expected from implementing PAR 1407. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
<ul style="list-style-type: none"> • Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> • Strong seismic ground shaking? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> • Seismic-related ground failure, including liquefaction? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> • Landslides? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.
- Unique paleontological resources or sites or unique geologic features are present that could be directly or indirectly destroyed by the proposed project.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

VII. a) No Impact. PAR 1407 would result in construction activities at existing affected facilities located in developed industrial settings. Affected facilities are expected to make building improvements on existing structures to construct building enclosures and install emission control devices, such that only minor site preparation is anticipated. Further, the proposed project does not cause or require a new facility to be constructed. Therefore, PAR 1407 is not expected to adversely affect geophysical conditions in the District.

Southern California is an area of known seismic activity. As part of the issuance of building permits, local jurisdictions are responsible for assuring that the Uniform Building Code is adhered to and can conduct inspections to ensure compliance. The Uniform Building code is considered to be a standard safeguard against major structural failures and loss of life. The basic formulas used for the Uniform building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction. The modification of existing structures at existing facilities to complete minor upgrades to comply with enclosure requirements and the construction of new building enclosures and baghouses would be expected to conform to the Uniform Building Code and all other applicable state and local building codes. Structures must be

designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. Thus, PAR 1407 would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death involving the rupture of an earthquake fault, seismic ground shaking, ground failure or landslides is not anticipated.

VII. b) Less than Significant Impact. Since PAR 1407 would require the modification of existing buildings to satisfy the requirements to construct building enclosure and install emission control devices, construction activities such as minor grading may be necessary to prepare a level foundation in the affected areas. As such, temporary erosion resulting from grading activities could occur if any areas need to be graded. However, grading activities and any associated temporary erosion that may occur are expected to be relatively minimal since the existing facilities are generally flat and have previously been graded and paved. In addition, only four facilities would require the addition of two walls per facility to be constructed on four existing partial enclosures, and each existing partial enclosure would be expected to already be on a relatively level foundation. For this reason, no unstable earth conditions or changes in geologic substructures are expected to result from implementing PAR 1407. Therefore, impacts to the loss of topsoil and soil erosion are less than significant.

VII. c) No Impact. Since PAR 1407 will affect existing facilities, it is expected that the soil types present at the affected facilities will not be made further susceptible to expansion or liquefaction. Furthermore, subsidence is not anticipated to be a problem since only minor construction for building improvements are expected to occur at affected facilities. The areas, where the existing facilities are located are not envisioned to be prone to new landslide impacts or have unique geologic features since the existing facilities are currently operational. Thus, the proposed project would not be expected to increase or exacerbate any existing risks at the affected facility locations. Implementation of PAR 1407 would not involve re-locating facilities on a geologic unit or soil that is unstable or that would become unstable as a result of the project; therefore, it would not be expected to potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. No impacts are anticipated.

VII. d) & e) No Impact. The implementation of PAR 1407 involves facilities making building improvements such as constructing building enclosures, installing emission control devices, conducting source tests and smoke tests, installing monitoring equipment on and maintaining emission control devices, and conducting housekeeping activities. All of these activities are expected to be confined within the property lines of each affected facility. Further, PAR 1407 would not require the installation of septic tanks or other alternative wastewater disposal systems since each affected facility would be expected to have an existing sanitary system that is connected to the local sewer system. Therefore, no persons or property will be exposed to new impacts related to expansive soils or soils incapable of supporting water disposal. Thus, the implementation of PAR 1407 will not adversely affect soils associated with a installing a new septic system or alternative wastewater disposal system or modifying an existing sewer.

VII. f) No Impact. PAR 1407 would result in construction activities at existing affected facilities located in developed industrial settings. Affected facilities are expected to make building improvements on existing structures to construct building enclosures and install emission control devices, such that only minor site preparation is anticipated. Further, the proposed project does not

cause or require a new facility to be constructed. No previously undisturbed land that may contain a unique paleontological resource or site or unique geological feature will be affected. Therefore, PAR 1407 is not expected to directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

Conclusion

Based upon these considerations, significant adverse geology and soils impacts are not expected from the implementation of PAR 1407. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

VIII. a) & b) Less than Significant Impact. PAR 1407 has been developed to reduce public health impacts and exposure to nickel, arsenic, and cadmium. Facilities are expected to install emission control devices, construct building enclosures and take actions to minimize cross-draft conditions, thereby reducing fugitive emissions. Additionally, facilities will be required to comply with the new housekeeping requirements in PAR 1407 that will also have the effect of preventing fugitive emissions and consequently reducing the potential for the public and the environment to be exposed to nickel, arsenic, and cadmium.

Facilities with existing air pollution control equipment currently recycle or haul away hazardous waste or materials off-site to a hazardous waste landfill. There are new requirements in PAR 1407 that would require dust emitting waste to be transported in sealed containers. This will decrease the risk of hazardous waste exposure to the public and environment by limiting its potential release. Thus, no new significant hazards are expected to the public or environment through the continued routine transport, disposal or recycling of arsenic, cadmium, and nickel waste generated at metal melting facilities. Therefore, PAR 1407 is not expected to create a new significant hazard to the public or environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment.

VIII. c) Less than Significant Impact. Of the ~~54~~ 60 facilities subject to PAR 1407, there are five facilities located within one-quarter mile of a school. However, four of the five facilities will construct building enclosures, install roll-up doors or plastic strips on enclosure openings; one facility already has a full building enclosure in place so no additional construction will be needed at this facility. Source testing will be required at three of the five facilities. Nonetheless, the construction activities are expected to be minor and any required source testing after construction

is complete is not expected to generate additional hazards at the affected facilities. Rather, housekeeping requirements and improvements to complete building enclosures will minimize fugitive emissions. These facilities and the names of the schools and their proximities are identified in Appendix C.

Further, PAR 1407 does not include new requirements or alter existing requirements for hazardous waste disposal. For this reason, all ~~54~~ 60 facilities, including the five that are located within one-quarter mile of a school, are expected to continue to take the appropriate and required actions to ensure proper handling of existing quantities of hazardous or acutely hazardous materials, substances or wastes that are currently generated.

VIII. d) No Impact. Government Code Section 65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). ~~Nine-Ten~~ of the ~~54~~ 60 facilities, presented in Appendix C are identified on lists of California Department of Toxics Substances Control hazardous waste facilities per Government Code Section 65962.5. Implementation of PAR 1407 will limit the exposure to nickel, arsenic, and cadmium and reduce public health impacts from exposure to fugitive and point sources by requiring facilities to construct building enclosures, install emission control devices, implement housekeeping requirements, conduct source tests and smoke tests, install monitoring equipment, and maintain emission control equipment. Further, PAR 1407 would require metal waste to be stored in covered containers while awaiting transport, which decreases the risk of emissions and contact with hazardous waste. PAR 1407 is not expected to interfere with existing hazardous waste management programs since facilities handling hazardous waste would be expected to continue to manage any and all hazardous materials and hazardous waste, in accordance with applicable federal, state, and local rules and regulations. Therefore, compliance with PAR 1407 would not create a new significant hazard to the public or environment.

VIII. e) No Impact. Federal Aviation Administration regulation, 14 CFR Part 77 – Safe, Efficient Use and Preservation of the Navigable Airspace, provide information regarding the types of projects that may affect navigable airspace. Projects may adversely affect navigable airspace if they involve construction or alteration of structures greater than 200 feet above ground level within a specified distance from the nearest runway or objects within 20,000 feet of an airport or seaplane base with at least one runway more than 3,200 feet in length and the object would exceed a slope of 100:1 horizontally (100 feet horizontally for each one foot vertically from the nearest point of the runway).

Four of the ~~54~~ 60 facilities identified in Appendix C are located within two miles of an airport. However, construction at these facilities will consist of installation of building enclosures, emission control devices, roll-up doors or plastic strips on enclosure openings, and all of these installations will be limited to the existing height of the facilities, well below the 200 feet limit specified in 14 CFR Part 77. Therefore, implementation of PAR 1407 is not expected to increase or create any new safety hazards to peoples working or residing in the vicinity of public/private airports.

VIII. f) No Impact. Health and Safety Code Section 25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

- Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
- Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Procedures to notify the necessary persons who can respond to an emergency within the facility;
- Details of evacuation plans and procedures;
- Descriptions of the emergency equipment available in the facility;
- Identification of local emergency medical assistance; and,
- Training (initial and refresher) programs for employees in:
 1. The safe handling of hazardous materials used by the business;
 2. Methods of working with the local public emergency response agencies;
 3. The use of emergency response resources under control of the handler;
 4. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. The proposed project would not impair the implementation of, or physically interfere with any adopted emergency response plans or emergency evacuation plans that may be in place at existing facilities. The building improvements necessary at 1416 existing facilities to comply with PAR 1407 enclosure requirements and the installation of emission control devices at four facilities may require an update of each affected facility's existing emergency response plan to reflect the building modifications; however, the act of modifying an emergency response plan to reflect these anticipated building modifications will not create any environmental impacts. Therefore, PAR 1407 is not expected to impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII. g) Less Than Significant Impact. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed

increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Further, businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. Local fire departments ensure that adequate permit conditions are in place to protect against the potential risk of upset. PAR 1407 would not change the existing requirements and permit conditions for the proper handling of flammable materials. Further, PAR 1407 does not contain any requirements that would prompt facility owners/operators to begin using new flammable materials. In addition, the National Fire Protection Association has special designations for deflagrations (e.g., explosion prevention) when using materials that may be explosive. Therefore, operators of metal melting facilities that may install new baghouses to meet emission control requirements are expected to comply with National Fire Protection requirements for explosion control. Additional information pertaining to these types of protective measures is available in Chapter 8 of the *Industrial Ventilation, A Manual for Recommended Practice for Design*, 28th Edition, published by the American Conference of Governmental Industrial Hygienists, ©2013.

Conclusion

Based upon these considerations, significant adverse hazards and hazardous materials impacts are not expected from implementing PAR 1407. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards, waste discharge requirements, or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
• Result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, facilities or new storm water drainage facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

IX. a) Less than Significant Impact. PAR 1407 would require facilities to make building improvements to comply with enclosure requirements and emission control device requirements, assumed to be baghouses, if needed. Neither enclosures nor baghouses will not generate wastewater during their operation. Thus PAR 1407 would not be expected to generate wastewater from operating emission control devices or enclosures.

However, PAR 1407 contains housekeeping requirements that require all affected facilities to conduct cleaning of floors within 20 feet of a work station or entrance or exit point of a storage area or building enclosure where metal grinding or cutting operations without the use of a working fluid is conducted, and within 10 feet of transfer points of an emission control device dedicated to the metal grinding or metal cutting operations without the use of a metal working fluid. PAR 1407 also will require weekly cleaning for all areas where furnace and casting operations occur and waste generated from housekeeping activities are stored, disposed of, recovered, or recycled. All facilities would be required to conduct quarterly cleaning of collection vents, ducting, and openings of each metal melting operation emission control device. Approved methods for cleaning include high efficiency particulate arrestor (HEPA) vacuum, wet wash, wet mop, damp cloth, and low pressure spray which may result in increased water usage and wastewater generation that may require treatment or cleaning prior to disposal.

Any facility that conducts wet cleaning, but that does not currently have a wastewater treatment system or a wastewater discharge permit, the dirty water resulting from wet cleaning would need to be collected, stored and disposed of as hazardous materials and these facilities would be required to comply with applicable hazardous waste disposal regulations. Thus, the collected dirty water at these facilities would not be allowed to be discharged as wastewater. Any facility that conducts wet cleaning and has a wastewater discharge permit would be expected to comply with the permitted effluent discharge concentration and flow limits which means the wastewater generated from wet cleaning would likely need to be treated prior to discharge.

Further, PAR 1407 will reduce air emissions of arsenic, cadmium, and nickel, from non-chromium metal melting facilities. These reductions are expected to be achieved from implementing enhanced housekeeping practices, constructing building enclosures, and installing emission collection systems and control devices (e.g., baghouses) that will capture metal particulates at affected facilities. Therefore, the atmospheric dispersion of arsenic, cadmium, and nickel from non-chromium metal melting facilities will be reduced relative to existing conditions. For this reason, the potential for deposition of metal contamination, either directly or indirectly via stormwater, into water bodies, soils, or other surfaces will also be reduced from facilities that are

subject to PAR 1407. The air quality benefits associated with PAR 1407 are not quantifiable, but will provide an indirect co-benefit to by preventing further metal contamination to water bodies within South Coast AQMD's jurisdiction.

For these reasons, implementing PAR 1407 would not be expected to violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality.

IX. b) & e) No Impact. As previously explained in Section IX. a), water is not needed to operate the building enclosures or operate emission control devices. However, PAR 1407 allows for wet cleaning to be conducted using water as an option for complying with the housekeeping requirements. The additional water for conducting wet cleaning, is expected to be supplied by each facility's current water supplier. The quality of water that would likely be supplied at each affected facility would be potable water since potable water is currently supplied at all of the affected facilities in order to provide drinking water for employees, water for sinks and toilets, and water for any landscaping, if applicable. Should any facility have a groundwater well onsite with groundwater pumping rights, the facility would likely not use groundwater for wet cleaning purposes, because groundwater contains sand and other particles or debris which is not suitable for wet cleaning. Therefore, implementing PAR 1407 would not be expected to cause facilities to utilize groundwater for conducting wet cleaning, substantially deplete groundwater supplies, or interfere substantially with groundwater recharge. Additionally, the implementation of PAR 1407 will not result in any changes to the release of pollutants into ground or surface water, nor will it affect the ground or surface water located in the vicinity of the affected facilities in any way. For these reasons, PAR 1407 will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

IX. c) No Impact. Implementation of PAR 1407 would not be expected to substantially alter the existing drainage pattern of the site or area beyond what currently exists at existing facilities. No streams or rivers are expected to run through existing facilities, because these facilities operate in urban industrial areas. Thus, PAR 1407 would not cause an alteration of the course of a stream or river. Building improvements to construct building enclosure or install emission control devices may require some minor earthwork to prepare affected areas at the affected facility. Any construction activities, however, would not be expected to permanently create unpaved areas that would be vulnerable to surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site. In addition, PAR 1407 would not create new or contribute to existing runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff, because PAR 1407 does not contain any requirements that would change existing drainage patterns or the procedures for how surface runoff is handled.

IX. d) No Impact. As previously explained in Section IV – Biological Resources, PAR 1407 would not require new development to occur in undeveloped areas. Construction at affected facilities would be short-term and take place within existing facility settings. Therefore, PAR 1407 would not be expected to expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow because any flood event of this nature would be part of the existing setting or topography that is present for reasons unrelated to PAR 1407. Similarly, there is no risk of release of pollutants due to inundation as a result of PAR 1407.

IX. f), g), & h) Less than Significant Impact. Affected facilities would be required to conduct housekeeping, such as weekly wet cleaning of floors, ducting, vents, and emission control device openings, as outlined in PAR 1407. The analysis assumes that a basic 35-quart capacity (~nine gallons) commercial mop bucket would be used for wet cleaning. If on a peak day, all ~~54~~ 60 facilities decided to conduct wet cleaning, a total of 486 additional gallons of water would be used and result in the same amount of wastewater. This is below the significance threshold of 262,820 gallons per day of potable water and 5,000,000 gallons per day of total water.

However, wet cleaning is not the only option. PAR 1407 also would allow dry HEPA vacuuming to occur. Because each facility will have the option to choose wet or dry cleaning to satisfy the housekeeping requirements, the decision to conduct wet cleaning will largely depend on what equipment is available. Also, based on the facility owner/operator, in past rules, indicating preferences to use dry HEPA vacuuming, the estimated use of water and the corresponding generation of wastewater on a peak day may be less than estimated. Because the water demand and wastewater generation is minor when compared to the significance thresholds for water usage, and expected to be well within the facilities supporting infrastructure to handle these quantities of water and wastewater, PAR 1407 would not be expected to require the construction or relocation of new water or wastewater treatment facilities or new storm water drainage facilities, or cause the expansion of existing facilities. Similarly, because existing water supplies will be sufficient to support the implementation of housekeeping activities, the availability of sufficient water supplies to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years is not expected to be significantly impacted by PAR 1407. Further, because wet cleaning will not result in substantial wastewater generation, PAR 1407 will not result in a determination by the wastewater treatment provider which serves the affected facilities that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Conclusion

Based upon these considerations, significant adverse hydrology and water quality impacts are not expected from implementing PAR 1407. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~16 facilities would need to make minor improvements, ~~19~~13 facilities would be required to conduct periodic smoke tests, ~~eight~~13 facilities would need to install emission control device monitoring equipment, and ~~13~~23 facilities would be required to conduct periodic source testing.

X. a) & b) No Impact. PAR 1407 does not require the construction of new facilities and the physical effects that will result from PAR 1407 will occur at existing facilities located industrial areas and would not be expected to go beyond existing boundaries. For this reason, implementation of PAR 1407 is not expected to physically divide an established community. Therefore, no impacts are anticipated.

Further, land use and other planning considerations are determined by local governments and PAR 1407 does not alter any land use or planning requirements. Compliance with PAR 1407 would take place within existing facilities. Thus, it would not be expected to affect or conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Conclusion

Based upon these considerations, significant adverse land use and planning impacts are not expected from implementing PAR 1407. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XI. a) & b) No Impact. There are no provisions in PAR 1407 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plant or other land use plant. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. The proposed project would require building modifications to comply with enclosure requirements and the installation of emission control devices, implementation of housekeeping and maintenance activity requirements, source testing and smoke testing, all of which would have no effects on the

use of minerals, such as those described above. Therefore, no new demand on mineral resources is expected to occur and significant adverse mineral resources impacts from implementing PAR 1407 are not anticipated.

Conclusion

Based upon these considerations, significant adverse mineral resource impacts are not expected from implementing PAR 1407. Since no significant mineral resource impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XII. a) & b) Less than Significant Impact. The facilities affected by PAR 1407 are located in urbanized industrial areas. The existing noise environment at each of the facilities is typically

dominated by noise from existing equipment on-site, vehicular traffic around the facilities, and trucks entering and existing facility premises. Large, potentially noise-intensive construction equipment would be needed temporarily to modify existing enclosures or install emission control devices as part of implementing PAR 1407. Operation of the construction equipment would be expected to comply with all existing noise control laws and ordinances. Since the facilities are located in industrial areas, which have a higher background noise level when compared to other areas, the noise generated during construction will likely be indistinguishable from the background noise levels at the property line. In addition, once building enclosure construction is completed at the affected facilities, the overall noise profile would be expected to lessen when compared to baseline noise levels from day-to-day operations at these facilities because the noise generating activities will occur inside existing buildings. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health both indoors and outdoors. Furthermore, compliance with local noise ordinances typically limit the hours of construction to reduce the temporary noise impacts from construction to sensitive and offsite receptors. These potential noise increases would only be temporary until construction is completed and would be expected to be within the allowable noise levels established by the local noise ordinances for industrial areas; thus, impacts are expected to be less than significant.

XII. c) No Impact. As stated in Section VIII e), four of the ~~54~~ 60 facilities identified in Appendix C are located within two miles of an airport. The existing noise environment at each of these facilities is dominated by noise from existing equipment on-site, vehicular traffic around the facilities, and trucks entering and exiting facility premises. Thus, any new noise impacts would from construction activities to construct building enclosures, install emission control device monitoring equipment would be temporary and likely to generate noise that is indistinguishable from the background levels at the property line. Further, none of the four facilities within two miles of an airport are expected to install new emission control devices, because they qualify for exemptions from the emission control device requirements. Thus, PAR 1407 is not expected to expose persons residing or working within two miles of a public airport or private airstrip to excessive noise levels.

Conclusion

Based upon these considerations, significant adverse noise impacts are not expected from the implementing PAR 1407. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XIII. a) No Impact. The construction activities associated with PAR 1407 are not expected to involve the relocation of individuals, require new housing or commercial facilities, or change the distribution of the population. Only a handful workers per facility may be needed to perform construction activities to comply with PAR 1407 and these workers can be supplied from the existing labor pool in the local Southern California area. Housekeeping and maintenance activities resulting from PAR 1407 would also not be expected to result in the need for a substantial number of additional employees because facilities have existing personnel who perform similar day-to-day operations. It is possible that new employees may be needed to operate new emission control devices that are expected to be installed at four facilities. In the event that new employees are hired, it is expected that the number of new employees hired at any one facility would be relatively small, perhaps no more than one per facility. Regardless of implementing PAR 1407, human population within the jurisdiction of the South Coast AQMD. As such, PAR 1407 is not anticipated

to not result in changes in population densities, population distribution, or induce significant growth in population.

XIII. b) No Impact. PAR 1407 would result in construction activities that are expected to occur within the confines of existing facilities. Additional housekeeping and maintenance requirements would not be expected to substantially alter existing operations at non-chromium metal melting facilities. Consequently, PAR 1407 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of persons or housing elsewhere within the South Coast AQMD's jurisdiction.

Conclusion

Based upon these considerations, significant adverse population and housing impacts are not expected from implementing PAR 1407. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XIV. a) & b) Less Than Significant Impact. Implementation of PAR 1407 is expected to require minor modifications to building enclosures at ~~19~~ 16 existing facilities, construction of two walls to complete building enclosures at four facilities, and the installation of emission control devices at four facilities, all while continuing current operations at the affected facilities. In order to construct the building enclosures, each facility may be required to obtain a building permit from

the local city or county with jurisdiction over the construction. As each step in the construction process progresses, a building inspector will periodically check in with each facility to verify that construction conforms to the specifications in the building permit. Because applications for building permits typically undergo a thorough “plan check” process before a permit to build is issued, new safety hazards are not expected to occur during construction. Further, PAR 1407 does not require the use or handling of hazardous materials, so no special circumstances with handling sensitive materials during construction would be expected. For these reasons, implementation of PAR 1407 is not expected to substantially alter or increase the need or demand for additional public services (e.g., fire and police departments and related emergency services, etc.) above current levels, so no significant impact to these existing services is anticipated.

XIV. c), d), & e) No Impact. As explained in Section XIII. a), 1407 is not anticipated to generate any significant effects, either direct or indirect, on the population or population distribution within South Coast AQMD’s jurisdiction as no additional workers are anticipated to be required to comply with PAR 1407. Because PAR 1407 is not expected to induce substantial population growth in any way, and because the local labor pool (e.g., workforce) would remain the same since PAR 1407 would not trigger changes to current usage practices, no additional schools would need to be constructed as a result of implementing PAR 1407. Any construction activities would be temporary. Although four additional emission control devices are expected to be installed as a result of implementing PAR 1407, and trained personnel may be needed in order to maintain the new emission control devices at existing facilities, an increase in the labor force of one job per affected facility is assumed in this analysis. Therefore, since no substantial increase in local population would be anticipated as a result of implementing PAR 1407, there would be no corresponding impacts to local schools or parks and there would be no corresponding need for new or physically altered public facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Therefore, no impacts would be expected to schools, parks or other public facilities.

Conclusion

Based upon these considerations, significant adverse public services impacts are not expected from implementing PAR 1407. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XV. a) & b) No Impact. As previously explained in Section XIII – Population and Housing, PAR 1407 is not expected to affect population growth or distribution within the South Coast AQMD’s jurisdiction because workers needed to conduct construction activities to comply with PAR 1407 can be supplied by the existing labor pool in the local Southern California area and, at most, one employee may be needed to operate and maintain emission control devices at four facilities. As such, PAR 1407 is not anticipated to generate any significant adverse effects, either indirectly or directly on population growth within the South Coast AQMD’s jurisdiction or population distribution, thus no additional demand for recreational facilities would be expected. No further requirements in PAR 1407 would be expected to affect recreation in any way. Therefore, PAR 1407 would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational

facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Conclusion

Based upon these considerations, significant adverse recreation impacts are not expected from implementing PAR 1407. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID AND HAZARDOUS WASTE. Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid and hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XVI. a) Less Than Significant Impact. PAR 1407 will cause construction activities to occur at affected facilities, and these activities may result in the generation of some solid construction waste that may need to be disposed of in a landfill. However, because PAR 1407 does not specifically require demolition to occur, beyond the requirement for facilities to remove weather caps from rooftop ventilation points, no significant amount of construction waste is expected to be generated. Additionally, the operation of baghouses will result in the generation of hazardous waste collected by the emission control device. Facility operators will remove the baghouse waste and store it in 50-gallon drums, and send the waste to a certified hazardous waste landfill or recycling center for proper disposal or recycling. Each baghouse is expected to be emptied once every three months, producing one drum (0.25 cubic yard) of waste per baghouse. Total waste generation from ~~14~~ 10 baghouses installed at four facilities is estimated not to exceed 3.5 cubic yards every three months. For comparison, the smallest available commercial dumpster has a capacity of three cubic yards. Similar dumpsters are regularly filled and emptied weekly by small businesses, while it would take nearly three months for all ~~14~~ 10 baghouses at the four affected facilities to produce one full dumpster load of waste. Thus, solid and hazardous waste generation is not expected to significantly impact existing permitted landfill capacity, and all affected facilities will be able to be served by a landfill with sufficient permitted capacity to accommodate to project’s solid disposal needs.

XVI. b) No Impact. It is assumed that facility operators at the facilities currently comply with all applicable local, state, or federal waste disposal regulations, and PAR 1407 does not contain any provisions that would weaken current practices. While PAR 1407 would require dust emitting metal waste to be transported in sealed containers, this requirement strengthens waste handling practices, and reduces risk of exposure to hazardous waste during its transport. Thus, implementation of PAR 1407 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations in a manner that would cause a significant adverse solid and hazardous waste impact.

Conclusion

Based upon these considerations, significant adverse solid and hazardous waste impacts are not expected from implementing PAR 1407. Since no significant solid and hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION.				
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on transportation and traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection’s volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees.
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day.
- Increase customer traffic by more than 700 visits per day.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XVII. a) & b) Less than Significant Impact. As previously discussed in Section III – Air Quality and Greenhouse Gas Emissions, compliance with PAR 1407 would require construction activities to construct building enclosures, improve building enclosures, and install baghouses and emission control device monitoring equipment. In addition, emissions will occur from vehicles dispatched to facilities for the purpose of conducting source tests and smoke tests, as well as delivering supplies and disposing of waste. Table 2-11 presents the vehicle trips that may occur on a peak day of construction and operational overlap.

**Table 2-11
Peak Day Vehicle Trips**

Activity	Vehicle Trips
2 Smoke Tests	2 Passenger Autos
2 Source Tests	2 Passenger Autos 2 Support Trucks
1 Haul Trip	1 Haul Truck
4 Minor Enclosure Improvements	4 Delivery Trucks 8 Passenger Autos
4 Emission Control Device Monitoring Equipment Installations	4 Delivery Trucks 8 Passenger Autos
4 Building Enclosures (2 walls)	12 Passenger Autos 4 Delivery Trips 4 Cranes 4 Forklifts
4 Baghouse Installations	20 Passenger Autos 4 Delivery Trucks 4 Forklifts 4 Aerial Lifts
Total	87 Vehicle Trips

52 passenger vehicles, 18 medium-duty trucks, one heavy-duty haul truck, four cranes, four aerial lifts, and eight forklifts would be used on a peak day, for a total of 87 additional vehicle trips,

which is below the significance threshold of 350 round trips. Further, forklifts, aerial lifts, and cranes are expected to remain on the job site, and not contribute to on-road traffic.

In accordance with the promulgation of SB 743 which requires analyses of transportation impacts in CEQA documents to consider a project's vehicle miles traveled (VMT) in lieu of applying a LOS metric when determining significance for transportation impacts, CEQA Guidelines Section 15064.3(b)(4) gives a lead agency to use discretion to choose the most appropriate methodology to evaluate a project's VMT, allowing the metric to be expressed as a change in absolute terms, per capita, per household, or in any other measure.

Nonetheless, the CalEEMod modeling of the impacts from PAR 1407 was able to quantify the VMT from the project. The total VMT quantified represents a worst-case year of construction and operation. During the first year when all source tests and smoke tests will be completed and construction impacts will occur, these activities are estimated to result in ~~46,055~~18,365 total VMT. South Coast AQMD has not established a significance threshold for evaluating VMT as of the writing of this ~~Draft~~Final EA because the requirement to apply a VMT metric to determine significant transportation impacts does not go into effect until July 1, 2020. As such, a VMT-based significance determination is not currently a required component of this analysis. However, for perspective, an additional ~~46,055~~18,365 VMT is equivalent to adding one or two vehicles to the road over the period of one year. Because the implementation of PAR 1407 will not exceed the significance threshold for vehicle trips on a peak day or any of the significance criteria outlined in this section, traffic and transportation impacts during construction and operation are not expected to cause a significant adverse impact. Therefore, PAR 1407 will not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b). Further, because implementation of PAR 1407 will not alter any transportation plans, PAR 1407 will not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

XVII. c) & d) No Impact. PAR 1407 does not involve or require the construction of new roadways, because the focus of PAR 1407 is to control arsenic, cadmium, and nickel emissions from non-chromium metal melting facilities. Thus, there will be no change to current public roadway designs including a geometric design feature that could increase traffic hazards. Further, PAR 1407 is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the facilities. Construction-related activities are expected to be temporary and is expected to involve short-term construction activities such as delivery truck trips which would cease after construction is completed. The proposed project is not expected to alter the existing long-term circulation patterns within the areas of each affected facility during construction. Similarly, during operation, the projected increase of additional vehicle trips that may be needed at each affected facility would be at less than significant levels individually and cumulatively such that the implementation of the proposed project is not expected to require a modification to circulation. Thus, no long-term impacts on the traffic circulation system are expected to occur during construction or operation. Further, impacts to existing emergency access at the affected facilities would also not be affected because PAR 1407 does not contain any requirements specific to emergency access points and each facility would be expected to continue to maintain their existing emergency access. As a result, PAR 1407 is not expected to result in inadequate emergency access.

Conclusion

Based upon these considerations, significant adverse transportation and traffic impacts are not expected from implementing PAR 1407. Since no significant transportation and traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildfires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

A project’s ability to contribute to a wildfire will be considered significant if the project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and any of the following conditions are met:

- The project would substantially impair an adopted emergency response plan or emergency evacuation plan.
- The project may exacerbate wildfire risks by exposing the project’s occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.
- The project may exacerbate wildfire risks or may result in temporary or ongoing impacts to the environment because the installation or maintenance of associated infrastructure

(such as roads, fuel breaks, emergency water sources, power lines, or other utilities) are required.

- The project would expose people or structures to significant risks such as downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.
- The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildfires.

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD's jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XVIII. a), b), c), d), & e) No Impact. The implementation of PAR 1407 will not require the construction of any new facilities. It will not result in the construction of any occupied buildings, or structures beyond the current facility boundaries. Thus, PAR 1407 is not expected to substantially impair an adopted emergency response plan or emergency evacuation plan. Further, the existing facilities which are subject to PAR 1407 are located in industrial areas, and not near wildlands. In the event of a wildfire, no exacerbation of wildfire risks, and no consequential exposure of the project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, or other factors would be expected to occur. Similarly, the existing facilities which are subject to PAR 1407 are located in industrial areas and no new facilities are required to be constructed. Thus, PAR 1407 would neither expose people or structures to new significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes, nor would it expose people or structures, either directly or indirectly, to a new significant risk of loss, injury or death involving wildfires. Finally, because PAR 1407 does not require any construction beyond existing facility boundaries, the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment are not required.

Conclusion

Based upon these considerations, significant adverse wildfire risks are not expected from implementing PAR 1407. Since no significant wildfire risks were identified, no mitigation measures are necessary or required

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIX. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

PAR 1407 will reduce emissions of arsenic, cadmium and nickel from non-chromium metal melting operations by revising emission standards, establishing monitoring provisions for air pollution control equipment, adding building enclosure provisions to limit fugitive emissions, and updating housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. Of the ~~54~~ 60 facilities in South Coast AQMD’s jurisdiction that are subject to PAR 1407, all ~~54~~ 60 facilities would be required to conduct housekeeping, four facilities would need to install emission control devices (e.g., baghouses), four facilities would need to construct building enclosures, ~~19~~ 16 facilities would need to make minor improvements, ~~19~~ 13 facilities would be required to conduct periodic smoke tests, ~~eight~~ 13 facilities would need to install emission control device monitoring equipment, and ~~13~~ 23 facilities would be required to conduct periodic source testing.

XIX. a) No Impact. As explained in Section IV - Biological Resources, PAR 1407 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because

any construction and operational activities associated with the facilities are expected to occur entirely within the boundaries of existing developed facilities in areas that have been greatly disturbed and that currently do not support any species of concern or the habitat on which they rely. For these reasons, PAR 1407 is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past.

XIX. b) Less Than Significant Impact. Based on the foregoing analyses, PAR 1407 would not result in significant adverse project-specific environmental impacts. Potential adverse impacts from implementing PAR 1407 would not be “cumulatively considerable” as defined by CEQA Guidelines Section 15064(h)(1) for any environmental topic because there are no, or only minor incremental project-specific impacts that were concluded to be less than significant. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulative considerable. South Coast AQMD cumulative significant thresholds are the same as project-specific significance thresholds.

Therefore, there is no potential for significant adverse cumulative or cumulatively considerable impacts to be generated by PAR 1407 for any environmental topic.

XIX. c) Less Than Significant Impact. Based on the foregoing analyses, PAR 1407 is not expected to cause adverse effects on human beings for any environmental topic, either directly or indirectly because: 1) the air quality and GHG impacts were determined to be less than the significance thresholds as analyzed in Section III – Air Quality and Greenhouse Gases; 2) energy impacts were determined to be less than significant as analyzed in Section VI – Energy; 3) geological and soil impacts were determined to be less than significant as analyzed in VII – Geology and Soils; 4) the hazards and hazardous materials impacts were determined to be less than significant as analyzed in Section VIII – Hazards and Hazardous Materials; 5) the increased water usage and wastewater was determined to be less than significant as analyzed in Section IX – Hydrology and Water Quality; 6) the noise impacts were determined to be less than significant as analyzed in Section XII – Noise; 7) public services such as fire protection and police protection were determined to be less than the significance thresholds as analyzed in Section XIV – Public Services; 8) solid and hazardous waste impacts were determined to be less than significant as analyzed in Section XVI – Solid and Hazardous Waste; and 9) transportation and traffic impacts were determined to be less than the significant as analyzed in Section XVII – Transportation and Traffic. In addition, the analysis concluded that there would be no significant environmental impacts for the remaining environmental impact topic areas: aesthetics, agriculture and forestry resources, biological resources, cultural and tribal cultural resources, land use and planning, mineral resources, population and housing, recreation, solid and hazardous waste, and wildfire.

Conclusion

As previously discussed in environmental topics I through XIX, the proposed project has no potential to cause significant adverse environmental effects. Since no mitigation measures are necessary or required.

APPENDICES

Appendix A: Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations

Appendix B: CalEEMod Files, Assumptions, and Calculations

B-1: CalEEMod Files and Assumptions – Building Enclosure

Building Enclosure Construction (Annual)

Building Enclosure Construction (Summer)

Building Enclosure Construction (Winter)

B-2: CalEEMod Files and Assumptions – Baghouse

Baghouse Installation (Annual)

Baghouse Installation (Summer)

Baghouse Installation (Winter)

B-3: Operational and Construction Emissions Assumptions and Calculations

EMFAC 2017 On-Road Emission Factors and Calculations

Vehicle Miles Traveled and Fuel Usage

Greenhouse Gas Emissions

Appendix C: PAR 1407 List of Affected Facilities

Appendix D: Comment Letter Received on the Draft EA and Response

APPENDIX A

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

In order to save space and avoid repetition, please refer to the latest version of PAR 1407 located elsewhere in the Governing Board Package (meeting date September 6, 2019). The version of PAR 1407 that was circulated with the Draft EA and released on June 28, 2019 for a 32-day public review and comment period ending on July 30, 2019 was identified as “Proposed Amended Rule 1407: Preliminary Draft Rule Language (6/12/2019).” Original hard copies of the Draft EA, which include the draft version of the proposed amended rule listed above, can be obtained by visiting the Public Information Center at South Coast CAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, CA 91765, by contacting Fabian Wesson, Public Advisor by phone at (909) 396-2039 or by email at PICrequests@aqmd.gov

APPENDIX B

CalEEMod Files, Assumptions, and Calculations

APPENDIX B-1

CalEEMod Files and Assumptions – Building Enclosure Construction

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

1407 Enclosure Improvement 2 Walls
South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	4.00	1000sqft	0.09	4,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - assumption: 100x100 ft building, construct 2 walls = 40% = 4,000 sf

Construction Phase - assumptions: 5 days construction

Off-road Equipment - default hp, and LF. Equipment type and hr/day are from the previous EA for R1155 assumptions. Double the unit amount since two baghouses will be installed at the same time (worst case)

Off-road Equipment - assumptions: 4hrs per day, equipment based on PAR 1420 enclosure construction

Trips and VMT - assumptions 1 hauling trips, 3 workers/day

Demolition -

Grading -

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	5.00
tblOffRoadEquipment	HorsePower	46.00	97.00
tblOffRoadEquipment	LoadFactor	0.45	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	2.00	3.00

2.0 Emissions Summary

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.4625	4.5750	2.9387	6.2700e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	608.4946	608.4946	0.1312	0.0000	611.7751
Maximum	0.4625	4.5750	2.9387	6.2700e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	608.4946	608.4946	0.1312	0.0000	611.7751

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.4625	4.5750	2.9387	6.2700e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	608.4946	608.4946	0.1312	0.0000	611.7751
Maximum	0.4625	4.5750	2.9387	6.2700e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	608.4946	608.4946	0.1312	0.0000	611.7751

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Energy	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Mobile	0.0144	0.0815	0.2070	7.4000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		74.8301	74.8301	3.7800e-003		74.9245
Total	0.1039	0.0824	0.2082	7.5000e-004	0.0612	8.3000e-004	0.0621	0.0164	7.8000e-004	0.0172		75.9527	75.9527	3.8000e-003	2.0000e-005	76.0538

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Energy	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Mobile	0.0144	0.0815	0.2070	7.4000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		74.8301	74.8301	3.7800e-003		74.9245
Total	0.1039	0.0824	0.2082	7.5000e-004	0.0612	8.3000e-004	0.0621	0.0164	7.8000e-004	0.0172		75.9527	75.9527	3.8000e-003	2.0000e-005	76.0538

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Enclosure Construction	Building Construction	1/1/2020	1/7/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Enclosure Construction	Cranes	1	4.00	231	0.29
Enclosure Construction	Forklifts	1	4.00	89	0.20
Enclosure Construction	Welders	1	4.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Enclosure Construction	3	3.00	1.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

3.1 Mitigation Measures Construction

3.2 Enclosure Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151		533.2744	533.2744	0.1273		536.4563
Total	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151		533.2744	533.2744	0.1273		536.4563

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5600e-003	0.0551	0.0117	1.5000e-004	3.4900e-003	1.8000e-004	3.6700e-003	9.6000e-004	1.7000e-004	1.1300e-003		16.4580	16.4580	1.1700e-003		16.4873
Vendor	3.4400e-003	0.1048	0.0279	2.5000e-004	6.4000e-003	5.3000e-004	6.9300e-003	1.8400e-003	5.0000e-004	2.3500e-003		26.6513	26.6513	1.8500e-003		26.6976
Worker	0.0148	9.9900e-003	0.1104	3.2000e-004	0.0335	2.5000e-004	0.0338	8.8900e-003	2.3000e-004	9.1300e-003		32.1110	32.1110	9.2000e-004		32.1340
Total	0.0198	0.1700	0.1500	7.2000e-004	0.0434	9.6000e-004	0.0444	0.0117	9.0000e-004	0.0126		75.2202	75.2202	3.9400e-003		75.3188

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

3.2 Enclosure Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151	0.0000	533.2744	533.2744	0.1273		536.4563
Total	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151	0.0000	533.2744	533.2744	0.1273		536.4563

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5600e-003	0.0551	0.0117	1.5000e-004	3.4900e-003	1.8000e-004	3.6700e-003	9.6000e-004	1.7000e-004	1.1300e-003		16.4580	16.4580	1.1700e-003		16.4873
Vendor	3.4400e-003	0.1048	0.0279	2.5000e-004	6.4000e-003	5.3000e-004	6.9300e-003	1.8400e-003	5.0000e-004	2.3500e-003		26.6513	26.6513	1.8500e-003		26.6976
Worker	0.0148	9.9900e-003	0.1104	3.2000e-004	0.0335	2.5000e-004	0.0338	8.8900e-003	2.3000e-004	9.1300e-003		32.1110	32.1110	9.2000e-004		32.1340
Total	0.0198	0.1700	0.1500	7.2000e-004	0.0434	9.6000e-004	0.0444	0.0117	9.0000e-004	0.0126		75.2202	75.2202	3.9400e-003		75.3188

4.0 Operational Detail - Mobile

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0144	0.0815	0.2070	7.4000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		74.8301	74.8301	3.7800e-003		74.9245
Unmitigated	0.0144	0.0815	0.2070	7.4000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		74.8301	74.8301	3.7800e-003		74.9245

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	6.72	6.72	6.72	28,800	28,800
Total	6.72	6.72	6.72	28,800	28,800

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
NaturalGas Unmitigated	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-No Rail	9.53425	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Total		1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-No Rail	0.00953425	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Total		1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283

6.0 Area Detail

6.1 Mitigation Measures Area

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Unmitigated	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0792					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Total	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0792					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Total	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Summer

1407 Enclosure Improvement 2 Walls
South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	4.00	1000sqft	0.09	4,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - assumption: 100x100 ft building, construct 2 walls = 40% = 4,000 sf

Construction Phase - assumptions: 5 days construction

Off-road Equipment - default hp, and LF. Equipment type and hr/day are from the previous EA for R1155 assumptions. Double the unit amount since two baghouses will be installed at the same time (worst case)

Off-road Equipment - assumptions: 4hrs per day, equipment based on PAR 1420 enclosure construction

Trips and VMT - assumptions 1 hauling trips, 3 workers/day

Demolition -

Grading -

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	5.00
tblOffRoadEquipment	HorsePower	46.00	97.00
tblOffRoadEquipment	LoadFactor	0.45	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	2.00	3.00

2.0 Emissions Summary

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.4611	4.5736	2.9473	6.3100e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	611.8183	611.8183	0.1311	0.0000	615.0961
Maximum	0.4611	4.5736	2.9473	6.3100e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	611.8183	611.8183	0.1311	0.0000	615.0961

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.4611	4.5736	2.9473	6.3100e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	611.8183	611.8183	0.1311	0.0000	615.0961
Maximum	0.4611	4.5736	2.9473	6.3100e-003	0.0434	0.2288	0.2722	0.0117	0.2160	0.2277	0.0000	611.8183	611.8183	0.1311	0.0000	615.0961

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Energy	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Mobile	0.0151	0.0793	0.2230	7.8000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		79.0023	79.0023	3.8100e-003		79.0975
Total	0.1046	0.0802	0.2242	7.9000e-004	0.0612	8.3000e-004	0.0621	0.0164	7.8000e-004	0.0172		80.1249	80.1249	3.8300e-003	2.0000e-005	80.2268

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Energy	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Mobile	0.0151	0.0793	0.2230	7.8000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		79.0023	79.0023	3.8100e-003		79.0975
Total	0.1046	0.0802	0.2242	7.9000e-004	0.0612	8.3000e-004	0.0621	0.0164	7.8000e-004	0.0172		80.1249	80.1249	3.8300e-003	2.0000e-005	80.2268

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Enclosure Construction	Building Construction	1/1/2020	1/7/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Enclosure Construction	Cranes	1	4.00	231	0.29
Enclosure Construction	Forklifts	1	4.00	89	0.20
Enclosure Construction	Welders	1	4.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Enclosure Construction	3	3.00	1.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

1407 Enclosure Improvement 2 Walls - South Coast AQMD Air District, Summer

3.1 Mitigation Measures Construction

3.2 Enclosure Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151		533.2744	533.2744	0.1273		536.4563
Total	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151		533.2744	533.2744	0.1273		536.4563

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5200e-003	0.0544	0.0108	1.6000e-004	3.4900e-003	1.8000e-004	3.6700e-003	9.6000e-004	1.7000e-004	1.1300e-003		16.7666	16.7666	1.1300e-003		16.7947
Vendor	3.2800e-003	0.1049	0.0250	2.6000e-004	6.4000e-003	5.2000e-004	6.9200e-003	1.8400e-003	5.0000e-004	2.3400e-003		27.4449	27.4449	1.7200e-003		27.4879
Worker	0.0136	9.1200e-003	0.1227	3.4000e-004	0.0335	2.5000e-004	0.0338	8.8900e-003	2.3000e-004	9.1300e-003		34.3325	34.3325	9.9000e-004		34.3572
Total	0.0184	0.1685	0.1585	7.6000e-004	0.0434	9.5000e-004	0.0444	0.0117	9.0000e-004	0.0126		78.5440	78.5440	3.8400e-003		78.6398

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3.2 Enclosure Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151	0.0000	533.2744	533.2744	0.1273		536.4563
Total	0.4427	4.4051	2.7888	5.5500e-003		0.2278	0.2278		0.2151	0.2151	0.0000	533.2744	533.2744	0.1273		536.4563

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5200e-003	0.0544	0.0108	1.6000e-004	3.4900e-003	1.8000e-004	3.6700e-003	9.6000e-004	1.7000e-004	1.1300e-003		16.7666	16.7666	1.1300e-003		16.7947
Vendor	3.2800e-003	0.1049	0.0250	2.6000e-004	6.4000e-003	5.2000e-004	6.9200e-003	1.8400e-003	5.0000e-004	2.3400e-003		27.4449	27.4449	1.7200e-003		27.4879
Worker	0.0136	9.1200e-003	0.1227	3.4000e-004	0.0335	2.5000e-004	0.0338	8.8900e-003	2.3000e-004	9.1300e-003		34.3325	34.3325	9.9000e-004		34.3572
Total	0.0184	0.1685	0.1585	7.6000e-004	0.0434	9.5000e-004	0.0444	0.0117	9.0000e-004	0.0126		78.5440	78.5440	3.8400e-003		78.6398

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0151	0.0793	0.2230	7.8000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		79.0023	79.0023	3.8100e-003		79.0975
Unmitigated	0.0151	0.0793	0.2230	7.8000e-004	0.0612	7.6000e-004	0.0620	0.0164	7.1000e-004	0.0171		79.0023	79.0023	3.8100e-003		79.0975

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	6.72	6.72	6.72	28,800	28,800
Total	6.72	6.72	6.72	28,800	28,800

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
NaturalGas Unmitigated	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283

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5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-No Rail	9.53425	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Total		1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-No Rail	0.00953425	1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283
Total		1.0000e-004	9.3000e-004	7.9000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1217	1.1217	2.0000e-005	2.0000e-005	1.1283

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Unmitigated	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0792					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Total	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0792					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004
Total	0.0894	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		8.8000e-004	8.8000e-004	0.0000		9.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	4.00	1000sqft	0.09	4,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - assumption: 100x100 ft building, construct 2 walls = 40% = 4,000 sf

Construction Phase - assumptions: 5 days construction

Off-road Equipment - default hp, and LF. Equipment type and hr/day are from the previous EA for R1155 assumptions. Double the unit amount since two baghouses will be installed at the same time (worst case)

Off-road Equipment - assumptions: 4hrs per day, equipment based on PAR 1420 enclosure construction

Trips and VMT - assumptions 1 hauling trips, 3 workers/day

Demolition -

Grading -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	5.00
tblOffRoadEquipment	HorsePower	46.00	97.00
tblOffRoadEquipment	LoadFactor	0.45	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	2.00	3.00

2.0 Emissions Summary

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2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	1.1500e-003	0.0115	7.3500e-003	2.0000e-005	1.1000e-004	5.7000e-004	6.8000e-004	3.0000e-005	5.4000e-004	5.7000e-004	0.0000	1.3827	1.3827	3.0000e-004	0.0000	1.3902
Maximum	1.1500e-003	0.0115	7.3500e-003	2.0000e-005	1.1000e-004	5.7000e-004	6.8000e-004	3.0000e-005	5.4000e-004	5.7000e-004	0.0000	1.3827	1.3827	3.0000e-004	0.0000	1.3902

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	1.1500e-003	0.0115	7.3500e-003	2.0000e-005	1.1000e-004	5.7000e-004	6.8000e-004	3.0000e-005	5.4000e-004	5.7000e-004	0.0000	1.3827	1.3827	3.0000e-004	0.0000	1.3902
Maximum	1.1500e-003	0.0115	7.3500e-003	2.0000e-005	1.1000e-004	5.7000e-004	6.8000e-004	3.0000e-005	5.4000e-004	5.7000e-004	0.0000	1.3827	1.3827	3.0000e-004	0.0000	1.3902

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.0126	0.0126
		Highest	0.0126	0.0126

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0163	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Energy	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1562	5.1562	2.1000e-004	5.0000e-005	5.1751
Mobile	2.5800e-003	0.0151	0.0384	1.4000e-004	0.0109	1.4000e-004	0.0111	2.9300e-003	1.3000e-004	3.0600e-003	0.0000	12.5292	12.5292	6.2000e-004	0.0000	12.5448
Waste						0.0000	0.0000		0.0000	0.0000	0.7633	0.0000	0.7633	0.0451	0.0000	1.8909
Water						0.0000	0.0000		0.0000	0.0000	0.2935	3.8376	4.1311	0.0303	7.4000e-004	5.1104
Total	0.0189	0.0153	0.0386	1.4000e-004	0.0109	1.5000e-004	0.0111	2.9300e-003	1.4000e-004	3.0700e-003	1.0567	21.5232	22.5799	0.0762	7.9000e-004	24.7213

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0163	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Energy	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.1562	5.1562	2.1000e-004	5.0000e-005	5.1751
Mobile	2.5800e-003	0.0151	0.0384	1.4000e-004	0.0109	1.4000e-004	0.0111	2.9300e-003	1.3000e-004	3.0600e-003	0.0000	12.5292	12.5292	6.2000e-004	0.0000	12.5448
Waste						0.0000	0.0000		0.0000	0.0000	0.7633	0.0000	0.7633	0.0451	0.0000	1.8909
Water						0.0000	0.0000		0.0000	0.0000	0.2935	3.8376	4.1311	0.0303	7.4000e-004	5.1104
Total	0.0189	0.0153	0.0386	1.4000e-004	0.0109	1.5000e-004	0.0111	2.9300e-003	1.4000e-004	3.0700e-003	1.0567	21.5232	22.5799	0.0762	7.9000e-004	24.7213

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Enclosure Construction	Building Construction	1/1/2020	1/7/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Enclosure Construction	Cranes	1	4.00	231	0.29
Enclosure Construction	Forklifts	1	4.00	89	0.20
Enclosure Construction	Welders	1	4.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Enclosure Construction	3	3.00	1.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Enclosure Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1100e-003	0.0110	6.9700e-003	1.0000e-005		5.7000e-004	5.7000e-004		5.4000e-004	5.4000e-004	0.0000	1.2095	1.2095	2.9000e-004	0.0000	1.2167
Total	1.1100e-003	0.0110	6.9700e-003	1.0000e-005		5.7000e-004	5.7000e-004		5.4000e-004	5.4000e-004	0.0000	1.2095	1.2095	2.9000e-004	0.0000	1.2167

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.4000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0377	0.0377	0.0000	0.0000	0.0378
Vendor	1.0000e-005	2.7000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0615	0.0615	0.0000	0.0000	0.0616
Worker	3.0000e-005	3.0000e-005	2.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0741	0.0741	0.0000	0.0000	0.0741
Total	4.0000e-005	4.4000e-004	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	2.0000e-005	0.0000	3.0000e-005	0.0000	0.1733	0.1733	0.0000	0.0000	0.1735

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3.2 Enclosure Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1100e-003	0.0110	6.9700e-003	1.0000e-005		5.7000e-004	5.7000e-004		5.4000e-004	5.4000e-004	0.0000	1.2094	1.2094	2.9000e-004	0.0000	1.2167
Total	1.1100e-003	0.0110	6.9700e-003	1.0000e-005		5.7000e-004	5.7000e-004		5.4000e-004	5.4000e-004	0.0000	1.2094	1.2094	2.9000e-004	0.0000	1.2167

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.4000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0377	0.0377	0.0000	0.0000	0.0378
Vendor	1.0000e-005	2.7000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0615	0.0615	0.0000	0.0000	0.0616
Worker	3.0000e-005	3.0000e-005	2.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0741	0.0741	0.0000	0.0000	0.0741
Total	4.0000e-005	4.4000e-004	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	2.0000e-005	0.0000	3.0000e-005	0.0000	0.1733	0.1733	0.0000	0.0000	0.1735

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5800e-003	0.0151	0.0384	1.4000e-004	0.0109	1.4000e-004	0.0111	2.9300e-003	1.3000e-004	3.0600e-003	0.0000	12.5292	12.5292	6.2000e-004	0.0000	12.5448
Unmitigated	2.5800e-003	0.0151	0.0384	1.4000e-004	0.0109	1.4000e-004	0.0111	2.9300e-003	1.3000e-004	3.0600e-003	0.0000	12.5292	12.5292	6.2000e-004	0.0000	12.5448

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	6.72	6.72	6.72	28,800	28,800
Total	6.72	6.72	6.72	28,800	28,800

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.9705	4.9705	2.1000e-004	4.0000e-005	4.9883
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.9705	4.9705	2.1000e-004	4.0000e-005	4.9883
NaturalGas Mitigated	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1857	0.1857	0.0000	0.0000	0.1868
NaturalGas Unmitigated	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1857	0.1857	0.0000	0.0000	0.1868

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5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	3480	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1857	0.1857	0.0000	0.0000	0.1868
Total		2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1857	0.1857	0.0000	0.0000	0.1868

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	3480	2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1857	0.1857	0.0000	0.0000	0.1868
Total		2.0000e-005	1.7000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1857	0.1857	0.0000	0.0000	0.1868

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	15600	4.9705	2.1000e-004	4.0000e-005	4.9883
Total		4.9705	2.1000e-004	4.0000e-005	4.9883

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	15600	4.9705	2.1000e-004	4.0000e-005	4.9883
Total		4.9705	2.1000e-004	4.0000e-005	4.9883

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0163	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Unmitigated	0.0163	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Total	0.0163	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Total	0.0163	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.1311	0.0303	7.4000e-004	5.1104
Unmitigated	4.1311	0.0303	7.4000e-004	5.1104

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	0.925 / 0	4.1311	0.0303	7.4000e-004	5.1104
Total		4.1311	0.0303	7.4000e-004	5.1104

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	0.925 / 0	4.1311	0.0303	7.4000e-004	5.1104
Total		4.1311	0.0303	7.4000e-004	5.1104

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.7633	0.0451	0.0000	1.8909
Unmitigated	0.7633	0.0451	0.0000	1.8909

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	3.76	0.7633	0.0451	0.0000	1.8909
Total		0.7633	0.0451	0.0000	1.8909

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	3.76	0.7633	0.0451	0.0000	1.8909
Total		0.7633	0.0451	0.0000	1.8909

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

APPENDIX B-2

CalEEMod Files and Assumptions – Baghouse Construction

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

PAR1407_baghouse_construction_06.13.2019
South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 1 project

Construction Phase - 5 Days to install

Off-road Equipment - worst-case construction day: 1 APCDs installation per facility (each has 1 air compressor, 1 welder, 1 forklift, 1 aerial lift)

Trips and VMT - each APCD installation needs 5 worker vehicles and 1 vendor vehicle

Vehicle Emission Factors -

Fleet Mix -

Vehicle Emission Factors -

Vehicle Emission Factors -

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	UsageHours	6.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.5009	3.1724	3.5071	5.5800e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	523.4810	523.4810	0.0855	0.0000	525.6183
Maximum	0.5009	3.1724	3.5071	5.5800e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	523.4810	523.4810	0.0855	0.0000	525.6183

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.5009	3.1724	3.5071	5.5800e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	523.4810	523.4810	0.0855	0.0000	525.6183
Maximum	0.5009	3.1724	3.5071	5.5800e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	523.4810	523.4810	0.0855	0.0000	525.6183

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	6/13/2019	6/19/2019	5	5	APCD installation

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Aerial Lifts	1	4.00	63	0.31
Building Construction	Air Compressors	1	4.00	78	0.48
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Welders	1	4.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	4	5.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	MHDT	HHDT

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

3.1 Mitigation Measures Construction

3.2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943		450.1479	450.1479	0.0834		452.2335
Total	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943		450.1479	450.1479	0.0834		452.2335

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

3.2 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7200e-003	0.0635	0.0298	1.7000e-004	6.7600e-003	1.1100e-003	7.8600e-003	2.0300e-003	1.0600e-003	3.0900e-003		18.1003	18.1003	3.4000e-004		18.1089
Worker	0.0267	0.0187	0.2027	5.5000e-004	0.0559	4.3000e-004	0.0563	0.0148	4.0000e-004	0.0152		55.2328	55.2328	1.7300e-003		55.2759
Total	0.0304	0.0821	0.2325	7.2000e-004	0.0627	1.5400e-003	0.0642	0.0169	1.4600e-003	0.0183		73.3331	73.3331	2.0700e-003		73.3848

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943	0.0000	450.1479	450.1479	0.0834		452.2335
Total	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943	0.0000	450.1479	450.1479	0.0834		452.2335

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

3.2 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7200e-003	0.0635	0.0298	1.7000e-004	6.7600e-003	1.1100e-003	7.8600e-003	2.0300e-003	1.0600e-003	3.0900e-003		18.1003	18.1003	3.4000e-004		18.1089
Worker	0.0267	0.0187	0.2027	5.5000e-004	0.0559	4.3000e-004	0.0563	0.0148	4.0000e-004	0.0152		55.2328	55.2328	1.7300e-003		55.2759
Total	0.0304	0.0821	0.2325	7.2000e-004	0.0627	1.5400e-003	0.0642	0.0169	1.4600e-003	0.0183		73.3331	73.3331	2.0700e-003		73.3848

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Winter

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

PAR1407_baghouse_construction_06.13.2019
South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 1 project

Construction Phase - 5 Days to install

Off-road Equipment - worst-case construction day: 1 APCDs installation per facility (each has 1 air compressor, 1 welder, 1 forklift, 1 aerial lift)

Trips and VMT - each APCD installation needs 5 worker vehicles and 1 vendor vehicle

Vehicle Emission Factors -

Fleet Mix -

Vehicle Emission Factors -

Vehicle Emission Factors -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	UsageHours	6.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.4987	3.1693	3.5276	5.6200e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	527.3416	527.3416	0.0856	0.0000	529.4817
Maximum	0.4987	3.1693	3.5276	5.6200e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	527.3416	527.3416	0.0856	0.0000	529.4817

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.4987	3.1693	3.5276	5.6200e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	527.3416	527.3416	0.0856	0.0000	529.4817
Maximum	0.4987	3.1693	3.5276	5.6200e-003	0.0627	0.2009	0.2635	0.0169	0.1957	0.2126	0.0000	527.3416	527.3416	0.0856	0.0000	529.4817

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	6/13/2019	6/19/2019	5	5	APCD installation

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Aerial Lifts	1	4.00	63	0.31
Building Construction	Air Compressors	1	4.00	78	0.48
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Welders	1	4.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	4	5.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	MHDT	HHDT

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3.1 Mitigation Measures Construction

3.2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943		450.1479	450.1479	0.0834		452.2335
Total	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943		450.1479	450.1479	0.0834		452.2335

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

3.2 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.6200e-003	0.0620	0.0283	1.7000e-004	6.7600e-003	1.1000e-003	7.8600e-003	2.0300e-003	1.0500e-003	3.0800e-003		18.1443	18.1443	3.3000e-004		18.1526
Worker	0.0245	0.0170	0.2247	5.9000e-004	0.0559	4.3000e-004	0.0563	0.0148	4.0000e-004	0.0152		59.0495	59.0495	1.8500e-003		59.0956
Total	0.0281	0.0790	0.2530	7.6000e-004	0.0627	1.5300e-003	0.0642	0.0169	1.4500e-003	0.0183		77.1937	77.1937	2.1800e-003		77.2482

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943	0.0000	450.1479	450.1479	0.0834		452.2335
Total	0.4706	3.0903	3.2746	4.8600e-003		0.1994	0.1994		0.1943	0.1943	0.0000	450.1479	450.1479	0.0834		452.2335

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

3.2 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.6200e-003	0.0620	0.0283	1.7000e-004	6.7600e-003	1.1000e-003	7.8600e-003	2.0300e-003	1.0500e-003	3.0800e-003		18.1443	18.1443	3.3000e-004		18.1526
Worker	0.0245	0.0170	0.2247	5.9000e-004	0.0559	4.3000e-004	0.0563	0.0148	4.0000e-004	0.0152		59.0495	59.0495	1.8500e-003		59.0956
Total	0.0281	0.0790	0.2530	7.6000e-004	0.0627	1.5300e-003	0.0642	0.0169	1.4500e-003	0.0183		77.1937	77.1937	2.1800e-003		77.2482

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

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7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 1 project

Construction Phase - 5 Days to install

Off-road Equipment - worst-case construction day: 1 APCDs installation per facility (each has 1 air compressor, 1 welder, 1 forklift, 1 aerial lift)

Trips and VMT - each APCD installation needs 5 worker vehicles and 1 vendor vehicle

Vehicle Emission Factors -

Fleet Mix -

Vehicle Emission Factors -

Vehicle Emission Factors -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	UsageHours	6.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

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2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.2500e-003	7.9300e-003	8.7800e-003	1.0000e-005	1.5000e-004	5.0000e-004	6.6000e-004	4.0000e-005	4.9000e-004	5.3000e-004	0.0000	1.1894	1.1894	1.9000e-004	0.0000	1.1943
Maximum	1.2500e-003	7.9300e-003	8.7800e-003	1.0000e-005	1.5000e-004	5.0000e-004	6.6000e-004	4.0000e-005	4.9000e-004	5.3000e-004	0.0000	1.1894	1.1894	1.9000e-004	0.0000	1.1943

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.2500e-003	7.9300e-003	8.7800e-003	1.0000e-005	1.5000e-004	5.0000e-004	6.6000e-004	4.0000e-005	4.9000e-004	5.3000e-004	0.0000	1.1894	1.1894	1.9000e-004	0.0000	1.1943
Maximum	1.2500e-003	7.9300e-003	8.7800e-003	1.0000e-005	1.5000e-004	5.0000e-004	6.6000e-004	4.0000e-005	4.9000e-004	5.3000e-004	0.0000	1.1894	1.1894	1.9000e-004	0.0000	1.1943

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-13-2019	9-12-2019	0.0092	0.0092
		Highest	0.0092	0.0092

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	6/13/2019	6/19/2019	5	5	APCD installation

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Aerial Lifts	1	4.00	63	0.31
Building Construction	Air Compressors	1	4.00	78	0.48
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Welders	1	4.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	4	5.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	MHDT	HHDT

3.1 Mitigation Measures Construction

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3.2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1800e-003	7.7300e-003	8.1900e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.9000e-004	4.9000e-004	0.0000	1.0209	1.0209	1.9000e-004	0.0000	1.0257
Total	1.1800e-003	7.7300e-003	8.1900e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.9000e-004	4.9000e-004	0.0000	1.0209	1.0209	1.9000e-004	0.0000	1.0257

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	1.6000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0411	0.0411	0.0000	0.0000	0.0411
Worker	6.0000e-005	5.0000e-005	5.2000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1274	0.1274	0.0000	0.0000	0.1275
Total	7.0000e-005	2.1000e-004	5.9000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1685	0.1685	0.0000	0.0000	0.1686

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3.2 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1800e-003	7.7300e-003	8.1900e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.9000e-004	4.9000e-004	0.0000	1.0209	1.0209	1.9000e-004	0.0000	1.0257
Total	1.1800e-003	7.7300e-003	8.1900e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.9000e-004	4.9000e-004	0.0000	1.0209	1.0209	1.9000e-004	0.0000	1.0257

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	1.6000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0411	0.0411	0.0000	0.0000	0.0411
Worker	6.0000e-005	5.0000e-005	5.2000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1274	0.1274	0.0000	0.0000	0.1275
Total	7.0000e-005	2.1000e-004	5.9000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1685	0.1685	0.0000	0.0000	0.1686

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000							

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000							

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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PAR1407_baghouse_construction_06.13.2019 - South Coast AQMD Air District, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

APPENDIX B-3

Operational and Construction Emissions Assumptions and Calculations

Mobile Source Emissions for Operation and Construction (As Published in the Draft EA)

Activity	Description	Trip Distance (miles)	CO2 Emissions (lb/mile)	Number Trips/yr	CO2 Emissions (lb/yr)	CO2 Emissions (MT/yr)
Smoke Test Trips - Passenger Auto	19 Smoke Tests Every 6 Months	40	0.79	38.00	1,200.80	0.55
Source Test Trips - Passenger Auto	21 Source Tests Every 5 Years	40	0.79	4.20	132.72	0.06
Source Test Trips - Medium Duty Truck	21 Source Tests Every 5 Years	40	1.93	4.20	324.24	0.15
Equipment Delivery - Medium Duty Vendor Trucks	19 Enclosure Improvements, 8 sets of Emission Control Device Monitoring Equipment, Ammortized over 30 Years	15	1.93	0.90	26.06	0.01
Equipment Installation - Passenger Auto	2 Workers each for 19 Enclosure Improvements, 8 Sets of Emission Control Device Monitoring Equipment, Ammortized over 30 years	30	0.79	1.80	42.66	0.02
Baghouse Waste Hauling - Heavy Duty Truck	4 Facilities, 4 Trips Each per Year	40	3.52	12.00	1,691.14	0.77
Total					3,417.61	1.55

CO2 emission factors obtained from EMFAC 2017

Baghouse Emissions

Activity	Description	# Baghouses	Fabric Area (sf)	Annual Energy Use (kWhr)	CO2 Intensity (lb/kWhr)	CO2 Emissions (lb/yr)	CO2 Emissions (MT/yr)
Baghouse Operation Electricity	24 Hour/Day, 365 Days/Year	10	4000	2120	0.702	1488.24	0.68

Note: CO2 intensity of electricity obtained from CalEEMod

Baghouse Power Equation, P (kwh/yr, continuous operation) = 0.053*Area, USA EPA, 1998. Particulate Matter Controls, Baghouses and Filters. Available at: <https://www3.epa.gov/ttn/catc/dir1/cs6ch1.pdf>**Construction Emissions**

Activity	Description	CO2/Event (MT)	# Events	CO2 Emissions (MT)	CO2 Emissions (MT/yr)
Enclosure Construction	4 Enclosures (2 Walls) to be Constructed	1.3902	4	5.5608	0.18536
Baghouse Installation	10 Baghouses to be Installed	1.1943	10	11.943	0.3981

Construction emissions obtained from CalEEMod, ammortized over 30 years

On-Road Vehicles, VMT + Fuel Usage (As Published in the Draft EA)

Phase	Activity	Description	Trip Distance (miles)	Number Trips/yr	VMT	Fuel Type	MPG	Gallons Fuel	Peak Day Trips
operation	Smoke Test Trips - Passenger Auto	19 Smoke Tests Every 6 Months	40	38.0	1,520.0	Gas	21	72	2
	Source Test Trips - Passenger Auto	21 Source Tests Every 5 Years (21 during year 1)	40	21.0	840.0	Gas	21	40	2
	Source Test Trips - Medium Duty Truck	21 Source Tests Every 5 Years (21 during year 1)	40	21.0	840.0	Diesel	10	84	2
	Baghouse Waste Hauling - Heavy Duty Truck	4 Facilities, 4 Trips Each per Year	40	12.0	480.0	Diesel	7	73	1
construction	Equipment Delivery - Medium Duty Vendor Trucks	19 Enclosure Improvements, 8 sets of Emission Control Device Monitoring Equipment, Ammortized over 30 Years	15	27.0	405.0	Diesel	10	41	8
	Equipment Installation - Passenger Auto	2 Workers each for 19 Enclosure Improvements, 8 Sets of Emission Control Device Monitoring Equipment, Ammortized over 30 years	30	54.0	1,620.0	Gas	21	77	16
	Enclosure Construction - Worker Trips	3 worker trips, 5 days, 4 sites	30	60.0	1,800.0	Gas	21	86	12
	Enclosure Construction - Delivery Trips	1 Vendor truck, 5 days, 4 sites	15	20.0	300.0	Diesel	10	30	4
	Baghouse Installation - Worker Trips	5 worker trips, 5 days, 10 sites	30	250.0	7,500.0	Gas	21	357	20
	Baghouse Installation - Delivery Trips	1 Vendor truck, 5 days, 10 sites	15	50.0	750.0	Diesel	10	75	4
	Total VMT					16,055			

Fuel Usage = VMT / MPG

Offroad Equipment Fuel Usage

Activity	Equipment	Number of Equipment	Usage Hours/day	Horse power	Load Factor	Fuel Rate (Gal/hr)	Fuel Use (Gal)	Peak Day Trips
Baghouse Installation (10)	Aerial Lifts	1	4	63	0.31	1.2	1.4	4.0
Baghouse Installation (10)	Air Compressors	1	4	78	0.48	1.0	2.0	-
Baghouse Installation (10)	Forklifts	1	4	89	0.2	0.9	0.7	4.0
Baghouse Installation (10)	Welders	1	4	46	0.45	1.2	2.1	-
Enclosure Construction (4)	Cranes	1	4	231	0.29	3.3	3.8	4.0
Enclosure Construction (4)	Forklifts	1	4	89	0.2	0.9	0.7	4.0
Enclosure Construction (4)	Welders	1	4	97	0.37	1.2	1.8	-
Total Diesel Fuel Usage from Offroad Equipment							12.6	

Fuel Usage = Hours/day * Days * Load Factor * Fuel Rate

2019 Fleet Mix EMFAC 2017 Emission Factors (lbs/mile)

Vehicle Type	-	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CH4
Heavy Duty Hauling	-	0.000446	0.012004	0.002427	0.000033	0.000388	0.000244	3.523200	0.000026
Light Duty Auto	-	0.000440	0.004682	0.002427	0.000019	0.000388	0.000244	1.927986	0.000042
Medium Duty/ Delivery	-	0.000392	0.000299	0.003638	0.000008	0.000104	0.000044	0.789383	0.000041

Mobile Emissions (lbs/trip)

Trip Type	Miles	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CH4	CO2e
One Heavy Duty Hauling Trip	40	0.018	0.480	0.097	0.001	0.016	0.010	140.928	0.001	140.954
One Light Duty Auto Worker Trip - Install Equipment	30	0.013	0.140	0.073	0.001	0.012	0.007	57.840	0.001	57.871
One Light Duty Auto Worker Trip - Source Test	40	0.018	0.187	0.097	0.001	0.016	0.010	77.119	0.002	77.161
One Medium Duty Source Testing Trip	40	0.016	0.012	0.146	0.000	0.004	0.002	31.575	0.002	31.617
One Medium Duty Vendor Delivery Trip	15	0.006	0.004	0.055	0.000	0.002	0.001	11.841	0.001	11.856
One Light Duty Auto Worker Trip - Smoke Test	40	0.018	0.187	0.097	0.001	0.016	0.010	77.119	0.002	77.161

Calculations
Mobile Emissions = Emission Factor * Miles
CO2e = CO2 + 25*CH4

Final Mobile Source Emissions for Operation and Construction

Activity	Description	Trip Distance (miles)	CO2 Emissions (lb/mile)	Number Trips/yr	CO2 Emissions (lb/yr)	CO2 Emissions (MT/yr)
Smoke Test Trips - Passenger Auto	28 Smoke Tests Every 6 Months	40	0.79	56.00	1,769.60	0.80
Source Test Trips - Passenger Auto	39 Source Tests Every 5 Years	40	0.79	7.80	246.48	0.11
Source Test Trips - Medium Duty Truck	39 Source Tests Every 5 Years	40	1.93	7.80	602.16	0.27
Equipment Delivery - Medium Duty Vendor Trucks	16 Enclosure Improvements, 13 sets of Emission Control Device Monitoring Equipment, Ammortized over 30 Years	15	1.93	0.97	27.99	0.01
Equipment Installation - Passenger Auto	2 Workers each for 16 Enclosure Improvements, 13 Sets of Emission Control Device Monitoring Equipment, Ammortized over 30 years	30	0.79	1.93	45.82	0.02
Baghouse Waste Hauling - Heavy Duty Truck	4 Facilities, 4 Trips Each per Year	40	3.52	12.00	1,691.14	0.77
Total					4,383.18	1.99

CO2 emission factors obtained from EMFAC 2017

Final Onroad Vehicles, VMT + Fuel Usage

Phase	Activity	Description	Trip Distance (miles)	Number Trips/yr	VMT	Fuel Type	MPG	Gallons Fuel	Peak Day Trips
operation	Smoke Test Trips - Passenger Auto	28 Smoke Tests Every 6 Months	40	56.0	2,240.0	Gas	21	107	2
	Source Test Trips - Passenger Auto	39 Source Tests Every 5 Years (35 during year 1)	40	39.0	1,560.0	Gas	21	74	2
	Source Test Trips - Medium Duty Truck	35 Source Tests Every 5 Years (35 during year 1)	40	39.0	1,560.0	Diesel	10	156	2
	Baghouse Waste Hauling - Heavy Duty Truck	4 Facilities, 4 Trips Each per Year	40	12.0	480.0	Diesel	7	73	1
construction	Equipment Delivery - Medium Duty Vendor Trucks	16 Enclosure Improvements, 13 sets of Emission Control Device Monitoring Equipment,	15	29.0	435.0	Diesel	10	44	8
	Equipment Installation - Passenger Auto	2 Workers each for 16 Enclosure Improvements, 13 Sets of Emission Control Device Monitoring Equipment,	30	58.0	1,740.0	Gas	21	83	16
	Enclosure Construction - Worker Trips	3 worker trips, 5 days, 4 sites	30	60.0	1,800.0	Gas	21	86	12
	Enclosure Construction - Delivery Trips	1 Vendor truck, 5 days, 4 sites	15	20.0	300.0	Diesel	10	30	4
	Baghouse Installation - Worker Trips	5 worker trips, 5 days, 10 sites	30	250.0	7,500.0	Gas	21	357	20
	Baghouse Installation - Delivery Trips	1 Vendor truck, 5 days, 10 sites	15	50.0	750.0	Diesel	10	75	4
	Total VMT					18,365			

Fuel Usage = VMT / MPG

APPENDIX C

PAR 1407 List of Affected Facilities

PAR 1407 List of Affected Facilities

Facility ID	Facility Name	Address	On DTSC List per Government Code 65962.5 (Envirostor)?	Nearest Sensitive Receptor (Miles)	Located within 1/4 Mile of a School?	Located within Two Miles of an Airport?
630	CONSOLIDATED FOUNDRIES INC	8333 WILCOX AV CUDAHY 90201	No	0.08	No	No
1226	HYATT DIE CAST & ENGINEERING CORP	4656 LINCOLN AV CYPRESS 90630	Yes	0.00	No	No
1824	BUDDY BAR CASTING	10801-25 SESSLER ST. SOUTH GATE 90280	No	0.00	No	No
4303	LYNWOOD PATTERN SERV INC	11233 PEACH STREET LYNWOOD 90262	No	0.00	Yes	No
4856	DOWELL ALUMINUM FOUNDRY INC	11342 HARTLAND ST. NORTH HOLLYWOOD 91605	No	0.11	No	No
4862	PIONEER DIECASTERS INC	4209 CHEVY CHASE DR LOS ANGELES 90039	No	0.05	No	No
6996	ANGELUS ALUMINUM FOUNDRY CO INC	3479 E PICO BLVD. LOS ANGELES 90023	No	0.07	No	No
7411	DAVIS WIRE CORP	5555 IRWINDALE AV IRWINDALE 91706	Yes	0.42	No	No
8507	ALUM-ALLOY CO INC	614 S BON VIEW AV ONTARIO 91761	No	0.19	No	Yes
9358	SEMCO ENTER. INC	475 WILSON WAY CITY OF INDUSTRY 91744	No	0.23	No	No
11847	CAST-RITE CORP	515 E AIRLINE WAY GARDENA 90248	No	0.03	No	No
13030	MODERN PATTERN & FOUNDRY CO INC	5610 ALCOA AVE. VERNON 90058	No	0.36	No	No
14434	TI WIRE	12459 ARROW HWY ETIWANDA 91739	No	0.54	No	No
14495	VISTA METALS CORPORATION	13425 WHITTRAM AVENUE FONTANA 92335	No	0.23	No	No
14700	MAGPARTS INC	1545 ROOSEVELT ST AZUSA 91702	No	0.54	No	No
16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	6250 BANDINI BLVD LOS ANGELES 90040	No	0.55	No	No
17516	LANCAST ALUMINUM INC	1644 W 135TH ST GARDENA 90249	No	0.26	No	No
18244	MOR-CAST ALUMINUM FOUNDRY	2561 E 25TH ST. LOS ANGELES 90058	No	0.80	No	No
19463	COVERT IRON WORKS	7821 S OTIS AVE HUNTINGTON PARK 90255	No	0.05	No	No
20000	BELL FOUNDRY CO	5310 SOUTHERN AV SOUTH GATE 90280	No	0.05	No	No
20167	LOS ANGELES PUMP & VALVE PRODUCTS	2529 E 55TH ST HUNTINGTON PARK 90255	No	0.18	Yes	No
22092	WESTERN TUBE & CONDUIT CORP	2001 E DOMINGUEZ ST LONG BEACH 90801	Yes	0.39	No	No
23225	MONARCH ALUMINUM CASTING CO	11211 SO. GARFIELD AVE. SOUTH GATE 90280	No	0.01	No	No
23464	AMBRIT IND INC	1288 LOS ANGELES ST. GLENDALE 91204	No	0.05	No	No
23733	SUPREME CASTINGS & PATTERN CO INC	1165, 1173 KRAEMER PL ANAHEIM 92806	No	0.22	No	No
35520	COMPU DIE CASTINGS INC	421 WEBER AV COMPTON 90222	No	0.08	No	No
43436	TST, INC.	11600 ETIWANDA FONTANA 92337	No	1.02	No	No
49547	FINKL & SONS CO	10735 SESSLER ST SOUTH GATE 90280	No	0.01	No	No
54402	SIERRA ALUMINUM COMPANY	2345 FLEETWOOD RIVERSIDE 92509	Yes	0.37	No	No
58766	GEMINI ALUMINUM CORP	3255 POMONA BLVD POMONA 91768	No	0.10	No	No
59726	ALUMINUM DIE CASTING CO INC	10775 SAN SEVAINE WY MIRA LOMA 91752	Yes	0.23	No	No
62210	CALIDAD INC	1730 BALBOA AV ONTARIO 91761	No	0.63	No	Yes
75531	EDELBROCK FOUNDRY CORP	1320 BUENA VISTA SAN JACINTO 92583	No	0.26	No	No
77271	ATLAS PACIFIC CORPORATION	2803 INDUSTRIAL DRIVE BLOOMINGTON 92316	No	0.47	No	No
82351	WEST COAST STAINLESS PRODUCTS	2430 E 53RD ST HUNTINGTON PARK 90255	No	0.35	No	No
83102	LIGHT METALS INC	13329 ECTOR ST CITY OF INDUSTRY 91746	Yes	0.16	No	No
84781	ALUM-ALLOY CO INC	603 S HOPE AV ONTARIO 91761	No	0.19	No	Yes
85943	SIERRA ALUMINUM COMPANY	11711-11806 PACIFIC AV FONTANA 92337	Yes	0.63	No	No

PAR 1407 List of Affected Facilities

Facility ID	Facility Name	Address	On DTSC List per Government Code 65962.5 (Envirostor)?	Nearest Sensitive Receptor (Miles)	Located within 1/4 Mile of a School?	Located within Two Miles of an Airport?
103761	CONSOLIDATED FOUNDRIES INC	8333 WILCOX AVE CUDAHY 90201	No	0.08	No	No
105903	PRIME WHEEL	17704 BROADWAY CARSON 90746	No	0.20	Yes	No
112188	FONTANA FOUNDRY CORP.	8306 CHERRY AVE FONTANA 92335	No	0.00	No	No
112267	ALLOY DIE CASTING CO	6550 CABALLERO BLVD. BUENA PARK 90620	Yes	0.10	No	No
113251	DYNACAST, INC.	25952 COMMERCENTRE DR LAKE FOREST 92630	No	0.08	Yes	No
120697	CALIFORNIA DIE CASTING INC	1820 S GROVE AVE ONTARIO 91761	No	0.47	No	Yes
123168	PERFORMANCE ALUMINUM PRODUCTS	508 S PALMETTO AVE ONTARIO 91762	No	0.14	No	No
125830	FOUNDRY WORKS	7607 1/2 RAMISH ST BELL GARDENS 90201	No	0.03	No	No
126536	CONSOLIDATED FOUNDRIES - POMONA	4200 W VALLEY BL POMONA 91769	Yes	0.08	No	No
127681	TY BAR CORP	10727 GARFIELD AVE SOUTH GATE 90280	No	0.01	No	No
128316	AMERICAN INTERNATIONAL ENG	860 ARROYO AVE SAN FERNANDO 91340	No	0.10	Yes	No
131507	WIRETECH, INC.	6440 E CANNING ST COMMERCE 90040	No	0.62	No	No
138795	H & M FOUNDRY, INC	5615 LEEDS ST SOUTH GATE 90280	No	0.05	No	No
145216	UNIVERSAL MOLDING COMPANY	10806 STANFORD AVE LYNWOOD 90262	No	0.03	No	No
159332	AMERICAN DIE CASTING, INC.	14576 FONTLEE LN FONTANA 92335	No	0.00	No	No
170864	PACIFIC CAST PRODUCTS ALUMISTAR INC	12711 E IMPERIAL HWY SANTA FE SPRINGS 90670	No	0.06	No	No
8451	<u>HUGHES BROS AIRCRAFTERS INC</u>	<u>11010 GARFIELD PL. SOUTH GATE 90280</u>	<u>No</u>	<u>0.2</u>	<u>No</u>	<u>No</u>
109587	<u>CRAFTECH METAL FORMING INC</u>	<u>24100-B WATER ST PERRIS 92570</u>	<u>No</u>	<u>0.305</u>	<u>No</u>	<u>No</u>
166452	<u>SEA SHIELD MARINE PRODUCTS, INC.</u>	<u>20832 CURRIER RD WALNUT 91789</u>	<u>No</u>	<u>0.144</u>	<u>No</u>	<u>No</u>
183510	<u>PRO CAST INDUSTRIES</u>	<u>15555 MINNESOTA AVE PARAMOUNT 90723</u>	<u>No</u>	<u>0.232</u>	<u>No</u>	<u>No</u>
17325	<u>ACE CLEARWATER ENTERPRISES</u>	<u>14105 S GARFIELD AV PARAMOUNT 90723</u>	<u>Yes</u>	<u>0.149</u>	<u>No</u>	<u>No</u>
105598	<u>SENIOR AEROSPACE SSP</u>	<u>2980 N SAN FERNANDO BLVD. BURBANK 91504</u>	<u>No</u>	<u>0.112</u>	<u>No</u>	<u>No</u>

APPENDIX D

Comment Letter Received on the Draft EA and Response

Comment Letter #1 – California Department of Transportation

Comment Letter #1

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION

DISTRICT 12
1750 EAST FOURTH STREET, SUITE 100
SANTA ANA, CA 92705
PHONE (657) 328-6368
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TTY 711
www.dot.ca.gov



Making Conservation
a California Way of Life.

July 18, 2019

Barbara Radlein
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

File: IGR/CEQA
12-ORA-2019-01164

Dear Ms. Radlein,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Draft Environmental Analysis (EA) for the Proposed Amended Rule (PAR) 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

Proposed amendments to Rule 1407 would apply to metal melting operations such as smelting, fining, galvanizing, and other miscellaneous processes where nonchromium, instead of non-ferrous, metals such as aluminum, brass, bronze, carbon steel, and zinc are processed in molten form. PAR 1407 revises emission standards, establishes monitoring provisions for air pollution control equipment, adds building enclosure provisions to limit fugitive emissions, and updates housekeeping, source testing, and monitoring, recordkeeping, and reporting requirements. The Draft EA indicated that while the project may further reduce fugitive emissions of arsenic, cadmium and nickel, complying with PAR 1407 may also create secondary adverse environmental impacts that would not result in significant adverse impacts to any environmental topic areas. Some facilities affected by PAR 1407 may be identified on lists compiled by the California Department of Toxic Substances Control per Government Code Section 65962.5.

PAR 1407 applies to any owner or operator of non-chromium metal melting operations, including, but not limited to, smelters, foundries, die-casters, coating processes, and other miscellaneous processes such as dip soldering, brazing and aluminum powder production. The South Coast AQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the fourcounty South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

South Coast Air Quality Management District

July 18, 2019

Page 2

portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of South Coast AQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. A federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east.

After reviewing the Draft EA, at this time, Caltrans does not have any comments. Please continue to coordinate with Caltrans for any future developments that could potentially impact State transportation facilities. If you have any questions, please do not hesitate to contact Julie Lugaro at 657-328-6368 or Julie.lugaro@dot.ca.gov.

Sincerely,



Scott Shelley
Branch Chief, Regional-IGR-Transit Planning
District 12

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Response to Comment Letter #1

Thank you for your letter. This letter does not appear to raise any CEQA issues relative to the analysis in Draft EA or the PAR 1407 rule language. Therefore, no further response is required.

ATTACHMENT I

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Socioeconomic Impact Assessment for Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations

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EXECUTIVE SUMMARY

A socioeconomic analysis was conducted to assess the potential impacts of Proposed Amended Rule (PAR) 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations on the four-county region of Los Angeles, Orange, Riverside, and San Bernardino. A summary of the analysis and findings is presented below.

<p>Elements of Proposed Amendments</p>	<p>PAR 1407 - Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations will implement, in part, the South Coast 2016 Air Quality Management Plan control measure TXM-06 – Control of Toxic Emissions from Metal Melting Facilities. The purpose of TXM-06 is to reduce arsenic, cadmium, nickel, other toxic metals, and particulate matter from foundries and other metal melting operations.</p> <p>PAR 1407 applies to all facilities melting metals containing less than 0.5% chromium content, for example aluminum, brass, bronze, carbon steel, zinc, etc. Such metal melting operations include foundries and other facilities performing smelting, tinning, galvanizing, etc.</p> <p>PAR 1407 establishes arsenic, cadmium, and nickel reduction efficiency requirements from metal melting operations, while allowing an option to meet arsenic, cadmium, and nickel mass emission limits in place of meeting reduction efficiency requirements. PAR 1407 requires non-chromium metal melting facilities to demonstrate compliance with the requirements of pollution reduction efficiency or mass emission limits through source testing.</p> <p>PAR 1407 requires non-chromium metal melting facilities to enclose their operations. PAR 1407 additionally requires closing openings in enclosures located at opposite ends of the building to reduce fugitive emissions of arsenic, cadmium, and nickel particulates outside their facilities.</p> <p>PAR 1407 establishes housekeeping, emissions control device maintenance, and recordkeeping requirements for metal melting facilities. PAR 1407 proposes to modify several exemptions, mainly the “metal or alloy purity” exemption and the “clean aluminum scrap” exemption. The “metal or alloy purity” exemption is modified to apply only to facilities processing smaller amounts of non-chromium metal, while the “clean aluminum scrap” exemption will end starting January 1, 2021.</p>
<p>Potentially Affected Facilities and Industries</p>	<p>PAR 1407 is expected to potentially affect 60 facilities classified under a variety of industry codes, mainly in the industries of steel product manufacturing from purchased steel (NAICS 3312), alumina and aluminum production and processing (NAICS 3313), and foundries (NAICS 3315). Of the 60 facilities potentially affected by PAR 1407, 40 are located in Los Angeles (LA) County, four in Orange (OR) County, four in Riverside (RV) County, and 12 in San Bernardino (SB) County.</p>

<p>Cost Assumptions</p>	<p>Emission control devices (i.e. baghouses) and supporting equipment To comply with PAR 1407, South Coast AQMD staff expects 10 baghouses at four facilities to be installed. Staff estimates these baghouses to cost \$256,000 each for purchase, installation, and permitting along with \$275,000 annually for baghouse operation and maintenance. In total, PAR 1407 is expected to result in \$2.56 million in one-time costs for baghouses in 2021, along with an additional \$2.75 million annual cost starting in 2021.</p> <p>Bag leak detection systems and pressure gauges with data acquisition systems To comply with PAR 1407, South Coast AQMD staff expects 28 baghouses (10 new and 18 existing) at 10 facilities to need bag leak detection systems and pressure gauges with data acquisition systems. Staff estimates purchase and installation of these systems to cost \$3,100 each. In total, PAR 1407 is expected to result in \$86,800 in one-time costs for bag leak detection systems and pressure gauges with data acquisition systems in 2021.</p> <p>Building enclosures (e.g. walls, plastic strip curtains, and roll-up doors) To comply with PAR 1407, South Coast AQMD staff expects four facilities to install major building enclosures (adding one or two walls to a building), and 17 facilities to install minor building enclosures, 13 of which are expected to be plastic strip curtains, and the remaining four are expected to be roll-up doors. Staff estimates major building enclosures to cost \$151,500 each, plastic-strip curtains to cost \$9,000 each, and roll-up doors to cost \$44,000 each. In total, PAR 1407 is expected to result in \$899,000 in one-time costs for building enclosures in 2020.</p> <p>Source tests To comply with PAR 1407, South Coast AQMD staff expects all new and existing baghouses due to PAR 1407, i.e. 28 baghouses, to require source testing, along with an additional 11 furnaces, for a total of 39 source tests. Staff estimates each source test will cost around \$21,000. Staff estimates the total cost of source testing to be \$819,000 in 2021 and every subsequent 60 months.</p> <p>Smoke tests, anemometers, and slot velocity testing To comply with PAR 1407, South Coast AQMD staff expects 28 baghouses (10 new and 18 existing) at 10 facilities to require smoke tests, slot velocity tests, and anemometer purchase. Staff estimates a one-time cost for anemometer purchase of \$1,000 each, and a combined annual smoke and slot velocity testing cost of \$1,160 for each baghouse. In total, PAR 1407 is expected to result in \$13,000 in one-time costs for anemometers in 2021, along with an additional \$32,480 annual cost for smoke and slot velocity tests starting in 2021.</p>
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	<p>Housekeeping To comply with PAR 1407, South Coast AQMD staff expects 56 of the 60 potentially affected facilities to perform annual housekeeping, expected to cost at most \$1,000 annually. Moreover, 43 of the 60 facilities are expected to each purchase and operate a backpack HEPA vacuum due to being smaller facilities, while the remaining 13 facilities are expected to purchase and operate riding HEPA vacuums due to being larger facilities. Staff estimates backpack HEPA vacuums to cost \$600 each, and riding HEPA vacuums to cost \$11,500 each. In total, PAR 1407 is expected to result in \$175,300 in one-time costs for HEPA vacuums in 2019, along with an additional \$56,000 annual cost for housekeeping starting in 2019.</p> <p>Monitoring, reporting, and recordkeeping South Coast AQMD staff believes additional costs of monitoring, reporting, and recordkeeping required to comply with PAR 1407 to be negligible (e.g. labor cost to record anemometer readings, maintaining pressure gauge data, maintaining source test, smoke test, and slot velocity test records, etc.).</p>									
<p>Compliance Costs</p>	<p>PAR 1407 Industry-Wide Expected Compliance Costs (2019-2040)</p> <table border="1"> <thead> <tr> <th>Real interest rate scenario</th> <th>Total cost if all expenses made in 2019</th> <th>Annualized cost</th> </tr> </thead> <tbody> <tr> <td>High-rate scenario (4% interest rate)</td> <td>\$43,355,000</td> <td>\$3,119,000</td> </tr> <tr> <td>Low-rate scenario (1% interest rate)</td> <td>\$59,604,000</td> <td>\$3,059,000</td> </tr> </tbody> </table> <p>Note: A higher assumed real interest rate means future expenses have lower current value. The real interest rate corrects for inflation, and is closely approximated by the nominal interest rate minus inflation.</p> <p>PAR 1407’s overall compliance cost is expected to be incurred almost entirely by the industries of steel product manufacturing from purchased steel (NAICS 3312), alumina and aluminum production and processing (NAICS 3313), and foundries (NAICS 3315). PAR 1407’s total annualized compliance cost from 2019 - 2040 is expected to range from \$3.0 - \$3.1 million for the low- (1% real interest rate) and high- (4% real interest rate) rate scenarios respectively.</p> <p>Based on the high-rate scenario, about 90% of the costs of PAR 1407 stem from purchasing, engineering, installing, and annual maintenance of new pollution control devices (baghouses), with about 82% of the PAR 1407 costs due to annual baghouse maintenance. The remaining costs of PAR 1407 stem from building enclosures, HEPA vacuums, source testing, smoke testing, housekeeping, etc. Additional costs of monitoring, reporting, and recordkeeping and permit modifications are expected to be negligible.</p> <p>PAR 1407 is expected to have larger compliance costs for a few larger facilities expected to install emission control devices, as indicated in the table</p>	Real interest rate scenario	Total cost if all expenses made in 2019	Annualized cost	High-rate scenario (4% interest rate)	\$43,355,000	\$3,119,000	Low-rate scenario (1% interest rate)	\$59,604,000	\$3,059,000
Real interest rate scenario	Total cost if all expenses made in 2019	Annualized cost								
High-rate scenario (4% interest rate)	\$43,355,000	\$3,119,000								
Low-rate scenario (1% interest rate)	\$59,604,000	\$3,059,000								

below. Most PAR 1407 potentially affected facilities, 41 of 60, are smaller and expected to not have emissions control devices and not need new emissions control device. On average, each of these smaller facilities is expected to spend around \$50,000 over 2019-2040 due to PAR 1407, or around \$3,000 per year. A few larger facilities, four of 60, are larger facilities expecting to need one or more new emission control devices. On average, each of these larger facilities is expected to spend around \$11,200,000 over 2019-2040 due to PAR 1407, or around \$575,000 per year.

PAR 1407 Average Expected Compliance Cost Per Facility by Facility Size (2019-2040)

Facility size	Number potentially affected facilities	Total cost if all PAR 1407 expenses made in 2019	Annualized cost
Small; no existing emissions control device.	41	\$50,000	\$3,000
Small; with existing emissions control device.	2	\$158,000	\$8,000
Large; processing low arsenic and low cadmium metals.	13	\$960,000	\$49,000
Large; PAR 1407 requires new emissions control device installation.	4	\$11,189,000	\$575,000

Note: A small facility is defined to process less than 8,400 tons of metal per year, while a large facility is defined to process 8,400 tons of metal or more per year. Total cost includes all one-time and recurring costs expected due to PAR 1407 from 2019-2040 for an average facility in each facility-size category.

Jobs and Other Socioeconomic Impacts

PAR 1407 Expected Annual Foregone Jobs (2019-2040)

Cost scenario	Annual foregone jobs (% of total jobs in LA, OR, RV, and SB counties)
High-rate scenario (4% interest rate)	92 (0.001%)
Low-rate scenario (1% interest rate)	90 (0.001%)

Based on the above assumptions, the compliance cost of PAR 1407, and the application of the Regional Economic Models, Inc. (REMI) model, it is projected 90 - 92 jobs will be forgone on average annually from 2019 - 2040 in total across all South Coast AQMD industries. The projected job forgone impacts represent about 0.001% of total employment in the four-county

	<p>region for both the low- and high-rate scenarios. Jobs foregone can come from current jobs lost, or potential future created jobs no longer being created.</p> <p>The steel product manufacturing from purchased steel (NAICS 3312), alumina and aluminum production and processing (NAICS 3313), and foundries (NAICS 3315) industries are expected to forego a total of 18 jobs annually from 2019 - 2040 as a result of PAR 1407 being adopted.</p> <p>Due to most expenditures from PAR 1407 expected to be made outside the South Coast AQMD jurisdiction, PAR 1407 is expected to reduce disposable income in the local economy, dampening the demand for local goods and services. Lower demand for local goods and services is expected to result in jobs forgone across the local economy, with 33 of the 92 foregone jobs (in the high-rate scenario) projected to be from construction (NAICS 23), retail trade (NAICS 44-45), food services and drinking places (NAICS 722), and state and local government (NAICS 92).</p>
<p>Competitiveness</p>	<p>As a result of PAR 1407 being implemented, steel product manufacturing from purchased steel (NAICS 3312), alumina and aluminum production and processing (NAICS 3313), and foundries (NAICS 3315) industries are respectively anticipated to experience a rise in their relative costs of production in any given year from 2019-2040 of at most 0.094% - 0.095%, 0.387% - 0.390%, and 0.523% - 0.531% for the low- and high-rate scenarios respectively relative to their predicted baseline costs of production.</p> <p>Moreover, these industries are anticipated to respectively experience an increase in their delivered prices in any given year from 2019-2040 of at most 0.056% - 0.057%, 0.242% - 0.243%, and 0.190% - 0.193% for the low- and high-rate scenarios respectively relative to their predicted baseline delivered prices. These price and cost increases are small relative to average inflation of industrial equipment costs, which was 2.3% from 1999-2018.</p>

INTRODUCTION

Proposed Amended Rule 1407 (PAR 1407) – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations will implement, in part, the South Coast Air Quality Management District (South Coast AQMD) 2016 Air Quality Management Plan (AQMP) control measure TXM-06 – Control of Toxic Emissions from Metal Melting Facilities. The purpose of TXM-06 is to reduce arsenic, cadmium, nickel, other toxic metals, and particulate matter from foundries and other metal melting operations, as the California Office of Environmental Health Hazard Assessment has classified arsenic, cadmium, and nickel to be either likely carcinogenic or carcinogenic to humans (see staff report).

PAR 1407 applies to non-chromium metal melting operations including smelting, tinning, galvanizing, and other miscellaneous processes where metals are processed in molten form, as these operations can emit toxic air contaminants and particulate matter. PAR 1407 applies only to facilities melting metals containing less than 0.5% chromium content, for example aluminum, brass, bronze, carbon steel, zinc, etc.

PAR 1407 proposes to establish or modify the following requirements for metal melting facilities to meet:

1. Pollution control efficiency and pollution mass emission limits (facilities only required to meet one);
2. Emission control device monitoring requirements (e.g. bag leak detection systems, pressure gauges, smoke tests, etc.);
3. Building enclosures (e.g. walls, overlapping plastic strip curtains, roll-up doors);
4. Housekeeping (e.g. covered containers for metal-containing material storage, additional cleaning around furnace and casting operations, etc.);
5. Source testing to verify facility meets pollution control efficiency requirement or mass emission limits; and
6. Recordkeeping.

PAR 1407 proposes to modify several exemptions, mainly the “metal or alloy purity” exemption and the “clean aluminum scrap” exemption. The “metal or alloy purity” exemption modification would apply only to facilities processing smaller amounts of non-chromium metal, while the “clean aluminum scrap” exemption would end starting January 1, 2021.

LEGISLATIVE MANDATES

The legal mandates directly related to the assessment of the proposed amended rule include South Coast AQMD Governing Board resolutions and various sections of the California Health & Safety Code.

South Coast AQMD Governing Board Resolutions

On March 17, 1989 the South Coast AQMD Governing Board adopted a resolution that calls for an economic analysis of regulatory impacts that includes the following elements:

- Affected industries
- Range of probable costs
- Cost-effectiveness of control alternatives
- Public health benefits

Health & Safety Code Requirements

The state legislature adopted legislation that reinforces and expands the Governing Board resolutions for socioeconomic impact assessments. Health and Safety Code sections 40440.8(a) and (b), which became effective on January 1, 1991, require a socioeconomic analysis be prepared for any proposed rule or rule amendment that "will significantly affect air quality or emissions limitations."

Specifically, the scope of the analysis should include:

- Type of affected industries
- Impact on employment and the regional economy
- Range of probable costs, including those to industry
- Availability and cost-effectiveness of alternatives to the rule
- Emission reduction potential
- Necessity of adopting, amending or repealing the rule in order to attain state and federal ambient air quality standards

Health and Safety Code section 40728.5, which became effective on January 1, 1992, requires the South Coast AQMD Governing Board to actively consider the socioeconomic impacts of regulations and make a good faith effort to minimize adverse socioeconomic impacts. It also expands socioeconomic impact assessments to include small business impacts, specifically:

- Type of industries or business affected, including small businesses
- Range of probable costs, including costs to industry or business, including small business

Finally, Health and Safety Code section 40920.6, which became effective on January 1, 1996, requires incremental cost-effectiveness be performed for a proposed rule or amendment that imposes Best Available Retrofit Control Technology or "all feasible measures" requirements relating to ozone, carbon monoxide (CO), oxides of sulfur (SO_x), oxides of nitrogen (NO_x), and their precursors.

This statute does not apply to PAR 1407 as it addresses toxic pollutants, not criteria pollutants listed in the statute. Moreover, cost effectiveness in terms of dollars per ton is not meaningful for risk-based regulations, since many other factors besides the amount of pollution affect the risk such as the toxic potency and the location of receptors.

AFFECTED INDUSTRIES/FACILITIES

Affected Industries and Industry Profile

PAR 1407 covers non-chromium metal melting operations which emit arsenic, cadmium, and nickel. Examples of these operations are smelting, tinning, galvanizing, and other miscellaneous processes where non-chromium metals, such as aluminum, brass, bronze, carbon steel, and zinc, are processed in molten form.

PAR 1407 also covers three facilities in the aerospace industry. Since these facilities are expected to incur relatively small costs relative to metal melting operations, they are not included in the industry profile to keep it representative to the majority of PAR 1407 potentially affected industries. The expected PAR 1407 costs from these aerospace facilities are still included in the PAR 1407 total cost calculations which follow the industry profile.

Approximately 57 metal melting facilities are expected to be potentially affected by PAR 1407. All but one of the potentially affected metal melting facilities are classified as being in the primary metal manufacturing industry (NAICS 331). Table 1 lists the industries which contain facilities potentially affected by PAR 1407, each industry's expected number of facilities potentially subject to PAR 1407, and total number of facilities in each industry.¹ Approximately 34% of all facilities in the potentially affected industries are expected to be affected by PAR 1407.

Table 1: PAR 1407 Potentially Affected Metal Melting Facilities and Regional Industry Comparison

NAICS	Industry description	Potentially affected facilities	Total facilities	Percent of facilities potentially affected by PAR 1407
331221	Rolled Steel Shape Manufacturing	1	14	7%
331222	Steel Wire Drawing	3	13	23%
331314	Secondary Smelting and Alloying of Aluminum	5	8	63%
331511	Iron Foundries	6	16	38%
331513	Steel Foundries (except Investment)	1	22	5%
331523	Nonferrous Metal Die-Casting Foundries	13	21	62%
331524	Aluminum Foundries (except Die-Casting)	25	30	83%
331529	Other Nonferrous Metal Foundries (except Die-Casting)	2	15	13%
332111	Iron and Steel Forging	1	24	4%
	TOTAL	57	161	35%

Note: Data on total facilities estimated and provided by Economic Modeling Specialists International.

Of the 57 PAR 1407 metal melting facilities not in the aerospace industry potentially affected by PAR 1407, 37 are located in Los Angeles (LA) County, four in Orange (OR) County, four in Riverside (RV) County, and 12 in San Bernardino (SB) County.

¹ Payrolled facilities is estimated and provided by Economic Modeling Specialists International (EMSI), accessed June 27th, 2019, <https://www.economicmodeling.com/>. This data presented here relies on payroll information provided by facilities for the U.S. Bureau of Labor Statistics' Quarterly Census of Employment and Wages.

Although economic information about specific PAR 1407 potentially affected metal melting facilities is unavailable, economic information about the broader industries which include these facilities is available. Table 2 presents a 2018 economic profile of the metal melting industries potentially affected by PAR 1407 located in LA, OR, RV, and SB counties. These industries consist of about 160 facilities; facilities which earn an average annual revenue of about \$2.8 million. These industries employ about 5,550 employees; employees which earn an average annual salary of about \$80,000.

Table 2: PAR 1407 Potentially Affected Industries Industry Profile

Key statistics of PAR 1407 potentially affected industries in 2018 in LA, OR, RV, and SB counties	
Approximate Number of Facilities	161
Approximate Number of Employees	5,544
Approximate Average Number of Employees per Facility	34
Approximate Annual Average Salary per Employee	\$79,468
Approximate Annual Average Revenue per Facility	\$2,765,822

Note: Data estimated and provided by Economic Modeling Specialists International for all industries with facilities expected to be affected by PAR 1407, specifically NAICS 331221, 331222, 331314, 331511, 331513, 331523, 331524, 331529, and 332111.

Having an understanding of whether an industry is growing or declining can provide additional information about the extent to which an industry can bear additional costs of regulation without substantial negative consequences. Determining financial success of an industry requires information on industry profit. Industry profit is unknown to South Coast AQMD staff, however information is available about historical employment of PAR 1407 potentially affected industries.

As illustrated by Figure 1, total employment in LA, OR, RV, and SB counties in the industries potentially affected by PAR 1407 was around 5,750 in 2009, and was around 5,550 in 2018. This indicates about a four percent reduction in employment in the industries potentially affected by PAR 1407 from 2009-2018, while there has been a 13 percent reduction for the same industries throughout all of California.

Industries potentially affected by PAR 1407 on average employ more men; men account for approximately 80 percent and women 20 percent of their workforce. As illustrated by Figure 2, these industries on average employ more Hispanic/Latino individuals, with 65 percent of the workforce Hispanic/Latino, 24 percent White, seven percent Asian, and three percent Black/African American.

Figure 1: PAR 1407 Potentially Affected Industries Employment 2009-2018

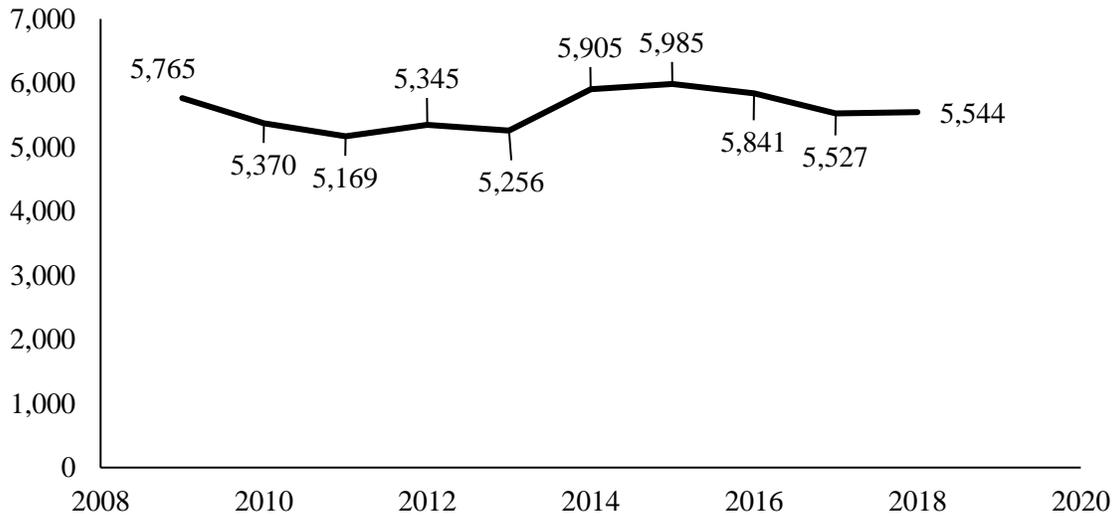
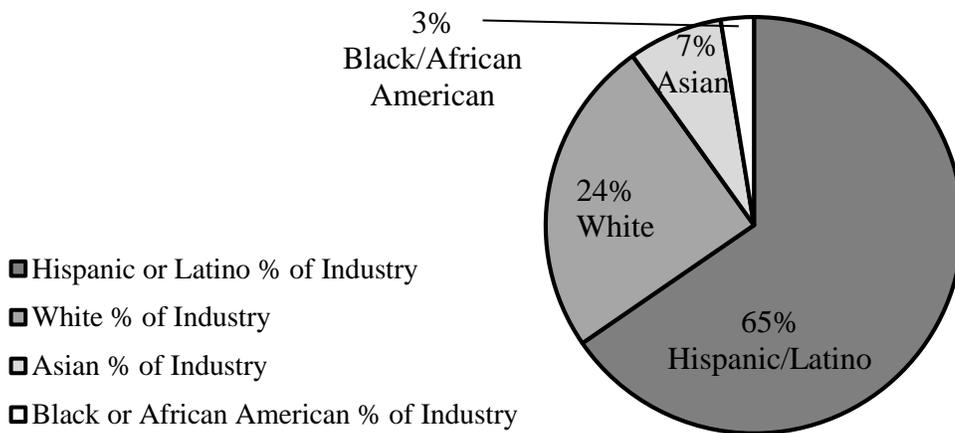


Figure 2: PAR 1407 Potentially Affected Industries Employment Ethnicity Distribution



Small Businesses

South Coast AQMD defines a "small business" in Rule 102 as one which employs 10 or fewer persons and which earns less than \$500,000 in gross annual receipts. South Coast AQMD also defines "small business" for the purpose of qualifying for access to services from the South Coast AQMD's Small Business Assistance Office as a business with an annual receipt of \$5 million or less, or with 100 or fewer employees.

U.S. Small Business Administration (SBA) definitions of small businesses vary by six-digit North American Industrial Classification System (NAICS) code. For PAR 1407 potentially affected industries, a firm is considered a "small business" by SBA if it has under a certain number of employees, which is listed in Table 3.²

² The latest SBA definition of small businesses by industry can be found at the following website: <http://www.sba.gov/content/table-small-business-size-standards>.

Table 3: PAR 1407 Potentially Affected Industries U.S. Small Business Administration (SBA) Small Business Classification

Employee Range	NAICS (Industry Description)
≤ 500	331513 (Steel Foundries (except Investment)), 331523 (Nonferrous Metal Die-Casting Foundries), 331524 (Aluminum Foundries (except Die-Casting)), 331529 (Other Nonferrous Metal Foundries (except Die-Casting))
≤ 750	331314 (Secondary Smelting and Alloying of Aluminum), 332111 (Iron and Steel Forging)
≤ 1,000	331221 (Rolled Steel Shape Manufacturing), 331222 (Steel Wire Drawing), 331511 (Iron Foundries)

In addition to South Coast AQMD and SBA's definitions of a small business, the federal Clean Air Act Amendments (CAAA) of 1990 also provides a definition of a small business. The CAAA classifies a business as a "small business stationary source" if it: (1) employs 100 or fewer employees, (2) emits less than 10 tons per year of any single pollutant and less than 20 tons per year of all pollutants, and (3) is a small business as defined under the federal Small Business Act ([15 U.S.C. Sec. 631, et seq.](#)).

Revenue and employee data from the Dun and Bradstreet Enterprise Database was available for all PAR 1407 potentially affected facilities. The number of facilities potentially affected by PAR 1407 that are classified as small businesses and classification definition are listed in Table 4 below:

Table 4: PAR 1407 Potentially Affected Facilities Small Business Tabulation

Small Business Definition	# Small Businesses
South Coast AQMD (Rule 102)	8 out of 57
South Coast AQMD (Small Business Assistance Office)	46 out of 57
U.S. Small Business Administration (SBA)	57 out of 57
1990 Clean Air Act Amendments (CAAA)	42 out of 57

COMPLIANCE COSTS

Methods and Sources of Data

Analysis Timeframe

To estimate meaningful costs associated with any rule, one must decide on a relevant time horizon over which to estimate the rule's costs. This analysis considers the cost of this rule, PAR 1407, from 2019-2040. This timeframe is considered as some facilities are expected to install building enclosures due to PAR 1407 by July 1st, 2020, and those enclosures are expected to have a 20-year life expectancy.³

³ Analysis timeframe chosen to ensure cost and job estimates are easily comparable. Jobs are estimated to be added due to installation of control equipment. Ending the analysis timeframe before installation of rule-induced control equipment occurs a second time would underestimate forgone regional jobs due to rule adoption.

One-Time and Recurring Costs

The main requirements of PAR 1407 which have cost impacts for potentially affected facilities can be split into two categories: “one-time costs,” which are larger expenses seldom occurring (e.g. once every 10 years), and “recurring costs,” which are smaller expenses frequently occurring (e.g. annually, twice a year, once every five years).⁴ The one-time costs of PAR 1407 include capital and installation costs for baghouses, building enclosures, and continuous pressure monitoring systems. Annual recurring costs of PAR 1407 include housekeeping (e.g. cleaning operation areas of furnaces and casting), baghouse operating cost (e.g. electricity), monitoring (e.g. calibrating continuous pressure monitors and testing of emissions collection systems), and reporting (e.g. additional source and smoke tests).

Cost Estimate Sources

Staff used the following sources to estimate costs of PAR 1407:

- 1) U.S. EPA Control Cost Manual to estimate one-time and recurring costs associated with baghouses.⁵
- 2) Dwyer Instruments for emissions control device bag leak detection systems.
- 3) Omega Engineering for emissions control device pressure gauges with data acquisition systems.
- 4) South Coast AQMD Rule 301 for permitting costs for baghouses.
- 5) South Coast AQMD Rule 1420 and Rule 1420.2 for major building enclosures.
- 6) W.W. Grainger, Inc. for plastic strip curtains, roll-up doors, and anemometers.
- 7) Almega Environmental for source testing.
- 8) Accurate Environmental Services, Inc. for smoke tests.
- 9) Nassco Inc. for housekeeping (furnace and casting operation area cleaning and slag/waste transport).

Cost Estimate Year

All costs presented in this report are estimated 2019 costs. The per-unit costs used for any expense required from PAR 1407 passing are either 2019 reported costs, or costs from earlier years inflated to 2019 values using the all-industry producer price index reported by the CoreLogic® Marshall & Swift® Equipment Cost Index (M&S index).

Toxins Emissions Point Source Controls (Baghouses)

PAR 1407 requires all arsenic, cadmium, and nickel emissions from metal melting operations to be reduced by a minimum of 99 percent or have mass emissions below the following limits by January 1, 2021: 0.000066 pounds per hour for arsenic, 0.000514 pounds per hour for cadmium, and 0.00848 pounds per hour for nickel.

⁴ A rule’s “one-time costs” are expected to have direct costs (e.g. equipment, installation, engineering, etc.), as well as indirect costs from not using the resources devoted to direct costs for other investments. By dividing up costs into “one-time” and “recurring” costs, the opportunity cost of lost investment value is estimated and included into the total cost of this rule for costs classified as “one-time” costs.

⁵ U.S. EPA Air Pollution Control Cost Manual, Sixth Edition
(https://www3.epa.gov/ttn/catcl/dir1/c_allchs.pdf).

Many facilities are expected to already meet the above pollution efficiency or mass emission limits and prove this through a source test. Facilities which do not already meet the above pollution efficiency or mass emission limits are expected to install point-source emission controls, namely baghouses.

Of the 60 potentially affected facilities, staff expects four facilities to install a total of 10 new baghouses to comply with PAR 1407. Given a lack of vendor quotes and facility specific information, staff estimates average baghouse one-time and recurring costs for all new baghouses using the U.S. EPA's Control Cost Manual.⁶

Staff estimates baghouses installed to comply with PAR 1407 to cost \$256,000 each for purchase and installation,⁷ along with \$275,000 annually for operation and maintenance of each baghouse.⁸ In total, PAR 1407 is expected to result in \$2.56 million in one-time costs in 2021, along with an additional \$2.75 million annually starting in 2021.

Bag Leak Detection Systems and Pressure Gauges with Data Acquisition Systems

PAR 1407 requires all emission control devices at facilities subject to PAR 1407 to operate, calibrate, and maintain a bag leak detection system (BLDS). Moreover, each emission control device is required to use a gauge to continuously monitor the pressure drop across the emission control device. Each gauge is required by PAR 1407 to be equipped with a continuous data acquisition system (DAS) which will record gauge output data at least every 60 minutes. The gauge reading provides an indication of whether the filters are operating within the proper range of pressure differential recommended by the manufacturer or whether they may be clogged or have leaks.

To provide a conservative estimate of this cost of PAR 1407, each new and existing baghouse is assumed to need a new BLDS and pressure gauge with a DAS. In addition to the 10 new baghouses staff estimates to be installed due to PAR 1407, staff also estimates facilities potentially affected by PAR 1407 have 18 existing baghouses. Therefore, staff

⁶ Cost per square foot estimates come from the U.S. EPA Air Pollution Control Cost Manual, with costs inflated to 2019 values using the CoreLogic® Marshall & Swift® Equipment Cost Index (M&S index).

⁷ Assumptions made to derive this estimate are the following: Baghouse purchased and installed has pulse-jet filters using a common housing; bags have a maximum gross cloth area of 4,000 square feet; bags have diameter of 4.875 inches and is made of nomex – resulting in a bag cost of \$9.89/square foot; bags use pulse jet cartridge cleaning (discussion with Donaldson Torid and South Coast AQMD source-testing staff verified this is the most common type of baghouse used by metal melting facilities); sales tax assumed to be 9%, as most cities in South Coast AQMD jurisdiction have sales tax rates around this value (range from 7.75% to 10.25%, <https://www.cdtfa.ca.gov/taxes-and-fees/ArchiveRates-04-01-19-06-30-19.pdf>). This estimates additionally assumes a South Coast AQMD baghouse permit fee of \$5,900, which is the highest cost permit fee for baghouses which operate at temperatures below 350 degrees Fahrenheit.

⁸ Assumptions made to derive this estimate, on top of those made for the purchase and installation cost estimate, are the following: Staff average wage rate of \$40/hour; complete bag replacement every two years; a discount/real interest rate of 4%; complete baghouse replacement every 20 years (recommended by U.S. EPA Air Pollution Control Cost Manual, Chapter 6, subsection 1.5.2) and an industrial electricity price of \$0.11/kilowatt-hour (U.S. Energy Information Administration's Electric Power Monthly 04/2019, https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a). This estimation leaves out additional operating materials cost, fuel, water, and dust disposal, all of which are expected to either not occur or be relatively small.

expects 28 new bag leak detection systems and gauges with data acquisition systems to be purchased and installed.

Each BLDS is assumed to be purchased in addition to the baghouse itself on January 1, 2021, with a one-time cost of \$1,500.⁹ Staff also assumes installation of a bag leak detection system to take up to 5 hours, that the installation will be performed by a facility's own staff, and that the wage rate received by a facility's own staff is \$40 per hour.¹⁰ Thus the total one-time cost of purchasing and installing bag leak detection systems due to PAR 1407 is expected to be \$47,600 in 2021.

Pressure gauges with the ability to log output data in line with PAR 1407's DAS requirement are assumed to be around \$1,200 on the high-range.¹¹ Staff again assumes installation to take up to 5 hours, that installation will be performed by a facility's own staff, and that the wage rate received by a facility's own staff is \$40 per hour. Thus each facility is expected to pay \$1,400 to purchase and install each pressure gauge with a DAS, resulting in a total cost one-time cost of purchasing and installing pressure gauges and data acquisition systems due to PAR 1407 to be expected to be \$39,200 in 2021.

Building Enclosures

PAR 1407 requires no later than July 1, 2020, an owner or operator of a non-chromium metal melting operation conduct all metal melting, metal grinding, and metal cutting operations in a building enclosure.

Major Building Enclosures

Staff expects four of the 60 facilities potentially affected by PAR 1407 to construct major building enclosures due to PAR 1407 upon passage. Major building enclosures entail a facility constructing one or two walls to fully enclose the building.

Historically South Coast AQMD staff has used a figure of \$110 per square foot for construction of new total enclosures, e.g. PAR 1469 (amended 2018) and PAR 1420 (amended 2017). However, no facilities affected by PAR 1407 are expected to construct a new total enclosure. Based on discussions with facilities potentially requiring building improvements which provided cost estimates for constructing one wall due to South Coast AQMD Rule 1420.2 – Emission Standards for Lead from Metal Melting Facilities, staff

⁹ <http://www.dwyer-inst.com/Product/ProcessControl/Particulate-DustorBrokenBag-Transmitters/SeriesPMT2> (accessed 7/23/19).

¹⁰ According to EMSI data, average annual salary at PAR 1407 potentially affected facilities is \$79,468. Assuming 2,000 hours of work in a year (40 hours per week for 50 weeks) results in an average hourly wage of \$40 per hour.

¹¹ Some models are closer to \$600 (<https://www.instrumart.com/products/43974/monarch-track-it-pressure-transmitter-data-logger>, <https://www.instrumart.com/products/42075/monarch-track-it-pressure-data-logger>, <https://www.instrumart.com/products/43295/wika-cpg1500-pressure-gauge>, accessed 7/19/2019), while some are closer to \$1,200 (<https://www.transcat.com/fluke-700g30-fluke-700g30>, <https://www.omega.com/en-us/sensors-and-sensing-equipment/pressure-and-strain/pressure-gauges/p/DPG4000>, accessed 7/19/2019).

estimates a cost of \$19,500, \$86,500, and \$151,500 for small, medium, and large enclosures respectively.¹²

South Coast AQMD staff expects PAR 1407 facilities to fall in the large size range when compared to Rule 1420.2 facilities. Thus staff estimates each major building enclosure due to PAR 1407 passage to cost \$151,500, which would result in a one-time total cost of major building enclosures due to PAR 1407 passage of \$606,000 by July 1, 2020.

Minor Building Enclosures

Staff expects 17 of the 60 facilities potentially affected by PAR 1407 to construct minor building enclosures due to PAR 1407 upon passage. Thirteen facilities are expected to install plastic strip curtains, while four facilities are expected to install roll-up doors.¹³

Staff expects purchase and installation costs associated with plastic strip curtains to be \$9 per square foot,¹⁴ with a maximum area covered by plastic strip curtains of 1,000 square feet. Thus any facility expected by staff to install plastic strip curtains due to PAR 1407 is expected to pay \$9,000 by January 1, 2021, for a total cost of plastic strip curtains due to PAR 1407 of \$117,000 by January 1, 2021.

Staff expects purchase and installation costs associated with roll-up doors to be \$44 per square foot,¹⁵ with a maximum area covered by roll-up doors of 1,000 square feet. Thus any facility expected by staff to install roll-up doors due to PAR 1407 is expected to pay

¹² Values inflated to 2019 dollars using the RSMeans Construction Cost Index

(<https://www.rsmeansonline.com/references/unit/refpdf/hci.pdf>; <https://www.rsmeans.com/landing-pages/2019-rsmeans-cost-index.aspx>, accessed 7/24/2019).

¹³ Staff performed extensive site visits of the facilities potentially affected by PAR 1407. Staff visited 37 of the 60 facilities potentially affected by PAR 1407, and determined 7 facilities would require installing plastic strip curtains and 3 facilities would require installing roll-up doors due to PAR 1407. The remaining 17 facilities tend to be smaller and South Coast AQMD staff did not find time with those sites to complete a site visit in PAR 1407's rule development process. These facilities are expected to incur no additional costs besides housekeeping and possibly minor building enclosures. Staff estimated three of these non-visited facilities would require plastic strip curtains and one facility would require roll-up doors, based on the distribution of PAR 1407 facilities by county and the distribution of confirmed minor building enclosures.

¹⁴ Search for plastic curtains from Grainger Industrial Supply provided a range of costs for plastic strip curtains (https://www.grainger.com/search/material-handling/dock-equipment/strip-doors-replacement-strips-and-hardware?sst=1&ts_optout=true&searchQuery=curtains, accessed 7/24/2019). The lowest cost was \$1,437.88 for 14 feet by 14 feet smooth strip doors from TMI Incorporated. The highest cost was \$1,850.91 for 14 feet by 14 feet ribbed strip doors from TMI Incorporated. South Coast AQMD staff expects PAR 1407 to not require the most expensive equipment, but also recognizes associated with installation are not included in these costs. Therefore South Coast AQMD staff assumes a per square foot strip curtain cost equal to the average of the lowest and highest cost curtains, i.e. \$9 per square foot (rounded up).

¹⁵ Search for roll-up doors from Grainger Industrial Supply provided a range of costs for manual chain hoist roll-up doors (https://www.grainger.com/search/material-handling/dock-equipment/garage-and-dock-doors?sst=1&ts_optout=true&searchQuery=roll-up+doors, accessed 7/24/2019). The lowest cost was \$3,679.16 for 14 feet by 14 feet galvanized steel sheet doors from American Garage Door Supply. The highest cost was \$13,505.36 for 14 feet by 14 feet galvanized steel rolling slat doors from American Garage Door Supply. South Coast AQMD staff expects PAR 1407 to not require the most expensive equipment, but also recognizes costs associated with installation are not included in these costs. Therefore South Coast AQMD staff assumes a per square foot roll-up door cost equal to the average of the lowest and highest cost doors, i.e. \$44 per square foot (rounded up).

\$44,000 by January 1, 2021, for a total cost of roll-up doors due to PAR 1407 of \$176,000 by January 1, 2021.

Source Tests

PAR 1407 requires all non-chromium metal melting facilities to perform source testing on all furnaces or their respective emissions control devices to meet either the pollution reduction efficiency requirement (d)(3) or the mass emission limits of (d)(4) by January 1, 2021. PAR 1407 requires these source tests to be repeated every 60 months.

Staff is unsure which method any facility will use to comply with PAR 1407. To ensure conservative cost estimation, all facilities are assumed to meet the pollution reduction efficiency requirement, which results in costlier source testing (inlet and outlet source tests instead of only outlet source tests).

Staff expects all new and existing baghouses due to PAR 1407, i.e. 28 baghouses, to require source testing, along with an additional 11 furnaces, for a total of 39 source tests. Staff estimates each source test will cost around \$21,000.¹⁶ Staff estimates the total cost of source testing to be \$819,000 in 2021 and every subsequent 60 months.

Smoke Tests

PAR 1407 requires a smoke test be performed on every emission collection system leading to emissions control devices (e.g. baghouses) by January 1, 2021, and every six months thereafter. Staff estimates 10 new baghouses will be installed due to PAR 1407, along with a pre-existing 18 baghouses installed in the PAR 1407 potentially affected facilities. Therefore, staff estimates 28 smoke tests to be performed on January 1, 2021, and every six months thereafter.

South Coast AQMD staff expects most facilities potentially affected by PAR 1407 to use contractors to perform smoke tests for them to ensure all rule requirements for smoke tests are verifiably completed. Staff estimates each smoke test to cost around \$500 per emissions control device,¹⁷ for a total cost of \$14,000 on January 1, 2021, and every six months thereafter, for an annual cost of \$28,000 starting in 2021.

¹⁶ Source test cost estimates were provided by Morgan Nguyen of Almega Environmental for baghouses. The cost estimates range from \$17,000 to \$21,000 depending on if additional labor is needed for manlift access to an inlet or outlet. The cost assumes submittal of a source-test protocol, three hour source test runs with three runs for each piece of equipment being source tested, inlet and outlet source testing, and laboratory analysis being handled by the source-test company. Morgan Nguyen indicated source-test costs for furnaces could be one-half to two-thirds the cost of baghouse source tests. Nonetheless, the baghouse source-test cost was applied to furnaces to provide a conservative cost estimate.

¹⁷ Smoke test cost estimates for a single furnace were provided by Wally Moe of Accurate Environmental Services, Inc. Staff assumes each emission control device (baghouse) to be controlling pollution from a single furnace.

Anemometers

PAR 1407 requires using a calibrated anemometer to measure the slot velocity at each slot and pressure at each push air manifold of every emission collection system by January 1, 2021, and every six months thereafter. Staff estimates 10 new baghouses at four facilities will be installed due to PAR 1407, along with a pre-existing 18 baghouses installed at 10 facilities in the PAR 1407 potentially affected facilities. Therefore, staff estimates 28 sets of slot velocity tests being performed on January 1, 2021, and every six months thereafter, along with 13 anemometers purchased by January 1, 2021.¹⁸

Staff expects each anemometer to cost at most \$1,000, as many hot-wire and rotating-vane digital anemometers are sold for less than \$1,000.¹⁹ Thus staff estimates total anemometer cost of PAR 1407 to be \$13,000 in January 1, 2021. Staff expects each set of slot velocity tests for each emission control device to require at most two hours to perform by facility staff, for a total of \$80 per set of slot velocity tests per emission control device. Therefore, staff estimates total slot velocity tests using anemometers cost of PAR 1407 to be \$2,240 on January 1, 2021, and every six months thereafter.

Housekeeping and Recordkeeping

Of the 60 PAR 1407 potentially affected facilities, 56 are expected to perform the following types of housekeeping (four are expected to not incur increased housekeeping costs due to already performing them under South Coast AQMD Rule 1420):

- Weekly cleaning for areas where furnace and casting operations occur and waste generated from housekeeping activities is stored, disposed of, recovered, or recycled;
- Weekly cleaning of locations where cutting and grinding occur;
- Quarterly cleaning and inspection of equipment will be required at all facilities with emission control devices;
- Within an hour of an event that results in the deposition of fugitive metal dust emissions, the area where the activity occurred will be required to be cleaned using an approved cleaning method;
- Removal of weather caps that restrict the flow of exhaust air from stacks that are sources of emissions from non-chromium metal melting; and
- Slag and waste generated from housekeeping and construction or maintenance of building enclosures shall be transported within closed conveyor systems or covered containers (for materials below 500 degrees Fahrenheit and not located within a building enclosure or enclosed storage area).

Additionally, each of these 56 PAR 1407 potentially affected facilities is expected to maintain records of the following for three years, with at least the two most recent years kept onsite:

- Monthly quantities of raw materials processed along with purchase records;

¹⁸ One facility already has baghouses and is expected to get more due to PAR 1407, lowering the expected anemometer count by one facility to 13.

¹⁹ <https://www.grainger.com/category/test-instruments/air-movement/air-velocity-meters-and-anemometers?sortKey=price&sortOrder=desc> (accessed 7/27/19).

- Material testing data;
- Source test data;
- Housekeeping activities;
- Data files, inspection, calibration documentation, and maintenance of emission control devices;
- Anemometer data; and
- Smoke test documentation.

Staff assumes these 56 PAR 1407 facilities to require HEPA vacuums, with 13 facilities being larger likely choosing to purchase riding vacuum cleaners, and the remaining 43 facilities choosing to purchase smaller vacuum cleaners, e.g. backpack vacuums. Staff estimates the incremental cost from riding vacuum cleaners due to PAR 1407 to be \$11,500.²⁰ Staff estimates the incremental cost from backpack vacuums to be \$600.²¹ Therefore, staff estimates the total one-time cost of housekeeping due to PAR 1407 to be \$175,300 30 days after rule adoption.

Staff expects the combination of annual housekeeping and recordkeeping costs to be at most \$1,000. Thus the total annual cost from housekeeping and recordkeeping due to PAR 1407 passage is an annually recurring cost of \$56,000 starting 30 days after rule adoption.

Cost Summary

Table 6 presents the distribution of overall predicted costs of PAR 1407 by select cost categories. Table 6 indicates the present worth value and annualized cost of each cost category. The present worth value in 2019 dollars presents the estimated total PAR 1407 cost from 2019-2040 by cost category if all costs paid over this timeframe due to PAR 1407 were paid in 2019. The annualized cost presents the estimated total PAR 1407 annual cost from 2019-2040 by cost category, where one-time costs are spread over an equipment's lifetime while including lost investment value to facilities where the investments are assumed to have either a 4% or 1% real rate of return (nominal interest rate net inflation).

The majority of predicted costs, about \$2.5 million annually, is attributed to annual operation and maintenance of baghouses installed due to PAR 1407, or about 82% of the PAR 1407 total cost. The one-time cost associated with baghouses, e.g. purchase, engineering, installation, etc., is estimated to be \$245,000 - \$287,000 annually for the low- and high-rate scenarios respectively. The low-rate scenario assumes a real interest rate of

²⁰ Riding vacuum price from Nassco for the Chariot 2 iVacuum ATV 24" HEPA Rider Vacuum (<https://www.nasscoinc.com/janitorial/floorcleaningequipment/commercialgradevacuumcleanersandaccessories/ridingvacuums/windsorchariot2ivacuumatv24ridervacuum/>?, accessed 7/25/2019). This search provided prices ranging from \$10,410 to \$11,450. A rounded up value of \$11,500 is assumed to provide a conservative estimate of the incremental rider vacuum cost for each larger facility due to PAR 1407.

²¹ Backpack vacuum price from Nassco for the Proteam Super CoachVac HEPA backpack vacuum (<https://www.nasscoinc.com/janitorial/floorcleaningequipment/commercialgradevacuumcleanersandaccessories/backpackvacuums/proteamsupercoachvacbackpackvacuumhepa/>?, accessed 7/25/2019). This search provided a price of \$571.76, resulting in a rounded up value of \$600 to provide a conservative estimate of the incremental backpack vacuum cost for each smaller facility due to PAR 1407.

1%, while the high-rate scenario assumes a 4% real interest rate.²² The average annual cost of PAR 1407 is estimated to be \$3.0 - \$3.1 million between 2019 and 2040, for the low- and high-rate scenarios respectively.

Table 6: PAR 1407 Projected Total and Average Annual Cost by Cost Category for Potentially Affected Facilities (2019 Dollars)

Cost Categories	Present Worth Value (2019)		Annual Average (2019-2040)	
	1% Discount Rate	4% Discount Rate	1% Real Interest Rate	4% Real Interest Rate
One-Time Cost				
Baghouse**	\$4,777,000	\$3,962,000	\$245,000	\$287,000
Bag leak detection system**	\$36,000	\$30,000	\$2,000	\$2,000
Pressure gauge with DAS**	\$34,000	\$28,000	\$2,000	\$2,000
Anemometer**	\$24,000	\$20,000	\$1,000	\$1,000
Major enclosure***	\$627,000	\$602,000	\$32,000	\$43,000
Roll up doors****	\$182,000	\$175,000	\$9,000	\$12,000
Plastic curtains****	\$102,000	\$98,000	\$5,000	\$7,000
Rider HEPA vacuum*	\$507,000	\$412,000	\$26,000	\$29,000
Backpack HEPA vacuum*	\$88,000	\$71,000	\$4,000	\$5,000
Total one-time cost	\$6,377,000	\$5,398,000	\$326,000	\$388,000
Recurring Cost				
Baghouse annual maintenance	\$48,635,000	\$34,545,000	\$2,499,000	\$2,499,000
Smoke test	\$495,000	\$352,000	\$25,000	\$25,000
Source test	\$2,956,000	\$2,223,000	\$149,000	\$149,000
Slot velocity test	\$40,000	\$28,000	\$2,000	\$2,000
Housekeeping	\$1,101,000	\$809,000	\$56,000	\$56,000
Total recurring cost	\$53,227,000	\$37,957,000	\$2,731,000	\$2,731,000
Total	\$59,604,000	\$43,355,000	\$3,059,000	\$3,119,000

Note: Values rounded to nearest thousand dollars.

*Cost annualized over 6 years

**Cost annualized over 10 years

***Cost annualized over 20 years

Table 7 presents total and average annual compliance costs of PAR 1407 by industry. Most of the cost due to PAR 1407 is expected to be incurred by facilities processing or producing alumina or aluminum (\$28.7 - \$39.5 million or about 66% of the total cost for both the low- and high-rate scenarios). The industry which incurs the second-highest expected cost

²² The real interest rate can be viewed as the percentage return on an investment net inflation. A higher real interest rate entails a higher cost of using facility funds to meet regulatory requirements.

due to PAR 1407 is foundries (\$10.3 - \$14.0 million of the total cost or 24% for both the low- and high-rate scenarios). The remaining expected cost due to PAR 1407 is expected to be incurred almost entirely by facilities producing steel (\$4.2 million - \$5.8 million of the total cost or about 10% for both low- and high-rate scenarios).²³

Table 7: PAR 1407 Projected Total and Average Annual Compliance Cost by Industry for Potentially Affected Facilities (2019 Dollars)

Industry Description	Number Potentially Affected Facilities	Present Worth Value (2019)		Average Annual Costs (2019-2040)	
		1% Discount Rate	4% Discount Rate	1% Discount Rate	4% Discount Rate
Steel product manufacturing from purchased steel (3312)	4	\$5,793,000	\$4,196,000	\$297,000	\$302,000
Alumina and aluminum production and processing (3313)	5	\$39,488,000	\$28,665,000	\$2,028,000	\$2,068,000
Foundries (3315)	47	\$14,074,000	\$10,307,000	\$721,000	\$736,000
Forging and stamping (3321)	1	\$22,000	\$16,000	\$1,000	\$1,000
Metalworking and machinery manufacturing (3335)	1	\$76,000	\$57,000	\$4,000	\$4,000
Aerospace product and parts manufacturing (3364)	2	\$152,000	\$114,000	\$8,000	\$8,000
Total	60	\$59,604,000	\$43,355,000	\$3,059,000	\$3,119,000

Note: Values rounded to nearest thousand dollars.

PAR 1407 is expected to have larger compliance costs for a few larger facilities expected to install emission control devices, as indicated in Table 8. Most of the PAR 1407 potentially affected facilities, 41 of 60, are smaller and expected to not have and not need a new emissions control device. On average, each of these smaller facilities is expected to spend around \$50,000 over 2019-2040 due to PAR 1407, or around \$3,000 per year. A few larger facilities, four of 60, are larger facilities expecting to need one or more new emission control devices. On average, each of these larger facilities is expected to spend around \$11,200,000 over 2019-2040 due to PAR 1407, or around \$575,000 per year.

²³ Percentages do not add to 100%. The remaining costs are borne by other industries listed in Table 1.

Table 8: PAR 1407 Average Expected Compliance Cost Per Facility by Facility Size from 2019-2040

Facility size	Number potentially affected facilities	Total cost if all PAR 1407 expenses made in 2019	Annualized cost
Small; no existing emissions control device.	41	\$50,000	\$3,000
Small; with existing emissions control device.	2	\$158,000	\$8,000
Large; processing low arsenic and low cadmium metals.	13	\$960,000	\$49,000
Large; PAR 1407 requires new emissions control device installation.	4	\$11,189,000	\$575,000

Note: A small facility is defined to process less than 8,400 tons of metal per year, while a large facility is defined to process 8,400 tons of metal or more per year. Total cost includes all one-time and recurring costs expected due to PAR 1407 from 2019-2040 for an average facility in each facility-size category. Values rounded to nearest thousand dollars.

JOBS AND OTHER SOCIOECONOMIC IMPACTS

The REMI model (PI+ v2.3.1) was used to assess the total socioeconomic impacts of the regulatory change from PAR 1407.²⁴ The model links the economic activities in the counties of Los Angeles, Orange, Riverside, and San Bernardino, and for each county, it is comprised of five interrelated blocks: (1) output and demand, (2) labor and capital, (3) population and labor force, (4) wages, prices and costs, and (5) market shares.²⁵

The assessment herein is performed relative to a baseline (“business as usual”) where PAR 1407 would not be adopted. Adoption of PAR 1407 would create a regulatory scenario under which the potentially affected facilities would incur average annual compliance costs totaling \$3.0 - \$3.1 million for low- and high-rate scenarios respectively. Direct effects of proposed rules/amendments must be estimated and used as inputs into the REMI PI+ model in order for the model to assess secondary and induced impacts for all actors in the four-county economy on an annual basis and across a user-defined horizon (2019 - 2040). Direct effects of PAR 1407 include additional costs to the potentially affected facilities and additional sales by local vendors of equipment, devices, or services supplying the necessary goods/services to help the potentially affected facilities meet the proposed requirements of PAR 1407.

²⁴ Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (160-sector model). Version 2.3.1, 2019.

²⁵ Within each county, producers are made up of 156 private non-farm industries and sectors, three government sectors, and a farm sector. Trade flows are captured between sectors as well as across the four counties and the rest of U.S. Market shares of industries are dependent upon their product prices, access to production inputs, and local infrastructure. The demographic/migration component has 160 ages/gender/race/ethnicity cohorts and captures population changes in births, deaths, and migration. (For details, please refer to REMI online documentation at <http://www.remi.com/products/pi.>)

While compliance expenditures may increase the cost of doing business for affected facilities, the purchase and installation of additional equipment combined with spending on operating and maintenance may increase sales in other sectors. Table 9 lists the industry sectors modeled in REMI PI+ that would either incur a cost or benefit from the compliance expenditures.²⁶

All compliance costs expected due to PAR 1407 are included fully into the REMI PI+ model as spending in the industry categories listed in Table 9. This could substantially mute negative regional effects on employment if the REMI PI+ model assumed all spending from any industry in the South Coast AQMD jurisdiction was spent within the South Coast AQMD jurisdiction. However, each industry is provided a set of “regional purchase coefficients” within the REMI PI+ model, which accounts for industries within the South Coast AQMD jurisdiction spending often going to other facilities outside the South Coast AQMD jurisdiction.

Table 9: Industries Incurring Costs or Benefitting from PAR 1407 Compliance

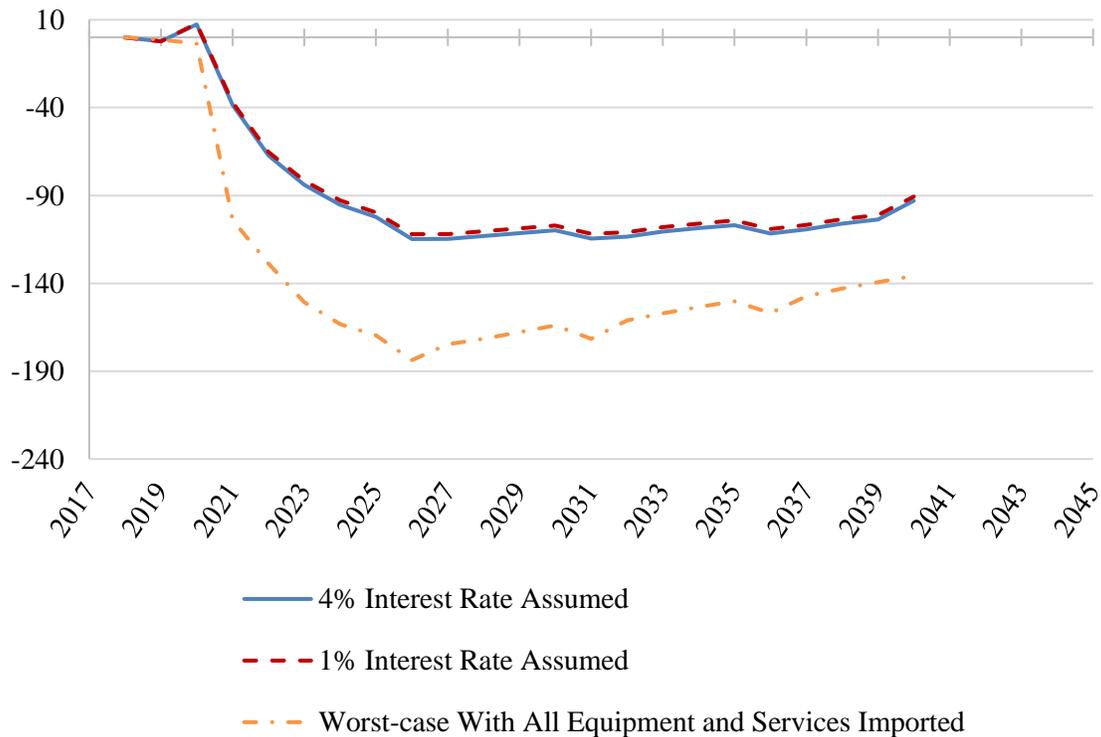
Compliance Cost Source	REMI Industries Incurring Compliance Costs (NAICS)	REMI Industries Benefitting from Compliance Spending (NAICS)
Baghouse	Steel Product Manufacturing from Purchased Steel (NAICS 3312); Alumina and Aluminum Production and Processing (NAICS 3313); Foundries (NAICS 3315)	<i>One-time-Capital:</i> Industrial Machinery Manufacturing (NAICS 3332)
Bag leak detection system		
Pressure gauge with DAS		
Anemometer		<i>One-time-Capital:</i> Construction (NAICS 23)
Major enclosure		
Roll up doors		
Plastic curtains		
Baghouse annual maintenance		<i>Recurring Cost:</i>

²⁶ Improved public health due to reduced air pollution may improve worker productivity and other economic factors. However, public health benefit assessment requires modeling air quality improvements. Current air-quality modeling employed by South Coast AQMD performs poorly with changes in air pollution less than 10 tons per day of criteria pollutants since such changes are hard to distinguish from random variation in the model. Toxic air pollutants present additional analytical challenges to estimate monetized public health benefit due to the localized nature of their air quality impact.

Smoke test		Management, scientific, and technical consulting services (NAICS 5416)
Source test		
Slot velocity test		
Rider HEPA vacuum	Steel Product Manufacturing from Purchased Steel (NAICS 3312); Alumina and Aluminum Production and Processing (NAICS 3313); Foundries (NAICS 3315); Forging and Stamping (NAICS 3321)	<i>One-time-Capital:</i> Electric Equipment Manufacturing (3353)
Backpack HEPA vacuum		

As presented in Figure 3, PR 1407 is expected to result in an average of 90 - 92 jobs foregone annually from 2019 - 2040 for the low- and high-rate scenarios respectively. The projected job impacts represent about a 0.001% decrease of total employment in the four-county region for both low- and high-rate scenarios. A “worst-case” scenario, where all purchases made due to PR 1407 went to suppliers outside the four-county region, resulted in approximately 141 jobs on average expected to be foregone annually from 2019 - 2040.

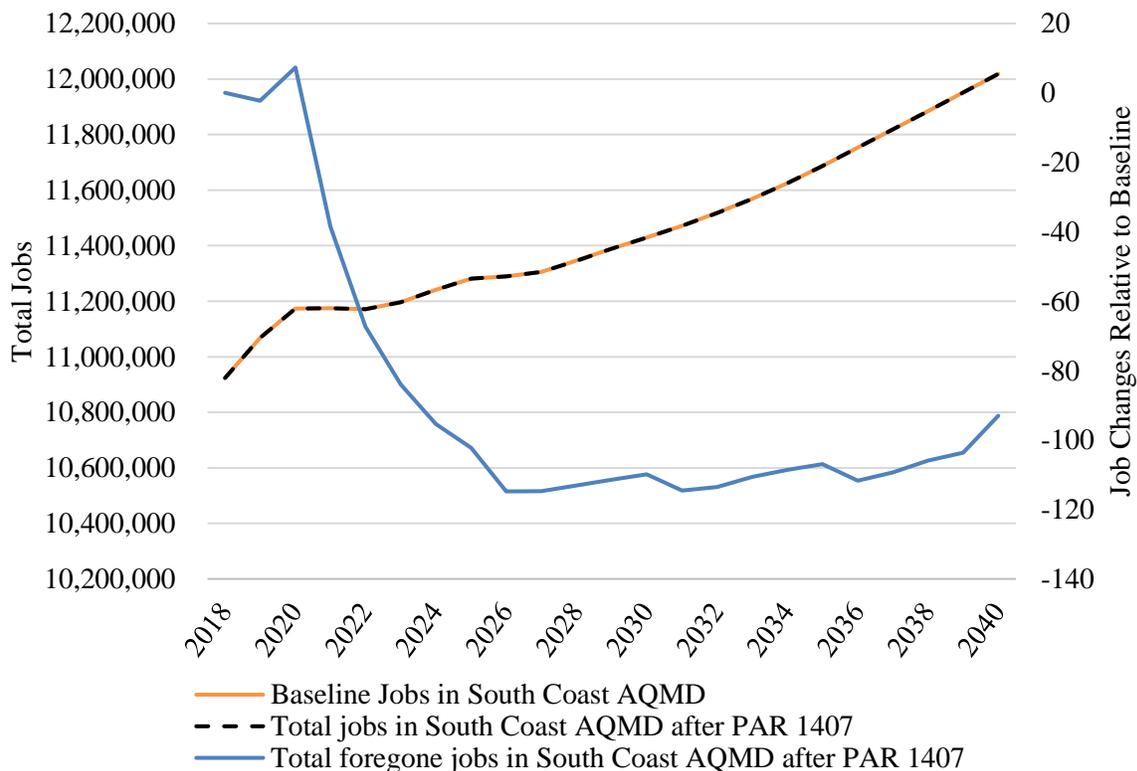
Figure 3: PAR 1407 Projected Regional Foregone Jobs, 2019 - 2040



Jobs foregone can come from currently existing jobs or future new jobs. Figure 4 plots predicted foregone jobs, baseline jobs, and total jobs following adoption of PAR 1407 from 2019 – 2040 for the high-rate scenario. Figure 4 makes clear the predicted job impacts from PAR 1407 are small relative to the total predicted jobs, and that jobs can be foregone without someone currently employed losing their job.

Table 10 presents expected job impacts of PAR 1407 for the top 10 industries with negative job impacts, one industry with expected positive job impacts, and the remaining industries grouped together. Jobs are expected to be foregone in the overall economy throughout the time period considered (2019 - 2040). The alumina and aluminum production and processing industry (NAICS 3313) along with the foundry industry (NAICS 3315) is expected to bear most of the estimated total compliance cost of PAR 1407, with an expected total 18 jobs forgone annually between 2019 and 2040. The remainder of the projected reduction in employment due to PAR 1407 implementation is spread across many other major sectors of the economy due to secondary and induced impacts of PAR 1407, occurring mainly in construction (NAICS 23) and retail trade (NAICS 44-45).²⁷

Figure 4: PAR 1407 Projected Regional Job Impact, 2019 – 2040 (High-Rate Scenario)



²⁷ Secondary impacts on jobs are changes in jobs to supplying industries of the affected industries, while induced impacts on jobs are changes in jobs due to overall disposable income changes in the South Coast AQMD economy.

Positive job impacts from adoption of PAR 1407 in the management, scientific, and technical consulting services sector (NAICS 5416) are due to PAR 1407 potentially affected facilities completing baghouse annual maintenance, smoke testing, source testing, and slot velocity testing.

Table 10: PAR 1407 Job Impacts (High-Rate Scenario)

Industries (NAICS)	2019	2024	2029	2035	2040	Average Annual Job Changes (2019 - 2040)	Average Annual Baseline (2019 - 2040)	% Change from Baseline Jobs
Alumina and aluminum production and processing (3313)	0	-14	-17	-18	-17	-14	3,000	-0.517%
Construction (23)	5	-19	-12	-8	-1	-11	489,000	-0.002%
Retail trade (44-45)	0	-11	-11	-12	-10	-10	1,001,000	-0.001%
State and local government (92)	0	-7	-9	-10	-9	-7	911,000	-0.001%
Food services and drinking places (722)	0	-5	-6	-7	-6	-5	779,000	-0.001%
Wholesale trade (42)	0	-4	-4	-5	-4	-4	454,000	-0.001%
Foundries (3315)	0	-4	-4	-4	-3	-4	3,000	-0.125%
Real estate (531)	0	-4	-4	-4	-3	-3	583,000	-0.001%
Offices of health practitioners (6211-6213)	0	-2	-3	-3	-3	-2	413,000	-0.001%
Business support services; investigation and security services; other support services (5614, 5616, 5619)	0	-2	-2	-2	-2	-2	256,000	-0.001%
Management, scientific, and technical consulting services (5416)	0	17	16	19	14	15	154,000	0.010%
Other industries	-8	-41	-55	-53	-50	-46	6,426,000	-0.001%
Total	-2	-95	-111	-107	-93	-92	11,471,000	-0.001%

Note: Adding all industry values may not add to total amount due to rounding.

Competitiveness

The additional cost brought on by PAR 1407 would increase the cost of services rendered by the affected industries in the region. The magnitude of the impact depends on the size, diversification, and infrastructure in a local economy as well as interactions among industries. While a few facilities subject to PAR 1407 are expected to incur larger costs

than others, a large, diversified, and resourceful economy, like that under the South Coast AQMD jurisdiction, would experience a minimal impact on the regional economy due to the increased costs from PAR 1407.

Changes in production/service costs would affect prices of goods produced locally. The relative delivered price of a good is based on its production cost and the transportation cost of delivering the good to where it is consumed or used. The average price of a good at the place of use reflects prices of the good produced locally and imported elsewhere.

Steel product manufacturing from purchased steel (NAICS 3312), alumina and aluminum production and processing (NAICS 3313), and foundries (NAICS 3315) industries are anticipated to respectively experience a rise in their relative costs of production of 0.094% - 0.095%, 0.387% - 0.390% , and 0.523% - 0.531% for the low- and high-rate scenarios respectively. Moreover, these industries are anticipated to respectively experience an increase in their delivered prices by 0.056% - 0.057%, 0.242% - 0.243%, and 0.190% - 0.193% for the low- and high-rate scenarios respectively.

Delivered prices a facility may charge for specific goods or services may increase at a greater rate than predicted, allowing incurred costs to be passed through to downstream industries and end-users. Due to the increased costs imposed by PAR 1407, the remaining sectors are also likely to experience increases in the relative cost of production and relative delivered price with respect to their counterparts in the rest of the U.S.

REFERENCES

CoreLogic® Marshall & Swift® Equipment Cost Index (M&S index). Last update received 04/2019.

Dun & Bradstreet Enterprise Database. 2019.

Economic Modeling Specialists International (EMSI), accessed June 27th, 2019, <https://www.economicmodeling.com/>. EMSI Datarun 2019.2.

Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (160-sector model). Version 2.3.1, 2019.

South Coast Air Quality Management District. Draft Staff Report Proposed Amended Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations, Diamond Bar, CA. June 2019.



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

Governing Board Meeting
September 6, 2019

Background

- Rule 1407 was adopted in 1994
 - Implements the state Airborne Toxic Control Measure (ATCM) for Emissions of Toxic Metals from Non-Ferrous Metal Melting
- Objective is to reduce arsenic, cadmium, and nickel emissions from non-chromium metal melting operations
 - Non-chromium metal defined as any metal that contains less than 0.5% chromium
- Rule 1407 currently addresses non-ferrous metals which generally includes aluminum alloys, copper alloys, and super alloys



General Approach

- Revise applicability from non-ferrous metals to non-chromium metals
 - Develop new rule to address chromium metal melting (Proposed Rule 1407.1)
- Proposed Amended Rule 1407
 - Revise emission standards
 - Tighten overly-broad exemptions
 - Add building enclosure provisions
 - Enhance emission control device monitoring and update housekeeping, source testing, and recordkeeping requirements
- Provisions are similar to lead melting rules (Rule 1420 series)

Alloy Type							
Al & Al Alloys (PAR 1407)	Carbon Steel (PAR 1407)	Brass (Rule 1420 or PAR 1407)	Bronze (Rule 1420 or PAR 1407)	Lead (Rule 1420)	Stainless Steel (PR 1407.1)	Alloy Steel (PR 1407.1)	Super Alloys (PR 1407.1)

Emission Control Requirements

- For each toxic air contaminant individually:
 - Meet a control efficiency per furnace; or
 - Meet aggregate mass emission limit
- Source Testing
 - Initial source testing
 - Periodic source testing every 5 years
- Emission Control Device Monitoring
 - Demonstrate control equipment working properly

Emission Limits

Arsenic

AND

Cadmium

AND

Nickel

99%
reduction
(per furnace)

99%
reduction
(per furnace)

99%
reduction
(per furnace)

OR

OR

OR

0.000066
lbs/hour
(aggregate)

0.000514
lbs/hour
(aggregate)

0.00848
lbs/hour
(aggregate)

Exemption from emission control requirements for facilities with:

- A Health Risk Assessment with a maximum individual cancer risk $< 10 \times 10^{-6}$
- Air Toxics Inventory Report with a Facility Priority Score < 10

Fugitive Emission Controls

- Enhanced Housekeeping

Cleaning

- Weekly cleaning
- Prohibition of use of compressed air

Material Storage

- Enclosed storage area
- Building enclosure
- Covered container

Other

- Remove weather caps
- Quarterly inspection of emission control devices

- Building Enclosures

- Addresses cross drafts in areas where metal melting operations occur, including metal grinding and cutting

Exemptions

Metal or Alloy Purity Exemption

- Current Rule 1407 has no throughput limitation for using the metal or alloy purity exemption
 - Despite the metals having relatively low concentrations of contaminants, facilities melting very large quantities can have significant arsenic, cadmium, and/or nickel emissions
- PAR 1407 includes a throughput limit for using the metal or alloy purity exemption

Clean Aluminum Scrap Exemption

- Current Rule 1407 does not include concentration limits for arsenic, cadmium, or nickel when using clean aluminum scrap exemption
 - Clean aluminum scrap is free of contaminants (oil, paint, grease, etc.), but still may contain arsenic, cadmium, and nickel, which may result in emissions
- PAR 1407 phases out clean aluminum scrap exemption

Key Issue

Amortization of Costs in the Socioeconomic Analyses

Comment	Response
<ul style="list-style-type: none">• Cost impact of PAR 1407 will occur in the first year after rule adoption• The costs to facilities should not be amortized in the socioeconomic analysis• The costs draw from the current operating budget of a business	<ul style="list-style-type: none">• Socioeconomic analysis typically annualizes capital costs to allow for the cost of financing and the opportunity cost of capital• Staff report includes total costs as requested by the commenter• Between \$5.4 and \$6.4 million are one-time costs in the first year after rule adoption• Total present worth value cost to meet the 2020 compliance date is \$43.4 million to \$59.6 million using a 4 percent or 1 percent discount rate respectively over a 21 year period

Summary

- PAR 1407 will address emissions of arsenic, cadmium, and nickel from non-chromium metal melting operations by:
 - Limiting point source emissions from furnaces and associated cutting and grinding operations
 - Reduce fugitive emissions through enhanced housekeeping and building enclosure provisions
 - Revise overly broad exemptions that previously did not account for toxic air contaminant levels in metal processed
- Requirements in PAR 1407 are similar to recently adopted metal processing rules

Recommended Actions

- Adopt the Resolution:
 - Certifying the Final Environmental Assessment
 - Amending Rule 1407

