

BOARD MEETING DATE: March 7, 2014

AGENDA NO. 27A

**PROPOSAL:** Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

**SYNOPSIS:** On January 10, 2014, Rule 1420.1 was amended to, among other things, require owners or operators of large lead-acid battery recycling facilities to reduce arsenic emissions and other key toxic air contaminant emissions. At the Public Hearing, the Board removed the requirement that affected facilities conduct a multi-metals demonstration program to continuously monitor lead, arsenic, and other metals. The Board directed staff to work with stakeholders and return to the March 7, 2014 Public Hearing for Board action on the multi-metal CEMS demonstration program. Under Proposed Amended Rule (PAR) 1420.1, the affected facilities must provide funding and participate in a multi-metals CEMS demonstration program. Clarifying language is also being proposed at this time that will require affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns.

**COMMITTEE:** Stationary Source, February 21, 2014, Reviewed.

**RECOMMENDED ACTION:**

Adopt the attached resolution:

1. Certifying the CEQA Notice of Exemption for Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-acid Battery Recycling Facilities; and
2. Amending Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities.

Barry R. Wallerstein, D.Env.  
Executive Officer

## **Background**

Rule 1420.1 was adopted on November 5, 2010. Rule 1420.1 applies to large lead-acid battery recycling facilities that have processed more than 50,000 tons of lead a year. Currently there are two facilities subject to Rule 1420.1 in the South Coast Air Basin (Basin): Exide Technologies, Inc. located in Vernon, and Quemetco, Inc. located in the City of Industry. In addition to lead, these facilities generate other toxic air contaminants such as arsenic, benzene, and 1,3-butadiene. Health risk assessments for large lead-acid battery recycling facilities have shown that, if not adequately controlled, these facilities can have elevated cancer and non-cancer health risks.

On January 10, 2014 the SCAQMD Board adopted amendments to Rule 1420.1 presented in the final board package, with the exception of paragraphs (d)(8) and (d)(9), which required affected facilities to implement a multi-metals continuous emissions monitoring system (CEMS). Multi-metals CEMS are sampling devices that are able to monitor in-stack hazardous air pollutant metal emissions. Cooper Environmental Services LLC has developed the only commercially available multi-metals CEMS, the Xact 640, which uses reel-to-reel filter tape sampling and X-ray fluorescence (XRF) analysis to monitor hazardous metal emissions.

During the January rulemaking, affected facilities were concerned that the multi-metals CEMS demonstration requirement did not provide enough specificity and one facility expressed additional concern regarding the cost of a multi-metals CEMS demonstration program given that only one vendor is available to provide the equipment. As a result, the Board directed staff to work with stakeholders to refine rule requirements regarding the multi-metals CEMS demonstration program and to return to the March 7, 2014 Board meeting regarding a multi-metals CEMS demonstration program.

## **Proposal**

Proposed Amended Rule 1420.1 (PAR 1420.1) would require large lead-acid battery recycling facilities to fund and participate in a multi-metals CEMS demonstration program. The purpose of the demonstration program is to gather additional emissions data and to determine if the CEMS is a feasible and effective means of continuously monitoring lead, arsenic and other toxic metals. The program would be limited to one stack and would be implemented at each facility for a total of ten months between the two sites. After the demonstration program, SCAQMD staff will assess the utility of the multi-metals CEMS for large lead-acid battery recycling facilities.

SCAQMD staff has revised the proposed demonstration program such that affected facilities will fund a multi-metals CEMS demonstration program that will be managed by SCAQMD staff. The proposed amendments would require each affected facilities to submit payment to SCAQMD for SCAQMD staff or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS demonstration program according to the following amounts and schedule: \$63,500 by April 1, 2014; and an additional \$143,225 by September 1, 2014. The total amount that each facility is

required to pay is \$206,725. PAR 1420.1 does not allow for additional money to be collected for the multi-metals demonstration program. The SCAQMD has developed an initial Work Plan that is provided in the staff report that describes key components of the program, such as a general timeline for the demonstration program, specifications for physical requirements for installation of the multi-metals CEMS, description of roles and responsibilities of the affected stakeholders, and criteria for evaluating the accuracy, reliability and potential future use of the multi-metals CEMS. Upon Board approval, SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and subsequently decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. This contract will be considered under a separate Board action at the Board meeting on March 7, 2014.

In addition to amendments to fund and implement a multi-metals CEMS demonstration program, PAR 1420.1 includes language to clarify that the large lead-acid battery recycling facility must reimburse the SCAQMD if a contractor is hired by the SCAQMD pursuant to subparagraph (n)(2)(B) of Rule 1420.1 to investigate the reason(s) for an unplanned shutdown of pollution control equipment.

### **Public Process**

PAR 1420.1 was developed through a public process. The public process was initiated in September 2013 with the first stakeholder consultation meeting. A Public Consultation meeting at the SCAQMD headquarters was held on February 19, 2014, to provide an opportunity for stakeholders to discuss PAR 1420.1 in greater detail and provide input to SCAQMD staff.

### **Key Outstanding Issues**

There are currently no known key outstanding issues related to the proposed amendments. During the rulemaking process, Exide had commented that there should be a cost limit of \$12,000 if a third-party investigator is needed to determine the cause of an unplanned shutdown of pollution control equipment. PAR 1420.1 has been revised to add a cap of \$12,000 to conduct the third party investigation. In addition, Quemetco requested that the SCAQMD include a workplan for the multi-metals CEMS demonstration. Staff has developed an initial workplan that is included in the Staff Report that outlines the general timeline for the demonstration program, specifications for physical requirements for installation of the multi-metals CEMS, description of roles and responsibilities of the affected stakeholders, procedures and requirements for data management and review, and criteria for evaluating the accuracy, reliability, and potential future use of multi-metals CEMS. Exide has also commented since this is a demonstration program, that data collected should not be used for enforcement action. The SCAQMD agrees that data collected from the multi-metals CEMS would not be used for compliance purposes.

### **California Environmental Quality Act (CEQA)**

SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 pursuant to CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to PAR 1420.1 would collect basic data, which would not result in a serious or major disturbance to an environmental resource. These requirements are strictly for information gathering purposes that could lead to an action which a public agency has not yet approved, adopted, or funded. CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges also applies because PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal continuous emissions monitoring system for use in the SCAQMD area of jurisdiction; and to reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report. These fees would be for the purpose of recovering cost for operating expenses; and purchasing or leasing supplies, equipment or materials. The multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report would not create any significant adverse effects on air quality or any other environmental areas. Since it can be seen with certainty that the proposed project has no potential to adversely affect air quality or any other environmental area, PAR1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption. If approved by the Board a Notice of Exemption will be prepared for the proposed project pursuant to CEQA Guidelines §15062 – Notice of Exemption.

### **Socioeconomic Analysis**

In the “Final” Socioeconomic Analysis for the January 10, 2014 amendment for PAR 1420.1 it was estimated that the capital and installation cost for the purchase of a multi-metals CEMS for each facility to be \$313,238 and annual operating and maintenance costs were estimated at \$59,800. Based on the revised proposed amendments for the March 7, 2014 amendments requiring participation in a multi-metals CEMS demonstration program an updated cost estimate was conducted. Based on information from the CEMS vendor, SCAQMD staff now estimates the total cost to rent, install, and maintain the CEMS for the demonstration program to be approximately \$206,725 for each facility. Potential additional costs for site requirements to support the multi-metals CEMS are \$3,200 per facility.

Since third party investigations are needed only if the facility cannot identify the reason for the unplanned shutdown of pollution control equipment, it is uncertain how often this will occur. However, SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from \$6,000 to \$12,000 per investigation, including the report submittal. The Socioeconomic Assessment for Proposed Amended

Rule 1420.1 has been updated with the aforementioned cost information and has been made available to the public.

### **AQMP and Legal Mandates**

Pursuant to Health & Safety Code Section 40460(a), the SCAQMD is required to adopt an Air Quality Management Plan (AQMP) demonstrating compliance with all federal regulations and standards. The SCAQMD is required to adopt rules and regulations that carry out the objectives of the AQMP. PAR 1420.1 is not a control measure of the 2012 AQMP and the 2012 Lead State Implementation Plan. However, it is needed to reduce exposure and associated health risk impacts from arsenic, benzene, and 1,3-butadiene emissions from large lead-acid battery recycling facilities.

### **Implementation and Resource Impact**

Existing SCAQMD resources will be used to implement PAR 1420.1.

### **Attachments**

- A. Summary of Proposal
- B. Key Issues and Responses
- C. Rule Development Process
- D. Key Contacts List
- E. Resolution
- F. Proposed Amended Rule 1420.1 Rule Language
- G. Proposed Amended Rule 1420.1 Staff Report
- H. CEQA Notice of Exemption
- I. Socioeconomic Analysis

**ATTACHMENT A**  
**SUMMARY OF PROPOSAL**

Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

Demonstration Program for Multi-Metals Continuous Emissions Monitoring System (CEMS)

- Fund and participate in a demonstration program to assess the ability to continuously monitor lead, arsenic, and other metals from a stack within the facility;
- Submit payment to the District for the District or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS according to the following amounts and schedule:
  - \$63,500 by April 1, 2014; and
  - \$143,225 by September 1, 2014.
- Provide facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze and decommission a multi-metals CEMS;
- Provide the necessary location and infrastructure for the multi-metals CEMS.

After the demonstration program, SCAQMD staff will assess the utility of the multi-metals CEMS for large lead-acid battery recycling facilities. Within three months of completion of the demonstration program, SCAQMD staff will report to the Stationary Source Committee on overall results of the multi-metals CEMS demonstration program, including the accuracy, comparison to traditional source tests, ease of use, operational costs, maintenance, and reliability.

Independent Third Party Verification of Unplanned Shutdowns

- The owner or operator of a large lead-acid battery recycling facility shall be responsible for reimbursement to the District for any and all expenses incurred by the independent third-party investigator in the investigation, inspection, and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to this rule, where the reason for the shutdown is not known within five days of its occurrence, as required by subparagraph (n)(2)(B). These costs are limited to \$12,000 per investigation.
- The owner or operator shall reimburse the District within 30 days of notification from the Executive Officer that payment is due.

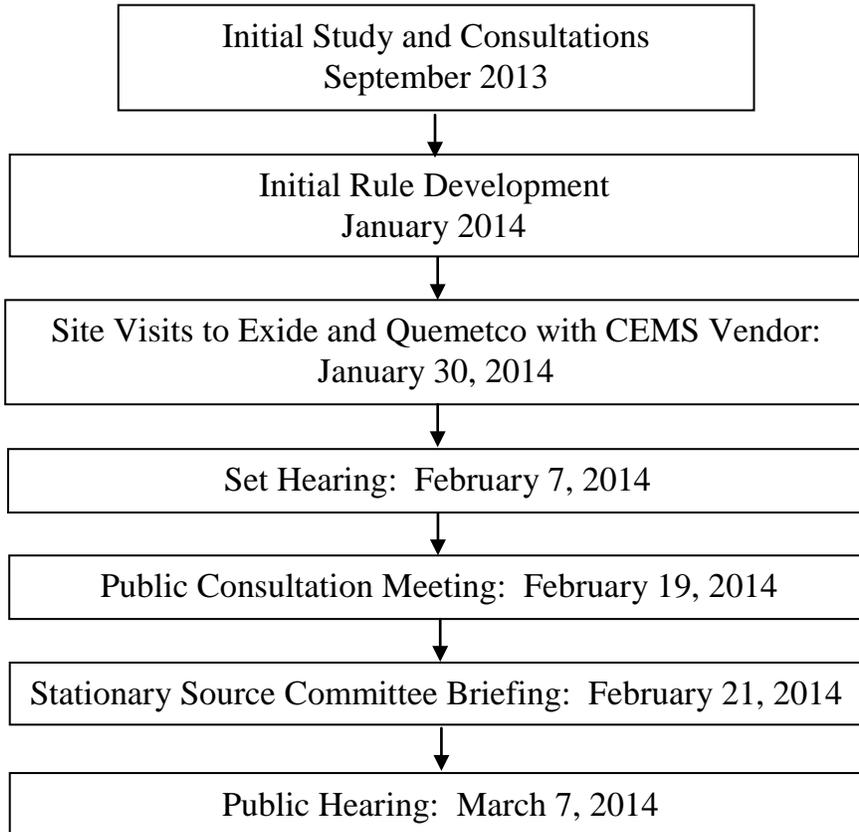
**ATTACHMENT B**  
**KEY ISSUES AND RESPONSES**

Proposed Amended Rule (PAR) 1420.1 – Emissions Standards for Lead and other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

- Multi-Metal Continuous Emission Monitoring Systems (CEMS) Program Demonstration: Quemetco requested that the SCAQMD include a workplan for the multi-metals CEMS demonstration.
  - Staff has developed an initial workplan that is included in the Staff Report that outlines the general timeline for the demonstration program, specifications for physical requirements for installation of the multi-metals CEMS, description of roles and responsibilities of the affected stakeholders, procedures and requirements for data management and review, and criteria for evaluating the accuracy, reliability, and potential future use of multi-metals CEMS.
- Multi-Metal Continuous Emission Monitoring Systems (CEMS) Used as a Compliance Tool: Exide has also commented since this is a demonstration program, that data collected should not be used for enforcement action.
  - Data collected from the multi-metals CEMS during the demonstration program will not be used for a compliance tool. However, data collected by other means such as from source testing as part of the demonstration program, may be used for compliance purposes.
- Third-party Investigations: During the rulemaking process, Exide had commented that there should be a cost limit of \$12,000 if a third-party investigator is needed to determine the cause of an unplanned shutdown of pollution control equipment.
  - PAR 1420.1 has been revised to add a cap of \$12,000 per investigation.

**ATTACHMENT C**  
**RULE DEVELOPMENT PROCESS**

**Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other  
Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities**



**Ten (10) months spent in rule development.**

**ATTACHMENT D**  
**KEY CONTACTS LIST**

Cooper Environmental Services, LLC

Exide Technologies

Quemetco Incorporated

**ATTACHMENT E**

RESOLUTION NO. 14-\_\_\_\_\_

**A Resolution of the South Coast Air Quality Management District (SCAQMD) Governing Board Adopting Proposed Amended Rule (PAR) 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities.**

**A Resolution of the SCAQMD Governing Board determining the Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities is exempt from the requirements of the California Environmental Quality Act (CEQA).**

**WHEREAS**, the SCAQMD Governing Board has determined with certainty that PAR 1420.1 is a “project” pursuant to the California Environmental Quality Act (CEQA); and

**WHEREAS**, the SCAQMD Governing Board finds and determines that Proposed Amended Rule 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges because Proposed Amended Rule 1420.1 would collect fees to assemble, install, maintain, train, test, analyze and decommission a multi-metal continuous emissions monitoring system; and reimburse SCAQMD for any expenses incurred by the independent third-party investigator. These fees are for the purpose of meeting operating expenses, and purchasing or leasing supplies, equipment or materials; and

**WHEREAS**, the SCAQMD Governing Board finds and determines that Proposed Amended Rule 1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of emission control equipment would collect basic data, which would not result in a serious or major disturbance to an environmental resource. In addition, the Proposed Amended Rule 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption because it was determined that the proposed project would not create any adverse effects on air quality or any other environmental areas, and therefore, it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment; and

**WHEREAS**, the SCAQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and has conducted CEQA review and analysis pursuant to such program (Rule 110); and

**WHEREAS**, SCAQMD staff has prepared a Notice of Exemption (NOE) for Proposed Amended Rule 1420.1 that is exempt from CEQA pursuant to rates, tolls, fares and charges statutory exemption (CEQA Guidelines §15273), information collection categorical exemption (CEQA Guidelines §15306) and general rule exemption (CEQA Guidelines §15061(b)(3)); and

**WHEREAS**, a Mitigation Monitoring Plan pursuant to Public Resources Code §21081.6, has not been prepared since no mitigation measures are necessary; and

**WHEREAS**, Findings and a Statement of Overriding Considerations are not required because no significant adverse environmental impacts were identified as a result of implementing PAR 1420.1; and

**WHEREAS**, arsenic, lead, benzene, and 1,3-butadiene have been identified as toxic air contaminants by the Office of Environmental Health Hazard Assessment (OEHHA); and

**WHEREAS**, the SCAQMD staff conducted a Public Consultation meeting regarding PAR 1420.1 on February 19, 2014, in the City of Diamond Bar; and

**WHEREAS**, California Health and Safety Code §40727 requires that prior to adopting, amending or repealing a rule or regulation, the SCAQMD 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 SCAQMD Governing Board has determined that a need exists to adopt Proposed Amended Rule 1420.1 because additional tools are needed to monitor on a more continuous basis, emissions from large lead-acid battery recycling facilities. In addition, it is necessary to add clarifying language to Rule 1420.1 in order for the SCAQMD to be reimbursed for third-party investigations on unplanned shutdowns at affected facilities; and

**WHEREAS**, the SCAQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40510, 40702, 40725 through 40728, 41508,

41511, 41700, 41706, 42303, 42408, 42700, 42708, and 44390 through 44394 of the Health and Safety Code; and

**WHEREAS**, the SCAQMD Governing Board has determined that PAR 1420.1 is written and displayed so that the meaning can be easily understood by persons directly affected by it. To ensure clarity in the proposed amended rule language, a Public Consultation meeting was conducted with input received from stakeholders from the large lead-acid battery recycling facilities in the Basin, environmental organizations, and the public at large; and

**WHEREAS**, the SCAQMD Governing Board has determined that PAR 1420.1 is in harmony with, and not in conflict with, or contradictory to, existing statutes, court decisions, or state or federal regulations; and

**WHEREAS**, the SCAQMD Governing Board has determined that PAR 1420.1 does not impose the same requirements as any existing state or federal regulations, and the proposed project is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD; and

**WHEREAS**, the SCAQMD Governing Board, by adopting PAR 1420.1, will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 39002 & 40000 (control of emissions from non-vehicular sources), 40001 (rules to achieve and maintain ambient air quality standards), 40510 (fees for planning, enforcement, and monitoring related to permitted sources), 41511 (information regarding amount of emissions), 41700 (nuisance), 41706(b) (emission standards for lead compounds from non-vehicular sources), 42700 and 42708 (monitoring devices), and Federal Clean Air Act Section 112 (Hazardous Air Pollutants); and

**WHEREAS**, PAR 1420.1 is not a control measure in the 2012 Air Quality Management Plan (AQMP) or the 2012 Lead State Implementation Plan and thus, was not ranked by cost-effectiveness relative to other AQMP control measures in the 2012 AQMP. Furthermore, pursuant to Health and Safety Code §40910, cost-effectiveness in terms of dollars per ton of pollutant reduced is only applicable to rules regulating ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide and does not apply to toxic air contaminants; and

**WHEREAS**, Health and Safety Code §40727.2 requires the SCAQMD 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 that the SCAQMD's comparative analysis of PAR 1420.1 is included in the staff report; and

**WHEREAS**, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment of PAR 1420.1 is consistent with the March 17, 1989 and October 14, 1994 Governing Board Socioeconomic Resolutions for rule adoption; and

**WHEREAS**, the SCAQMD Governing Board has determined that PAR 1420.1 will result in increased costs to the large lead-acid battery recycling facilities, yet are considered to be reasonable, with a total annualized cost as specified in the Socioeconomic Impact Assessment; and

**WHEREAS**, the SCAQMD Board has actively considered the Socioeconomic Impact Assessment and has made a good faith effort to minimize such impacts; and

**WHEREAS**, the SCAQMD Governing Board has determined that the Socioeconomic Impact Assessment is consistent with the provisions of the California Health and Safety Code Sections 40440.8, 40728.5, 40920.6; and

**WHEREAS**, the SCAQMD Governing Board specifies the Director of PAR 1420.1 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this proposed project 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 all provisions of Health and Safety Code §40725; and

**WHEREAS**, the SCAQMD Governing Board has held a public hearing in accordance with all provisions of law; and

**WHEREAS**, the proposed amendments to Rule 1420.1 will not be submitted for inclusion into the State Implementation Plan; and

**WHEREAS**, the SCAQMD Governing Board adopted amendments to Rule 1420.1 on January 10, 2014 , which included a severability clause. As such, if any provision of the rule is held by judicial order to be invalid, or invalid or inapplicable to any person or circumstance, such order shall not affect the validity of the remainder of the rule, or the validity or applicability of such provision to other persons or circumstances; and

**WHEREAS**, emissions data collected through the multi-metals continuous emissions monitoring system during the demonstration program will

not be used for compliance with emission limits established under Rule 1420.1;  
and

**NOW, THEREFORE, BE IT RESOLVED**, that the SCAQMD Governing Board does hereby find and determine that Proposed Amended Rule 1420.1, as proposed to be amended, is exempt from CEQA requirements pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption (General Rule), §15273 - Rates, Tolls, Fares and Charges; and §15306 – Information Collection. This information was presented to the Governing Board, whose members reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1420.1; and

**BE IT FURTHER RESOLVED**, the SCAQMD Governing Board directs the Executive Officer to implement and refine, only if necessary, the work plan for the multi-metal CEMS demonstration program and the Executive Officer shall report any modifications of the work plan to the Stationary Source Committee at a public meeting; and

**BE IT FURTHER RESOLVED**, the SCAQMD Governing Board directs staff to report back to the Stationary Source Committee within three months of completion of the CEMS demonstration program on preliminary results; and

**BE IT FURTHER RESOLVED**, that the SCAQMD Governing Board does hereby amend, pursuant to the authority granted by law, Rule 1420.1 as set forth in Attachment F.

DATE: \_\_\_\_\_

\_\_\_\_\_  
CLERK OF THE BOARDS

## ATTACHMENT F

(Adopted November 5, 2010)(Amended January 10, 2014)  
PAR 1420.1a  
March 7, 2014

### **RULE 1420.1. EMISSION STANDARDS FOR LEAD AND OTHER TOXIC AIR CONTAMINANTS FROM LARGE LEAD-ACID BATTERY RECYCLING FACILITIES**

(a) Purpose

- (1) The purpose of this rule is to protect public health by reducing exposure and emissions of lead from large lead-acid battery recycling facilities, and to help ensure attainment and maintenance of the National Ambient Air Quality Standard for Lead. The purpose of this rule is to also protect public health by reducing arsenic, benzene, and 1,3-butadiene exposure and emissions from these facilities.

(b) Applicability

- (1) This rule applies to all persons who own or operate a lead-acid battery recycling facility that has processed more than 50,000 tons of lead a year in any one of the five calendar years prior to November 5, 2010, or annually thereafter, hereinafter a large lead-acid battery recycling facility. Applicability shall be based on facility lead processing records required under subdivision (m) of this rule, and Rule 1420 – Emissions Standards for Lead. Compliance with this rule shall be in addition to other applicable rules such as Rules 1407 and 1420.

(c) Definitions

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

- (1) **AGGLOMERATING FURNACE** means a furnace used to melt flue dust that is collected from an emission control device, such as a baghouse, into a solid mass.
- (2) **AMBIENT AIR** for purposes of this rule means outdoor air.
- (3) **ARSENIC** means the oxides and other compounds of the element arsenic included in particulate matter, vapors, and aerosols.
- (4) **BATTERY BREAKING AREA** means the plant location at which lead-acid batteries are broken, crushed, or disassembled and separated into components.
- (5) **BENZENE** means an organic compound with chemical formula C<sub>6</sub>H<sub>6</sub> and

- Chemical Abstract Service number 71-43-2.
- (6) 1,3-BUTADIENE means an organic compound with chemical formula  $C_4H_6$  and Chemical Abstract Service number 106-99-0.
  - (7) DRYER means a chamber that is heated and that is used to remove moisture from lead-bearing materials before they are charged to a smelting furnace.
  - (8) DRYER TRANSITION PIECE means the junction between a dryer and the charge hopper or conveyor, or the junction between the dryer and the smelting furnace feed chute or hopper located at the ends of the dryer.
  - (9) DUCT SECTION means a length of duct including angles and bends which is contiguous between two or more process devices (e.g., between a furnace and heat exchanger; baghouse and scrubber; scrubber and stack; etc.).
  - (10) EMISSION COLLECTION SYSTEM means any equipment installed for the purpose of directing, taking in, confining, and conveying an air contaminant, and which at minimum conforms to design and operation specifications given in the most current edition of *Industrial Ventilation, Guidelines and Recommended Practices*, published by the American Conference of Government and Industrial Hygienists, at the time a complete permit application is filed with the District.
  - (11) EMISSION CONTROL DEVICE means any equipment installed in the ventilation system of a point source or emission collection system for the purposes of collecting and reducing emissions of arsenic, benzene, lead, 1,3-butadiene, or any other toxic air contaminant.
  - (12) FUGITIVE LEAD-DUST means any solid particulate matter containing lead that is in contact with ambient air and has the potential to become airborne.
  - (13) FURNACE AND REFINING/CASTING AREA means any area of a large lead-acid battery recycling facility in which:
    - (a) Smelting furnaces or agglomerating furnaces are located; or
    - (b) Refining operations occur; or
    - (c) Casting operations occur.
  - (14) LEAD-ACID BATTERY RECYCLING FACILITY means any facility, operation, or process in which lead-acid batteries are disassembled and recycled into elemental lead or lead alloys through smelting.
  - (15) LEAD means elemental lead, alloys containing elemental lead, or lead compounds, calculated as elemental lead.
  - (16) LEEWARD WALL means the furthest exterior wall of a total enclosure that is opposite the windward wall.

- (17) MAINTENANCE ACTIVITY means any of the following activities conducted outside of a total enclosure that generates or has the potential to generate fugitive lead-dust:
- (a) building construction, renovation, or demolition;
  - (b) replacement or repair of refractory, filter bags, or any internal or external part of equipment used to process, handle, or control lead-containing materials;
  - (c) replacement of any duct section used to convey lead-containing exhaust;
  - (d) metal cutting or welding that penetrates the metal structure of any equipment, and its associated components, used to process lead-containing material, such that lead dust within the internal structure or its components can become fugitive lead-dust; or
  - (e) resurfacing, repair, or removal of ground, pavement, concrete, or asphalt.
- (18) MATERIALS STORAGE AND HANDLING AREA means any area of a large lead-acid battery recycling facility in which lead-containing materials including, but not limited to, broken battery components, reverberatory furnace slag, flue dust, and dross, are stored or handled between process steps. Areas may include, but are not limited to, locations in which materials are stored in piles, bins, or tubs, and areas in which material is prepared for charging to a smelting furnace.
- (19) MEASURABLE PRECIPITATION means any on-site measured rain amount of greater than 0.01 inches in any complete 24-hour calendar day (i.e., midnight to midnight).
- (20) PARTIAL ENCLOSURE for purposes of this rule means a structure comprised of walls or partitions on at least three sides or three-quarters of the perimeter that surrounds areas where maintenance activity is conducted, in order to prevent the generation of fugitive lead-dust.
- (21) POINT SOURCE means any process, equipment, or total enclosure used in a large lead-acid battery recycling facility, including, but not limited to, agglomerating furnaces, dryers, smelting furnaces and refining kettles, whose emissions pass through a stack or vent designed to direct or control the exhaust flow prior to release into the ambient air.
- (22) PROCESS means using lead or lead-containing materials in any operation including, but not limited to, the charging of lead-containing materials to

- smelting furnaces, lead refining and casting operations, and lead-acid battery breaking.
- (23) RENOVATION for purposes of this rule means the altering of a building or permanent structure, or the removal of one or more of its components that generates fugitive lead-dust emissions.
- (24) SENSITIVE RECEPTOR means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.
- (25) SLAG means the inorganic material by-product discharged, in molten state, from a lead smelting furnace that has a lower specific gravity than lead metal and contains lead compounds. This shall include, but is not limited to, lead sulfate, lead sulfide, lead oxides, and lead carbonate consisting of other constituents charged to a smelting furnace which are fused together during the pyrometallurgical process.
- (26) SMELTING means the chemical reduction of lead compounds to elemental lead or lead alloys through processing in high temperatures greater than 980° C.
- (27) SMELTING FURNACE means any furnace where smelting takes place including, but not limited to, blast furnaces, reverberatory furnaces, rotary furnaces, and electric furnaces.
- (28) STATIC DIFFERENTIAL FURNACE PRESSURE means the difference between the absolute internal pressure of the smelting furnace ( $P_f$ , in inches water column) and the absolute atmospheric pressure in the immediate vicinity outside the smelting furnace ( $P_a$ , in inches water column) and is calculated as follows:  $P_f - P_a$ .
- (29) TOTAL ENCLOSURE means a permanent containment building/structure, completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access and egress for people and vehicles, that is free of cracks, gaps, corrosion, or other deterioration that could cause or result in fugitive lead-dust.
- (30) TOXIC AIR CONTAMINANT is an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a

present or potential hazard to human health.

- (31) WINDWARD WALL means the exterior wall of a total enclosure which is most impacted by the wind in its most prevailing direction determined by a wind rose using data required under paragraph (j)(5) of this rule, or other data approved by the Executive Officer.

(d) General Requirements

The owner or operator of a large lead-acid battery recycling facility shall be subject to the following requirements:

- (1) Prior to January 1, 2012, emissions shall not be discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 1.50 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) pursuant to District Rule 1420.
- (2) On and after January 1, 2012, emissions shall not be discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed  $0.150 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days. The ambient air concentrations of lead shall be determined by monitors pursuant to subdivision (j) or at any District-installed monitor.
- (3) No later than July 1, 2011, install, maintain, and operate total enclosures pursuant to subdivision (e) and lead point source emission control devices pursuant to paragraphs (f)(1) and (f)(6) through (f)(8). The owner or operator of a large lead-acid battery recycling facility shall comply with both subparagraphs (d)(3)(A) and (d)(3)(B):
  - (A) Submit complete permit applications for all construction and necessary equipment within 30 days of November 5, 2010.
  - (B) Complete all construction within 180 days of receiving Permit to Construct approvals from the Executive Officer, or by July 1, 2011, whichever is earlier.
  - (C) The Executive Officer may approve a request for an extension of the compliance deadline date if the facility can demonstrate that it timely filed all complete permit applications and is unable to meet the deadline due to reasons beyond the facility's control. The request shall be submitted to the Executive Officer no less than 30 days before the compliance deadline date.
- (4) On and after July 1, 2011 submit a Compliance Plan pursuant to subdivision (g) if emissions are discharged into the atmosphere which contribute to

ambient air concentrations of lead that exceed  $0.120 \text{ } (\mu\text{g}/\text{m}^3)$  averaged over any 30 consecutive days determined by monitors pursuant to subdivision (j) or at any District-installed monitor.

- (5) The owner or operator of a large lead-acid battery recycling facility shall:
- (A) Within 30 days of January 10, 2014, submit a Compliance Plan Schedule to the Executive Officer for review and approval to ensure that the facility will comply with the January 1, 2015 total facility mass emissions limits for arsenic, benzene, and 1,3-butadiene point sources specified in paragraph (f)(2). The Compliance Plan Schedule shall be subject to plan fees specified in Rule 306 and include:
    - (i) a list of all control measures to be implemented that includes a description of the control technology, the equipment that will be affected, the affected pollutants, the anticipated reductions, and the dates the measures will be implemented; and
    - (ii) a schedule that identifies dates for completion of engineering design(s), equipment procurement, construction, demolition (if any), equipment installation, and testing for each control measure described pursuant to clause (d)(5)(A)(i).
  - (B) Submit complete permit applications for all equipment specified in the Compliance Plan Schedule that requires a District permit within 90 days of January 10, 2014.
  - (C) Complete all construction within 180 days of receiving Permit to Construct approvals from the Executive Officer.
  - (D) The owner or operator of a large lead-acid battery recycling facility shall not be subject to requirements of subparagraphs (d)(5)(A) through (d)(5)(C) if the most recent District-approved source tests, conducted no earlier than January 1, 2011, show that the facility is meeting all of the emission limits specified in paragraph (f)(2).
- (6) On and after February 1, 2014, the owner or operator of a large lead-acid battery recycling facility shall not allow emissions to be discharged into the atmosphere which contribute to an ambient air concentration of arsenic that exceeds  $10.0 \text{ nanograms per cubic meter } (\text{ng}/\text{m}^3)$  averaged over a 24-hour time period as determined by monitors pursuant to subdivision (j) or by any District-installed monitor. An exceedance of  $10.0 \text{ ng}/\text{m}^3$  averaged over a

24-hour period shall be based on the average of the analysis of two sample results on the same filter. A second analysis is required if the first sample exceeds 10.0 ng/m<sup>3</sup>.

- (7) If the ambient air concentration of arsenic is determined to exceed 10.0 ng/m<sup>3</sup> averaged over a 24-hour time period as calculated pursuant to paragraph (d)(6), then the owner or operator shall:
- (A) Notify the Executive Officer in writing within 72 hours of when the facility knew or should have known it exceeded the ambient air arsenic concentration of 10.0 ng/m<sup>3</sup> averaged over a 24-hour time period; and
  - (B) Comply with the monitoring and sampling requirements in paragraph (j)(10).
- (8) The owner or operator of a large lead-acid battery recycling facility shall fund and participate in a multi-metal continuous emissions monitoring system (CEMS) demonstration program to continuously monitor lead, arsenic, and other metals emitted from a stack within its facility for a period specified by the District. Participation and funding of the multi-metals CEMS demonstration program shall require the owner or operator to:
- (A) Submit payment to the District for District personnel or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS demonstration program according not to exceed the following amounts and schedule:
    - (i) \$63,500 by April 1, 2014; and an additional
    - (ii) \$143,225 by September 1, 2014
  - (B) Provide continuous facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze and decommission a multi-metals CEMS;
  - (C) Provide the necessary location and infrastructure for the multi-metals CEMS including:
    - (i) siting location with sufficient spacing, clearance, and structural support;
    - (ii) electric power circuits;
    - (iii) compressed air;
    - (iv) sampling port(s);
    - (v) access to wireless modem connection to data unit and computer instrument for data retrieval;

- (vi) any necessary moving or lifting equipment and personnel to operate such equipment in order to install the system; and
- (vii) day to day instrument and equipment operation.

(e) Total Enclosures

(1) Enclosure Areas

The owner or operator of a large lead-acid battery recycling facility shall enclose within a total enclosure the following areas in groups or individually:

- (A) Battery breaking areas;
- (B) Materials storage and handling areas, excluding areas where unbroken lead-acid batteries and finished lead products are stored;
- (C) Dryer and dryer areas including transition pieces, charging hoppers, chutes, and skip hoists conveying any lead-containing material;
- (D) Smelting furnaces and smelting furnace areas charging any lead-containing material;
- (E) Agglomerating furnaces and agglomerating furnace areas charging any lead-containing material; and
- (F) Refining and casting areas.

(2) Total Enclosure Emissions Control

The owner or operator of a large lead-acid battery recycling facility shall vent each total enclosure to an emission collection system that ducts the entire gas stream which may contain lead to a lead emission control device and the entire gas stream which may contain arsenic to an arsenic emission control device, respectively, pursuant to subdivision (f).

(3) Total Enclosure Ventilation

Ventilation of the total enclosure at any opening including, but not limited to, vents, windows, passages, doorways, bay doors, and roll-ups shall continuously be maintained at a negative pressure of at least 0.02 mm of Hg (0.011 inches H<sub>2</sub>O) measured pursuant to paragraph (e)(4).

(4) Digital Differential Pressure Monitoring Systems

The owner or operator of a large lead-acid battery recycling facility shall install, operate, and maintain a digital differential pressure monitoring system for each total enclosure as follows:

- (A) A minimum of one building digital differential pressure monitoring system shall be installed and maintained at each of the following

three walls in each total enclosure having a total ground surface area of 10,000 square feet or more:

- (i) The leeward wall;
  - (ii) The windward wall; and
  - (iii) An exterior wall that connects the leeward and windward wall at a location defined by the intersection of a perpendicular line between a point on the connecting wall and a point on its furthest opposite exterior wall, and intersecting within plus or minus ten ( $\pm 10$ ) meters of the midpoint of a straight line between the two other monitors specified in clauses (e)(4)(A)(i) and (e)(4)(A)(ii). The midpoint monitor shall not be located on the same wall as either of the other two monitors described in clauses (e)(4)(A)(i) or (e)(4)(A)(ii).
- (B) A minimum of one building digital differential pressure monitoring system shall be installed and maintained at the leeward wall of each total enclosure that has a total ground surface area of less than 10,000 square feet.
- (C) Digital differential pressure monitoring systems shall be certified by the manufacturer to be capable of measuring and displaying negative pressure in the range of 0.01 to 0.2 mm Hg (0.005 to 0.11 inches H<sub>2</sub>O) with a minimum increment of measurement of plus or minus 0.001 mm Hg (0.0005 inches H<sub>2</sub>O).
- (D) Digital differential pressure monitoring systems shall be equipped with a continuous strip chart recorder or electronic recorder approved by the Executive Officer. If an electronic recorder is used, the recorder shall be capable of writing data on a medium that is secure and tamper-proof. The recorded data shall be readily accessible upon request by the Executive Officer. If software is required to access the recorded data that is not readily available to the Executive Officer, a copy of the software, and all subsequent revisions, shall be provided to the Executive Officer at no cost. If a device is required to retrieve and provide a copy of such recorded data, the device shall be maintained and operated at the facility.
- (E) Digital differential pressure monitoring systems shall be calibrated in accordance with manufacturer's specifications at least once every 12

calendar months or more frequently if recommended by the manufacturer.

- (F) Digital differential pressure monitoring systems shall be equipped with a backup, uninterruptible power supply to ensure continuous operation of the monitoring system during a power outage.

(5) In-draft Velocity

The in-draft velocity of the total enclosure shall be maintained at  $\geq 300$  feet per minute at any opening including, but not limited to, vents, windows, passages, doorways, bay doors, and roll-ups. In-draft velocities for each total enclosure shall be determined by placing an anemometer, or an equivalent device approved by the Executive Officer, at the center of the plane of any opening of the total enclosure.

(f) Point Source Emissions Controls

The owner or operator of a large lead-acid battery recycling facility shall vent emissions from each lead, arsenic, benzene, and 1,3-butadiene point source to a lead, arsenic, benzene, and 1,3-butadiene emission control device, respectively, that meets the requirements of this subdivision and is approved in writing by the Executive Officer.

(1) The owner or operator of a large lead-acid battery recycling facility shall:

- (A) Meet a total facility mass lead emissions from all lead point sources not to exceed 0.045 pounds of lead per hour. The maximum emission rate for any single lead point source shall not exceed 0.010 pounds of lead per hour. The total facility and maximum emission rates shall be determined using the most recent approved source tests conducted on behalf of the facility or the District; and

- (B) Install a secondary lead emission control device that controls lead emissions from the exhaust of the primary lead emission control device used for a dryer. The secondary lead emission control device shall be fitted with dry filter media, and the secondary lead control device shall only be used to vent the primary lead emission control device used for the dryer. An alternative secondary lead control method that is equally or more effective for the control of lead emissions may be used if a complete application is submitted as part of the permit application required under paragraph (d)(3) and approved by the Executive Officer.

- (2) The mass emissions from all arsenic, benzene, and 1,3-butadiene point sources at a large lead-acid battery recycling facility shall meet the following hourly emissions thresholds for the dates specified:
- (A) No later than 60 days after January 10, 2014, the total facility emission rate for a large lead-acid battery recycling facility from all point sources shall not exceed 0.00285 pound of arsenic per hour.
  - (B) No later than January 1, 2015, the total facility emission rate for a large lead-acid battery recycling facility from all point sources shall not exceed 0.00114 pound of arsenic per hour.
  - (C) No later than January 1, 2015, the total emission rate for a large lead-acid battery recycling facility from all point sources excluding point sources from emission control devices on total enclosures shall not exceed the following:
    - (i) 0.0514 pound of benzene per hour; and
    - (ii) 0.00342 pound of 1,3-butadiene per hour.
  - (D) The point source mass emission rates shall be determined based on the average of triplicate samples, using the most recent District-approved source tests conducted by the facility or the District, pursuant to subdivision (k).
  - (E) For purposes of this rule, only point sources that have a source test result of greater than 1 part per billion shall be included in determining the total facility mass emission rates for benzene and 1,3-butadiene.
- (3) No later than 90 days after January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall, for each smelting furnace, install, calibrate, operate and maintain a monitoring device that has been approved by the Executive Officer pursuant to paragraph (f)(4). The monitoring device shall measure and record the static differential furnace pressure in inches water column. Each smelting furnace shall be operated such that static differential furnace pressure, in inches of water column averaged over 30 minutes, is maintained at a value -0.02 or more negative. A reverberatory furnace may be operated at an alternative static differential furnace pressure if the owner or operator can demonstrate that it can achieve emission reductions that are equivalent to or better than those achieved when operating at a pressure of -0.02 or more negative. Demonstration shall be based on source test protocols and source tests conducted pursuant to the

requirements of subdivision (k) and approved by the Executive Officer. The alternative static differential furnace pressure shall not exceed 0.4 inches water column and must be approved by the Executive Officer in the Continuous Furnace Pressure Monitoring Plan of paragraph (f)(4). For the purposes of this requirement, the owner or operator shall ensure that the monitoring device:

- (A) Continuously measures the instantaneous static differential furnace pressure;
  - (B) Has a resolution of at least 0.01 inches water column;
  - (C) Has an increment of measurement of 0.01 inches water column;
  - (D) Has a range from -10 inches to +10 inches water column for the measuring device;
  - (E) Is equipped with ports to allow for periodic calibration in accordance with manufacturer's specifications;
  - (F) Is calibrated according to manufacturer's specifications at a frequency of not less than twice every calendar year;
  - (G) Is 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) seconds;
  - (H) Generates a data file from the computer system interfaced with each DAS each calendar day. The data file shall be saved in electronic ASCII character format, Microsoft Excel (xls orxlsx) format, PDF 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 30-minute average pressure readings recorded by this device each calendar day; and
  - (I) Is maintained in accordance with manufacturer's specifications.
- (4) No later than 30 days after January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall submit to the Executive Officer for approval an application for a Continuous Furnace Pressure Monitoring (CFPM) Plan for the monitoring device required in paragraph (f)(3). The CFPM Plan shall contain the information identified in Appendix 3 of this rule and is subject to the fees specified in Rule 306.
- (5) The Executive Officer shall notify the owner or operator in writing whether

the CFPM Plan is approved or disapproved. Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in paragraph (f)(4). If the CFPM Plan is disapproved, the owner or operator shall resubmit the CFPM Plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the CFPM Plan. The resubmitted CFPM Plan shall include any information necessary to address deficiencies identified in the disapproval letter. It is a violation of the rule for a facility not to have an approved CFPM Plan after the second denial. If the resubmitted CFPM Plan is denied, the operator or owner may appeal the denial by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 - Plans.

- (6) For any emission control device that uses filter media other than a filter bag(s), including, but not limited to, HEPA and cartridge-type filters, the filter(s) used shall be rated by the manufacturer to achieve a minimum of 99.97% capture efficiency for 0.3 micron particles.
  - (7) For any emission control device that uses a filter bag(s), the filter bag(s) used shall be polytetrafluoroethylene membrane-type, or any other material that is equally or more effective for the control of lead emissions, and approved for use by the Executive Officer.
  - (8) Each emission collection system and emission control device subject to this subdivision shall, at minimum, be inspected, maintained, and operated in accordance with the manufacturer's specifications.
  - (9) The owner or operator of a large lead-acid battery recycling facility shall comply with the curtailment requirements in subdivision (p) if the total facility mass lead emissions from all lead point sources exceeds the limits specified in subparagraph (f)(1)(A), and/or the total facility emission rate from all arsenic point sources exceeds the limits specified in subparagraph (f)(2)(A) or (f)(2)(B).
- (g) **Compliance Plan**
- On and after July 1, 2011, the owner or operator of a large lead-acid battery recycling facility shall submit a Compliance Plan if emissions are discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed  $0.120 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days, or on and after February 1, 2014, an ambient air concentration of arsenic that exceeds  $8.0 \text{ ng}/\text{m}^3$  averaged over

a 24-hour time period pursuant to paragraph (g)(7), as determined by monitors pursuant to subdivision (j) or at any District-installed monitor, and shall:

- (1) Notify the Executive Officer in writing within 72 hours of when the facility knew or should have known it exceeded an ambient air concentration of lead of  $0.120 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days, or an ambient air concentration of arsenic of  $8.0 \text{ ng}/\text{m}^3$  averaged over a 24-hour time period as determined in paragraph (g)(7). Notification shall only be required the first time the ambient air concentration of lead of  $0.120 \mu\text{g}/\text{m}^3$  or an ambient air concentration of arsenic of  $8.0 \text{ ng}/\text{m}^3$  is exceeded for each monitor;
- (2) Submit, within 30 calendar days of exceeding an ambient air concentration of lead of  $0.120 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days, or exceeding an ambient air concentration of arsenic of  $8.0 \text{ ng}/\text{m}^3$  averaged over a 24-hour time period as determined in paragraph (g)(7), a complete Compliance Plan to the Executive Officer for review and approval, subject to plan fees as specified in Rule 306. The Compliance Plan shall, at a minimum, include the following:
  - (A) A description of additional lead and/or arsenic emission reduction measures to achieve the ambient air concentration of lead of  $0.150 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days, or the ambient air concentration of arsenic of  $10.0 \text{ ng}/\text{m}^3$  averaged over a 24-hour time period, as required under paragraph (d)(2) and (d)(6), including, but not limited to, requirements for the following:
    - (i) Housekeeping, inspection, and maintenance activities;
    - (ii) Additional total enclosures;
    - (iii) Modifications to lead and arsenic emission control devices;
    - (iv) Installation of multi-stage lead and arsenic emission control devices;
    - (v) Process changes including reduced throughput limits;
    - (vi) Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment; and
    - (vii) Identification of lead and/or arsenic reduction measures to be implemented relative to increasing ranges of exceedance levels of the ambient air concentration limits.
  - (B) The locations within the facility and method(s) of implementation for

- each lead and/or arsenic reduction measure of subparagraph (g)(2)(A); and
- (C) An implementation schedule for each lead and/or arsenic emission reduction measure of subparagraph (g)(2)(A) to be implemented if lead and/or arsenic emissions discharged from the facility contribute to ambient air concentrations of lead that exceed  $0.150 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days, or ambient air concentrations of arsenic that exceed  $10.0 \text{ ng}/\text{m}^3$  averaged over a 24-hour time period, measured at any monitor pursuant to subdivision (j) or at any District-installed monitor. The schedule shall also include a list of the lead and/or arsenic reduction measures of subparagraph (g)(2)(A) that can be implemented immediately, prior to plan approval.
- (3) The Executive Officer shall notify the owner or operator in writing whether the Compliance Plan is approved or disapproved. Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in paragraph (g)(2), and whether the plan is likely to lead to avoiding future exceedances of the ambient air concentration levels set forth in paragraph (g)(1). If the Compliance Plan is disapproved, the owner or operator shall resubmit the Compliance Plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the Compliance Plan. The resubmitted Compliance Plan shall include any information necessary to address deficiencies identified in the disapproval letter. It is a violation of the rule for a facility not to have an approved Compliance Plan after the second denial. If the resubmitted Compliance Plan is denied, the operator or owner may appeal the denial by the Executive Officer to the Hearing Board under Rule 216 – Appeals and Rule 221 - Plans.
- (4) The owner or operator shall implement measures based on the schedule in the approved Compliance Plan if lead emissions discharged from the facility contribute to ambient air concentrations of lead to exceed  $0.150 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days, or an ambient air concentration of arsenic of  $10.0 \text{ ng}/\text{m}^3$  averaged over a 24-hour time period as determined in paragraph (d)(6), measured at any monitor pursuant to subdivision (j) or at any District-installed monitor.
- (5) The owner or operator may make a request to the Executive Officer to modify or update an approved Compliance Plan.

- (6) The owner or operator shall update the Compliance Plan 12 months from January 10, 2014 and annually thereafter, in order to update measures that have been implemented and to identify any new measures that can be implemented.
  - (7) An exceedance of an ambient air concentration of arsenic of  $8.0 \text{ ng/m}^3$  averaged over a 24-hour period shall be based on the average of the analysis of two sample results on the same filter. A second analysis is required if the first sample exceeds  $8.0 \text{ ng/m}^3$ .
- (h) Housekeeping Requirements
- No later than 30 days after November 5, 2010, the owner or operator of a large lead-acid battery recycling facility shall control fugitive lead-dust by conducting all of the following housekeeping practices:
- (1) Clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles in a manner that does not generate fugitive lead-dust, the following areas at the specified frequencies, unless located within a total enclosure vented to a lead emission control device. Days of measurable precipitation in the following areas occurring within the timeframe of a required cleaning frequency may be counted as a cleaning:
    - (A) Monthly cleanings of roof tops on structures  $\leq 45$  feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and
    - (B) Quarterly cleanings, no more than 3 calendar months apart, of roof tops on structures  $> 45$  feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and
    - (C) Weekly cleanings of all areas where lead-containing wastes generated from housekeeping activities are stored, disposed of, recovered or recycled.
    - (D) Initiate immediate cleaning, no later than one hour, after any maintenance activity or event including, but not limited to, accidents, process upsets, or equipment malfunction, that causes deposition of fugitive lead-dust onto areas specified in subparagraph (h)(1)(A) through (h)(1)(C). Immediate cleanings of roof tops shall be completed within 72 hours if the facility can demonstrate that delays were due to safety or timing issues associated with obtaining

equipment required to implement this requirement.

- (2) Inspect all total enclosures and facility structures that house, contain or control any lead point source or fugitive lead-dust emissions at least once a month. Any gaps, breaks, separations, leak points or other possible routes for emissions of lead or fugitive lead-dust to ambient air shall be permanently repaired within 72 hours of discovery. The Executive Officer may approve a request for an extension beyond the 72-hour limit if the request is submitted before the limit is exceeded.
- (3) Upon receipt, any lead-acid battery that is cracked or leaking shall be immediately sent to the battery breaking area for processing or stored pursuant to paragraph (h)(6).
- (4) Pave, concrete, asphalt, or otherwise encapsulate all facility grounds as approved by the Executive Officer. Facility grounds used for plant life that are less than a total surface area of 100 square feet shall not be subject to encapsulation. Facility grounds requiring removal of existing pavement, concrete, asphalt or other forms of encapsulation, necessary for maintenance purposes shall not require encapsulation while undergoing work, and shall be re-encapsulated immediately after all required work is completed. All work shall be conducted in accordance with subdivision (i).
- (5) Remove any weather cap installed on any stack that is a source of lead emissions.
- (6) Store all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other lead-containing waste generated from housekeeping requirements of subdivision (h) and maintenance activities of subdivision (i), in sealed, leak-proof containers, unless located within a total enclosure.
- (7) Transport all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other waste generated from housekeeping requirements of subdivision (h), within closed conveyor systems or in sealed, leak-proof containers, unless located within a total enclosure.
- (8) Initiate removal of any lead-containing material, including sludge, from the entire surface area of any surface impoundment pond or reservoir holding storm water runoff or spent water from housekeeping activities within 1 hour after the water level is  $\leq$  1 inch above the bottom of the pond or reservoir. Removal of lead-containing material is required to be completed

as soon as possible, and no later than six calendar days after the time initiation of the removal was required. Thereafter, surfaces shall be washed down weekly in a manner that does not generate fugitive lead-dust until the pond or reservoir is used again for holding water.

(9) Maintain and Use an Onsite Mobile Vacuum Sweeper or Vacuum

The owner or operator of a large lead-acid battery recycling facility shall maintain an onsite mobile vacuum sweeper that is in compliance with District Rule 1186, or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles to conduct the following sweeping activities:

- (A) Vacuum sweep all paved, concreted or asphalted facility areas subject to vehicular or foot traffic three times per day and occurring at least once per operating shift with each event not less than four hours apart, unless located within a total enclosure vented to a lead control device.
- (B) Immediately vacuum sweep any area specified in subparagraph (h)(9)(A), no later than one hour after any maintenance activity or event including accidents, process upsets, or equipment malfunction that results in the deposition of fugitive lead-dust.
- (C) Vacuum sweeping activities specified in paragraph (h)(9) shall not be required during days of measurable precipitation.

(i) Maintenance Activity

- (1) Beginning November 5, 2010, the owner or operator of a large lead-acid battery recycling facility shall conduct any maintenance activity in a negative air containment enclosure, vented to a permitted negative air machine equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, that encloses all affected areas where fugitive lead-dust generation potential exists, unless located within a total enclosure or approved by the Executive Officer. Any maintenance activity that cannot be conducted in a negative air containment enclosure due to physical constraints, limited accessibility, or safety issues when constructing or operating the enclosure shall be conducted:

- (A) In a partial enclosure, barring conditions posing physical constraints, limited accessibility, or safety issues;
- (B) Using wet suppression or a vacuum equipped with a filter(s) rated by

the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, at locations where the potential to generate fugitive lead-dust exists prior to conducting and upon completion of the maintenance activity. Wet suppression or vacuuming shall also be conducted during the maintenance activity barring safety issues;

(C) While collecting 24-hour samples at monitors for every day that maintenance activity is occurring notwithstanding paragraph (j)(2); and

(D) Shall be stopped immediately when instantaneous wind speeds are  $\geq$  25 mph. Maintenance work may be continued if it is necessary to prevent the release of lead emissions.

(2) Store or clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, all lead-contaminated equipment and materials used for any maintenance activity immediately after completion of work in a manner that does not generate fugitive lead-dust.

(j) Ambient Air Monitoring and Sampling Requirements

Prior to January 1, 2011, ambient air monitoring and sampling shall be conducted pursuant to District Rule 1420. No later than January 1, 2011, the owner or operator of a large lead-acid battery recycling facility shall conduct ambient air monitoring and sampling as follows:

(1) Collect samples from a minimum of four sampling sites. Locations for sampling sites shall be approved by the Executive Officer.

(A) Locations for sampling sites shall be based on maximum expected ground level lead and/or arsenic concentrations, at or beyond the property line, as determined by Executive Officer-approved air dispersion modeling calculations and emission estimates from all lead and arsenic point sources and fugitive lead-dust and arsenic-dust sources, and other factors including, but not limited to, population exposure and seasonal meteorology.

(B) The Executive Officer may require one or more of the four sampling sites to be at locations that are not based on maximum ground level lead and/or arsenic concentrations, and that are instead at locations at or beyond the property line that are representative of upwind or background concentrations.

- (C) Sampling sites at the property line may be located just inside the fence line on facility property if logistical constraints preclude placement outside the fence line at the point of maximum expected ground level lead and/or arsenic concentrations.
- (2) Collect ambient lead and arsenic samples as follows:
  - (A) Lead samples shall be collected as 24-hour, midnight-to-midnight, samples at all sites for 30 consecutive days from the date of initial sampling, followed by one 24-hour, midnight-to-midnight, sample collected at least once every three calendar days, on a schedule approved by the Executive Officer.
  - (B) Arsenic samples shall be collected as 24-hour, midnight-to-midnight, samples collected at least once every three calendar days, on a schedule approved by the Executive Officer.
- (3) Submit samples collected pursuant to paragraphs (j)(1) and (j)(2) to a laboratory approved under the SCAQMD Laboratory Approval Program for analysis within three calendar days of collection and calculate ambient lead and arsenic concentrations for individual 24-hour samples within 15 calendar days of the end of the calendar month in which the samples were collected. Duplicate samples shall be made available and submitted to the District upon request by the Executive Officer.
- (4) Sample collection for lead and/or arsenic shall be conducted using Title 40, CFR 50 Appendix B - *Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*, or U.S. EPA-approved equivalent methods, and sample analysis for lead shall be conducted using Title 40, CFR 50 Appendix G - *Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air*, or U.S. EPA-approved equivalent methods. Sample analysis for arsenic shall be conducted using U.S. EPA Compendium Method IO-3.5 - *Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)*; EPA Compendium Method IO-3.5; *In IO Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air*. Alternatively, sample analysis for arsenic may be conducted using the District's *Standard Operating Procedure for The Determination of Metals in Ambient Particulate Matter by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)*.
- (5) Continuously record wind speed and direction data at all times using

equipment approved by the Executive Officer at a minimum of one location and placement approved by the Executive Officer.

- (6) Ambient air quality monitoring shall be conducted by persons approved by the Executive Officer and sampling equipment shall be operated and maintained in accordance with U.S. EPA-referenced methods.
  - (7) All ambient air quality monitoring systems required by this subdivision shall be equipped with a backup, uninterruptible power supply to ensure continuous operation of the monitoring system during a power outage.
  - (8) Cleaning activities including, but not limited to, wet washing and misting, that result in damage or biases to samples collected shall not be conducted within 10 meters of any sampling site required under this subdivision.
  - (9) On and after January 1, 2012, if the owner or operator of a large lead-acid battery recycling facility exceeds an ambient air lead concentration  $0.150 \mu\text{g}/\text{m}^3$  measured pursuant to paragraph (d)(2), the owner or operator shall:
    - (A) Begin daily ambient air monitoring and sampling no later than three calendar days of the time the facility knew or should have known of the exceedance. Conduct daily ambient air monitoring and sampling for sixty (60) consecutive days at each sampling site that measured an exceedance with paragraph (d)(2).
    - (B) The 60 consecutive-day period shall be restarted for any subsequent exceedance.
    - (C) Comply with the curtailment requirements of subdivision (p).
  - (10) On and after February 1, 2014, if a large lead-acid battery recycling facility exceeds an ambient air concentration of arsenic of  $10.0 \text{ ng}/\text{m}^3$  pursuant to paragraph (d)(6), the owner or operator shall:
    - (A) Begin daily ambient air monitoring and sampling no later than three calendar days from the time the facility knew or should have known of the exceedance. Conduct daily ambient air monitoring and sampling for sixty (60) consecutive days at each sampling site that measured an exceedance pursuant to paragraph (d)(6).
    - (B) Restart the 60-day consecutive period for any subsequent exceedance.
    - (C) Comply with the curtailment requirements of subdivision (p).
- (k) Source Tests
- (1) The owner or operator of a large lead-acid battery recycling facility shall

conduct a source test of all lead point sources at least annually to demonstrate compliance with the mass emissions standards specified in subdivision (f). If the results of the most recent source test for a lead point source demonstrating compliance with the lead emission standard of subdivision (f) demonstrate emissions of 0.0025 pounds of lead per hour or less, the next test for that lead point source shall be performed no later than 24 months after the date of the most recent test.

- (2) Beginning January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall conduct a source test for all arsenic point sources, and all benzene and 1,3-butadiene point sources, excluding emission control devices on total enclosures, at least annually to demonstrate compliance with the mass emissions standards specified in subdivision (f). If the results of the most recent source test demonstrating compliance with the arsenic, benzene, and 1,3-butadiene mass emissions standards of subdivision (f) are below the emission rates specified in subparagraphs (k)(2)(A) through (k)(2)(C), the next source test for those point sources shall be performed no later than 24 months after the date of the most recent source test.
  - (A) 0.000860 pound of arsenic per hour;
  - (B) 0.0386 pound of benzene per hour; and
  - (C) 0.00257 pound of 1,3-butadiene per hour.
- (3) The owner or operator of a large lead-acid battery recycling facility with an existing lead emission control device in operation before November 5, 2010 shall conduct a source test for it no later than January 1, 2011. The owner or operator of a large lead-acid battery recycling facility with a new or modified lead control device with initial start-up on or after November 5, 2010 shall conduct the initial source test for it within 60 calendar days after initial start-up.
- (4) Prior to conducting a source test pursuant to paragraph (k)(1), (k)(2), (k)(3), or (k)(13), the owner or operator of a large lead-acid battery recycling facility shall submit a pre-test protocol to the Executive Officer for approval at least 60 calendar days prior to conducting the source test. The pre-test protocol shall include the source test criteria of the end user and all assumptions, required data, and calculated targets for testing the following:
  - (A) Target arsenic, benzene, lead, or 1,3-butadiene mass emission standard;

- (B) Preliminary target pollutant analytical data;
  - (C) Planned sampling parameters; and
  - (D) Information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated test.
- (5) The owner or operator of a large lead-acid battery recycling facility shall notify the Executive Officer in writing one week prior to conducting any source test required by paragraph (k)(1), (k)(2), (k)(3), or (k)(13).
- (6) The owner or operator of a large lead-acid battery recycling facility shall notify the Executive Officer within three business days, including Mondays, of when the facility knew or should have known of any source test result that exceeds any of the emission standards specified in subdivision (f). Notifications shall be made to 1-800-CUT-SMOG and followed up in writing with the results of the source tests within seven (7) days of notification.
- (7) Source tests shall be conducted while operating at a minimum of 80% of equipment permitted capacity and in accordance with any of the following applicable test methods:
- (A) SCAQMD Method 12.1 - *Determination of Inorganic Lead Emissions from Stationary Sources Using a Wet Impingement Train*
  - (B) ARB Method 12 – *Determination of Inorganic Lead Emissions from Stationary Sources*
  - (C) EPA Method 12 – *Determination of Inorganic Lead Emissions from Stationary Sources*
  - (D) ARB Method 436 – *Determination of Multiple Metal Emissions from Stationary Sources*
  - (E) EPA Method TO-15 – *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)*
  - (F) CARB Method 410A – *Determination of Benzene from Stationary Sources (Low Concentration Gas Chromatographic Technique)*
  - (G) CARB Method 422.102 – *Determination of Volatile Organic Compounds (VOCs) in Emissions from Stationary Sources*
- (8) The average of triplicate samples, obtained according to approved test methods specified in paragraph (k)(7), shall be used to determine compliance or to report source test results required under paragraph (k)(13).

- (9) The operator may use alternative or equivalent source test methods as defined in U.S. EPA 40 CFR 60.2, approved in writing by the Executive Officer, the Air Resources Board, and the U.S. EPA.
- (10) The operator shall use a test laboratory approved under the SCAQMD 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 shall be granted by the Executive Officer on a case-by-case basis based on SCAQMD protocols and procedures.
- (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.
- (12) An existing source test conducted on or after January 1, 2009 for lead emission control devices existing before November 5, 2010 may be used as the initial source test specified in paragraph (k)(1) to demonstrate compliance with the control standard of subdivision (f) upon Executive Officer approval. The source test shall meet, at a minimum, the following criteria:
  - (A) The test is the most recent conducted since January 1, 2009;
  - (B) The test demonstrated compliance with the control standard of subdivision (f); and
  - (C) The test is representative of the method to control emissions currently in use; and
  - (D) The test was conducted using applicable and approved test methods specified in paragraphs (k)(7), (k)(9), or (k)(10).
- (13) Beginning January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall conduct two source tests for benzene and 1,3-butadiene emissions from all emission control devices on total enclosures as follows:
  - (A) First source test conducted no later than March 1, 2014.
  - (B) Second source test conducted no later than September 1, 2014.
  - (C) Source tests on all emission control devices on total enclosures must be completed within a time period of 72 hours or less.
- (14) Testing conducted by the facility, by the District, or by a contractor acting on behalf of the District or the facility to determine compliance with this

rule shall be performed according to the most recent District-approved test protocol for the same purpose or compounds.

(l) New Facilities

The owner or operator of a large lead-acid battery recycling facility beginning construction or operations on or after November 5, 2010 shall:

- (1) Demonstrate to the satisfaction of the Executive Officer that the facility is not located in an area that is zoned for residential or mixed use; and
- (2) Demonstrate to the satisfaction of the Executive Officer that the facility is not located within 1,000 feet from the property line of a sensitive receptor, a school under construction, park, or any area that is zoned for residential or mixed use. The distance shall be measured from the property line of the new facility to the property line of the sensitive receptor.
- (3) Submit complete permit applications for all equipment required by this rule prior to beginning construction or operations, and otherwise on or before the time required by District rules.

(m) Recordkeeping

- (1) The owner or operator of a large lead-acid battery recycling facility shall keep records of the following:
  - (A) Daily records indicating amounts of lead-containing material processed, including, but not limited to, purchase records, usage records, results of analysis, or other District-approved verification to indicate processing amounts;
  - (B) Results of all ambient air lead and arsenic monitoring, meteorological monitoring, and other data specified by subdivision (j); and
  - (C) Records of housekeeping activities completed as required by subdivision (h), maintenance activities of subdivision (i), and emission control device inspection and maintenance requirements of paragraph (f)(8), including the name of the person performing the activity, and the dates and times on which specific activities were completed.
  - (D) Records of unplanned shutdowns of any smelting furnace including the date and time of the shutdown, description of the corrective measures taken, and the re-start date and time.

- (2) The owner or operator of a large lead-acid battery recycling facility shall maintain all records for five years, at least two years onsite.
  
- (n) Reporting
  - (1) Ambient Air Monitoring Reports
    - (A) Beginning no later than January 1, 2011, the owner or operator of a large lead-acid battery recycling facility shall report by the 15<sup>th</sup> of each month to the Executive Officer, the results of all ambient air lead and wind monitoring for each preceding month, or more frequently if determined necessary by the Executive Officer. The report shall include the results of individual 24-hour samples and 30-day rolling averages for each day within the reporting period.
    - (B) Beginning no later than March 15, 2014, the owner or operator of a large lead-acid battery recycling facility shall report by the 15<sup>th</sup> of each month to the Executive Officer, the results of all ambient air arsenic and wind monitoring for each preceding month, or more frequently if determined necessary by the Executive Officer and the owner or operator is notified in writing of the required frequency.
    - (C) Any exceedances of ambient air concentrations specified in paragraphs (d)(2) and (d)(6) shall be reported with a notification made to the 1-800-CUT-SMOG within 24 hours of receipt of the completed sample analysis required in paragraph (j)(3), followed by a written report to the Executive Officer no later than three calendar days after the notification. The written report shall include the causes of the exceedance and the specific corrective actions implemented.
  - (2) Shutdown, Turnaround, and Maintenance Activity Notification

The owner or operator of a large lead-acid battery recycling facility shall:

    - (A) Notify the Executive Officer and the public within one hour after an unplanned shutdown of any emission control device has occurred. If the unplanned shutdown involves a breakdown pursuant to Rule 430, the breakdown notification report required by Rule 430 shall serve in lieu of this notification to the Executive Officer. The notification shall include the following information:
      - (i) Date and time the unplanned shutdown of the emission control device(s) occurred;

- (ii) Description of the shutdown emission control device and the processes and/or equipment vented by the emission control device;
  - (iii) Description of when the processes and/or equipment vented by the emission control device were shutdown, including expected shutdown time;
  - (iv) Reason why the emission control device was shutdown;
  - (v) Total duration of the unplanned shutdown, if known; and
  - (vi) Facility contact name and phone number for further information regarding the unplanned shutdown.
- (B) Beginning May 1, 2014, if an unplanned shutdown of any emission control device occurs, and the reason for the unplanned shutdown cannot be determined within the one-hour reporting period under subparagraph (n)(2)(A), the owner or operator shall investigate the reason for the unplanned shutdown and notify the Executive Officer of the reason for the unplanned shutdown within 5 business days of the event. If the reason for the unplanned shutdown is still not known within 5 business days of the event, the owner or operator shall notify the Executive Officer within 5 business days of the event and:
- (i) Use an independent third party approved by the Executive Officer to conduct an investigation at the facility to determine the reason for the unplanned shutdown of any emission control device subject to this rule, which includes but is not limited to:
    - (I) Physically inspecting the control equipment and surrounding portions of the facility which may provide information to understand the reason for the unplanned shutdown of emission control equipment; and
    - (II) Reviewing equipment maintenance and operation records, logs, and other documentation which may provide information to understand the reason for the unplanned shutdown of emission control equipment;
  - (ii) Use an independent third party approved by the Executive Officer to inspect all equipment repaired or replaced in

response to the unplanned shutdown of emission control equipment, to ensure affected control equipment can operate properly; and

- (iii) Within 30 calendar days of the reported unplanned shutdown, provide a written report to the Executive Officer and the Director of the California Department of Toxic Substances Control. The owner or operator shall notify the Executive Officer if an approved independent third party is not available for use, or the list of approved independent third parties has not yet been developed by the Executive Officer, and shall submit the written report 30 days from when an approved third party is available. The written report shall include the following information:
  - (I) Date of the unplanned shutdown of emission control equipment;
  - (II) Reason for the unplanned shutdown of emission control equipment;
  - (III) List of all equipment repaired or replaced in response to the unplanned shutdown and corrective actions taken to prevent recurrence of the unplanned shutdown of emission control equipment; and
  - (IV) Written verification that the affected emission control equipment is operational. If the affected equipment is not operational, provide an approximate date the subject equipment is expected to be operational.
- (iv) The owner or operator shall be responsible for reimbursement to the District for any and all expenses incurred by the independent third-party investigator in the investigation, inspection, and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to this rule, as required by subparagraph (n)(2)(B). The owner or operator shall reimburse the District within 30 days of notification from the Executive Officer that payment is due.
- (v) The reimbursement specified in clause (n)(2)(B)(iv) shall not exceed \$12,000 per third-party investigation.

- (C) Notify the Executive Officer and the public at least ten calendar days prior to a planned turnaround or shutdown of any smelting furnace, battery breaker, or emission control device subject to this rule that results in arsenic, benzene, 1,3-butadiene, or lead emissions. The notification shall specify the subject equipment and the start and end date of the turnaround or shutdown period.
- (D) Notify the Executive Officer at least ten calendar days prior to the beginning of maintenance activity, as defined in paragraph (c)(17), that is conducted routinely on a monthly or less frequent basis. The notification and report required under subparagraph (n)(2)(F) shall include, at a minimum, the following:
  - (i) Dates, times, and locations of activities to be conducted;
  - (ii) Description of activities;
  - (iii) Name of person(s)/company conducting the activities;
  - (iv) Lead abatement procedures, including those specified in subdivision (i), to be used to minimize fugitive lead-dust emissions; and
  - (v) Date of expected re-start of equipment.
- (E) Notify the public at least ten calendar days prior to the beginning of building construction, renovation, or demolition, and resurfacing, repair, or removal of ground pavement, concrete or asphalt if such activities are conducted outside of a total enclosure and generate fugitive lead-dust. The notification shall include, at a minimum, the following:
  - (i) Dates, times, and locations of activities to be conducted;
  - (ii) Description of activities;
  - (iii) Date of expected re-start of equipment.
- (F) Provide the notification to the Executive Officer required under subparagraphs (n)(2)(A), (n)(2)(C), and (n)(2)(D) to 1-800-CUT-SMOG followed by a written notification report to the Executive Officer no later than three business days, including Mondays, after the unplanned shutdown occurred.
- (G) Provide notification to the public required under subparagraphs (n)(2)(A), (n)(2)(C), and (n)(2)(E) through a facility contact or pre-recorded notification center that is accessible 24 hours a day, 7 days a week, and through electronic mail using a list of recipients

provided by the Executive Officer. Another method of notification to the public may be used provided it is approved by the Executive Officer.

- (H) Install a sign indicating the phone number for the facility contact or pre-recorded notification center that meets the following requirements, unless otherwise approved in writing by the Executive Officer:
  - (i) Installed within 50 feet of the main entrance of the facility and in a location that is visible to the public;
  - (ii) Measures at least 48 inches wide by 48 inches tall;
  - (iii) Displays lettering at least 4 inches tall with text contrasting with the sign background; and
  - (iv) Located between 6 and 8 feet above grade from the bottom of the sign.
- (3) Initial Facility Status Report
  - (A) Initial Facility Status Report Due Date

The owner or operator of a large lead-acid battery recycling facility existing before November 5, 2010 shall submit an initial facility status report to the Executive Officer no later than January 1, 2011. Large lead-acid battery recycling facilities beginning construction or initial operations after November 5, 2010 shall submit the initial compliance status report upon start-up.
  - (B) The initial facility status report shall contain the information identified in Appendix 1.
- (4) Ongoing Facility Status Report

The owner or operator of a large lead-acid battery recycling facility shall submit a summary report to the Executive Officer to document the ongoing facility status.

  - (A) Frequency of Ongoing Facility Status Reports

The report shall be submitted annually on or before February 1 for all sources and shall include information covering the preceding calendar year.
  - (B) The content of ongoing facility status reports shall contain the information identified in Appendix 2.
- (5) Adjustments to the Timeline for Submittal and Format of Reports

The Executive Officer may adjust the timeline for submittal of periodic

reports, allow consolidation of multiple reports into a single report, establish a common schedule for submittal of reports, or accept reports prepared to comply with other state or local requirements. Adjustments shall provide the same information and shall not alter the overall frequency of reporting.

(o) Lead Emission Rate Feasibility Study

On and after July 1, 2011, the first time emissions are discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed  $0.120 \mu\text{g}/\text{m}^3$ , averaged over any 30 consecutive days, determined by monitors pursuant to subdivision (j) or at any District-installed monitor, the owner or operator of a large lead-acid battery recycling facility shall submit a study addressing the technical, economic and physical feasibility of achieving a total facility mass lead emission rate of 0.003 pounds per hour from all lead point sources. The study shall be submitted within 30 calendar days after exceeding  $0.120 \mu\text{g}/\text{m}^3$ , averaged over any 30 consecutive days. Subsequent exceedances of ambient air concentrations of lead of  $0.120 \mu\text{g}/\text{m}^3$  do not trigger another feasibility study.

(p) Curtailment Requirements

(1) On and after February 1, 2014, the owner or operator of a large lead-acid battery recycling facility shall implement the following mandatory daily process curtailments if emissions are discharged into the atmosphere which contribute to monitored ambient air concentrations of lead, as determined pursuant to paragraph (d)(2), and/or ambient air concentrations of arsenic, as determined pursuant to paragraph (d)(6), that exceed the thresholds listed below in Table 1:

**Table 1 – Process Curtailments Based on Ambient Air Concentrations of Lead and/or Arsenic**

Air Contaminant	Monitored Ambient Air Concentration	Reduction in Feedstock Charged to Reverberatory Furnace
Lead	$>0.150 - 0.230 \mu\text{g}/\text{m}^3$	15%
	$>0.230 - 0.300 \mu\text{g}/\text{m}^3$	25%
	$>0.300 - 0.375 \mu\text{g}/\text{m}^3$	50%
	$>0.375 \mu\text{g}/\text{m}^3$	75%
Arsenic	$>10.0 - 15.0 \text{ ng}/\text{m}^3$	15%
	$>15.0 - 20.0 \text{ ng}/\text{m}^3$	25%
	$>20.0 - 25.0 \text{ ng}/\text{m}^3$	50%

	>25.0 ng/m <sup>3</sup>	75%
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- (A) The process curtailments for exceedances of the ambient air concentration of lead thresholds in Table 1 shall remain in effect until the monitoring results at each affected monitoring station are at or below 0.150 µg/m<sup>3</sup> of lead averaged over any 30 consecutive days, for a period of 30 consecutive days, or the monitoring results at each affected monitoring station are at or below 0.120 µg/m<sup>3</sup> for at least 10 consecutive days and no other monitor exceeds the thresholds specified in subdivision (d); and
  - (B) The process curtailments for exceedances of the ambient air concentration of arsenic thresholds in Table 1 shall remain in effect until the monitoring results at each affected monitoring station are at or below 10.0 ng/m<sup>3</sup> of arsenic averaged over a 24-hour time period, for a period of at least 30 consecutive days.
- (2) The owner or operator of a large lead-acid battery recycling facility shall implement the following mandatory daily process curtailments if the total facility mass emissions from all lead and/or arsenic point sources exceed the thresholds listed below in Table 2:

**Table 2 – Process Curtailments Based on Total Facility Mass Lead and/or Arsenic Emissions From All Point Sources**

Effective Date	Air Contaminant	Total Facility Mass Emission Rate (lbs/hour)	Reduction in Feedstock Charged to Reverberatory Furnace
On and after January 10, 2014	Lead	>0.045 – 0.0675	15%
		>0.0675 – 0.09	25%
		>0.09 – 0.1125	50%
		>0.1125	75%
No later than 60 days after January 10, 2014 to December 31, 2014	Arsenic	>0.00285 – 0.00428	15%
		>0.00428 – 0.00570	25%
		>0.00570 – 0.00713	50%
		>0.00713	75%
On and after January 1, 2015	Arsenic	>0.00114 – 0.00171	15%
		>0.00171 – 0.00228	25%
		>0.00228 – 0.00285	50%

		>0.00285	75%
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- (A) The process curtailments in Table 2 shall remain in effect until the facility demonstrates compliance using the most recent District-approved source tests conducted by the facility or the District, pursuant to subdivision (k).
  - (3) Reductions in feedstock charged to the reverberatory furnace required by paragraphs (p)(1) or (p)(2) shall be based on the daily average of materials charged to the reverberatory furnace over the previous 90 days of operation prior to when the facility knew or should have known of the exceedance;
  - (4) The process curtailments in Table 1 and Table 2 shall begin within 48 hours of the time when the owner or operator receives sampling results indicating an exceedance of any lead and/or arsenic threshold listed in Table 1 or Table 2; and
  - (5) The owner or operator of a large lead-acid battery recycling facility may temporarily exceed the mandatory process curtailments specified in Table 1 of paragraph (p)(1) and Table 2 of paragraph (p)(2), only for the period of time required to perform source tests to demonstrate compliance with this rule.
- (q) Severability
- If any provision of this rule is held by judicial order to be invalid, or invalid or inapplicable to any person or circumstance, such order shall not affect the validity of the remainder of this rule, or the validity or applicability of such provision to other persons or circumstances.

**Appendix 1 – Content of Initial Facility Status Reports**

Initial compliance status reports shall contain, at a minimum, the following information:

1. Facility name, District Facility ID number, facility address, owner/operator name, and telephone number.
2. The distance from the property line of the facility to the property line of the nearest commercial/industrial building and sensitive receptor.
3. Worker and sensitive receptor locations, if they are located within one-quarter mile from the center of the facility.
4. Building parameters
  - Stack heights in feet (point sources); or
  - Building area in square feet (volume sources).
5. A description of the types of lead processes performed at the facility.
6. The following information shall be provided for each of the last five calendar years prior to November 5, 2010:
  - Annual amount of lead-containing material processed;
  - The maximum and average daily and monthly operating schedules;
  - The maximum and average daily and monthly lead-processing rates for all equipment and processes;
  - The maximum and average daily and annual emissions of lead from all emission points and fugitive lead-dust sources.
7. The approximate date of intended source tests for all lead emission control devices, as required by subdivision (k) of this rule.
8. Engineering drawings, calculations or other methodology to demonstrate compliance with paragraphs (d)(1) through (d)(3) and (k).
9. Air dispersion modeling calculations using procedures approved by the Executive Officer to determine the location of sampling sites as required by subdivision (j).
10. All information necessary to demonstrate means of compliance with subdivision (j).
11. The name, title, and signature of the responsible official certifying the accuracy of the report, attesting to whether the source has complied with the provisions of this rule.
12. The date of the report.

**Appendix 2 – Content of Ongoing Facility Status Reports**

Ongoing facility status reports shall, at a minimum, contain the following information:

1. Facility name, District Facility ID number, facility address, owner/operator name, and telephone number.
2. The beginning and ending dates of the calendar year for the reporting period.
3. The following information shall be provided for each of the last 12 calendar months of the reporting period:
  - Annual amounts of lead-containing material processed;
  - The maximum and average daily and monthly lead-processing rates for all equipment and processes;
  - The maximum and average daily and annual emissions of lead from all emission points and fugitive lead-dust sources.
4. Worker and sensitive receptor distances, if they are located within ¼ of mile from the center of the facility and facility maximum operating schedule, if changed since submittal of the initial compliance status report or prior year's ongoing compliance status and emission reports.
5. A description of any changes in monitoring, processes, or controls since the last reporting period.
6. The name, title, and signature of the responsible official certifying the accuracy of the report.
7. The date of the report.

**Appendix 3 – Continuous Furnace Pressure Monitoring (CFPM) Plan**

The CFPM Plan shall, at a minimum, contain the following information:

1. A description of the type and design of the differential pressure monitoring device(s).
2. The specifications of the resolution, increment of measurement, and range of the differential pressure monitoring device(s).
3. A drawing and description of the exact location where each differential pressure monitoring device is to be located.
4. If differential pressure monitoring device(s) are already installed, all available recorded data of the static differential furnace pressure(s) as requested by the Executive Officer.
5. If applicable, the maximum alternative static differential furnace pressure in inches water column that the owner or operator will operate the reverberatory furnace at, and a demonstration that it can achieve emission reductions that are equivalent to or better than those achieved when operating at a pressure of -0.02 or more negative. The alternative static differential furnace pressure shall not exceed 0.4 inches water column.

ATTACHMENT G

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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**Draft Staff Report  
Proposed Amended Rule 1420.1 – Emission Standards for Lead and  
Other Toxic Air Contaminants from Large Lead-Acid Battery  
Recycling Facilities**

February March 2014

**Deputy Executive Officer**

Planning, Rule Development, and Area Sources  
Elaine Chang, DrPH

**Assistant Deputy Executive Officer**

Planning, Rule Development, and Area Sources  
Philip Fine, Ph.D.

**Director of Strategic Initiatives**

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
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## **LIST OF ACRYNOMS**

CEMS = Continuous Emissions Monitoring System

CEQA = California Environmental Quality Act

NAAQS = National Ambient Air Quality Standards

NESHAPS = National Emissions Standards for Hazardous Air Pollutants

ng/m<sup>3</sup> = nanogram per cubic meter

µg/m<sup>3</sup> = microgram per cubic meter

## **EXECUTIVE SUMMARY**

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**BACKGROUND**

**PUBLIC PROCESS**

**AFFECTED INDUSTRIES**

**PROPOSED AMENDED RULE 1420.1**

**IMPACT ASSESSMENT**

## BACKGROUND

Rule 1420.1 was adopted on November 5, 2010 and applies to large lead-acid battery recycling facilities that have processed more than 50,000 tons of lead a year. The purpose of Rule 1420.1 is to protect public health by reducing exposure to emissions of lead from these facilities and to help to ensure attainment of the National Ambient Air Quality Standard for lead. On January 10, 2014, Rule 1420.1 was amended to address arsenic, benzene, and 1,3-butadiene, at large lead-acid battery recycling facilities. These amendments to Rule 1420.1 further protects public health by addressing arsenic, benzene, and 1,3-butadiene emissions which are the primary contributors to the elevated health risks caused by large lead-acid battery recycling facilities.

At the January 10, 2014 Governing Board meeting, Proposed Amended Rule 1420.1 included provisions for operators to implement a multi-metals continuous emissions monitoring system (CEMS) demonstration program. However, Staff recommended that this provision be excluded from the January amendments to allow additional time for staff to work with the manufacturer of the multi-metal CEMS, affected facilities, and environmental and community groups. Staff has worked with these stakeholders and is proposing amendments to Rule 1420.1 to implement a multi-metals CEMS demonstration program.

The proposed amended rule also adds some clarifying language that requires the affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns.

## PUBLIC PROCESS

The SCAQMD staff worked with stakeholders on this proposed amendment. The proposed amendment has focused on implementation of a CEMS demonstration and providing funding for independent third-party investigations. A ~~public workshop~~ consultation meeting for PAR 1420.1 ~~will be~~ was held on February 19, 2014 at the SCAQMD Headquarters in Diamond Bar.

## AFFECTED INDUSTRIES

Rule 1420.1 applies to lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the Basin: Exide Technologies located in Vernon, and Quemetco Inc. located in the City of Industry.

## PROPOSED AMENDED RULE 1420.1

The objective of Proposed Amended Rule 1420.1 (PAR 1420.1) is to continue to ensure attainment of the National Ambient Air Quality Standards for lead and to reduce arsenic, benzene, and 1,3 butadiene emissions from large lead-acid battery recycling facilities. PAR 1420.1 requires affected facilities to fund and participate in a multi-metals Continuous Emissions Monitoring System (CEMS) demonstration program that will be managed by SCAQMD staff. This will entail managing the contract, maintaining the equipment, conducting data downloading and analysis, and reporting. Upon Governing Board approval, the SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and

decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. PAR 1420.1 requires that each affected facility:

- Submit to the Executive Officer monies in the following amounts to fund a multi-metals CEMS demonstration program:
  - \$63,500 by April 1, 2014; and
  - \$143,225 by September 1, 2014
- Provide the following elements within their site: the appropriate number of grounded circuits, compressed air, wireless modem connection for data retrieval ~~to data and instrument computers~~, and the necessary personnel to install this equipment; and
- Allow SCAQMD staff and its contractor Cooper Environmental Services access to monitoring instruments and auxiliary equipment associated with monitoring instruments.

PAR 1420.1 also clarifies that operators are required to reimburse the SCAQMD within 30 days if the SCAQMD hires a third party consultant to investigate the reason for an unplanned shutdown. The proposed amended rule also specifies that the cost associated with reimbursement to the District for each investigation shall not exceed \$12,000.

## IMPACT ASSESSMENT

A socioeconomic assessment has been conducted to analyze the costs associated with compliance under PAR 1420.1. A revised draft of the socioeconomic analysis was prepared and made available to the public 30 days before the March 7, 2014 Public Hearing.

SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 pursuant to CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to PAR 1420.1 would collect basic data, which would not result in a serious or major disturbance to an environmental resource. These requirements are strictly for information gathering purposes that could lead to an action which a public agency has not yet approved, adopted, or funded. CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges also applies because PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal continuous emissions monitoring system for use in the SCAQMD area of jurisdiction; and to reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report. These fees would be for the purpose of recovering cost for operating expenses; and purchasing or leasing supplies, equipment or materials. The multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report would not create any significant adverse effects on air quality or any other environmental areas. Since it can be seen with certainty that the proposed project has no potential to adversely affect air quality or any other environmental area, PAR1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption.

## **CHAPTER 1: BACKGROUND**

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**INTRODUCTION**

**REGULATORY HISTORY**

**PUBLIC PROCESS**

**AFFECTED INDUSTRIES**

**MULTI-METAL CONTINUOUS EMISSIONS MONITORING SYSTEMS**

## INTRODUCTION

Rule 1420.1 was adopted on November 5, 2010 and applies to large lead-acid battery recycling facilities that have processed more than 50,000 tons of lead a year. The purpose of Rule 1420.1 is as initially adopted was to protect public health by reducing exposure to emissions of lead from these facilities and to help to ensure attainment of the National Ambient Air Quality Standard for lead. On January 10, 2014, Rule 1420.1 was amended to address arsenic, benzene, and 1,3-butadiene, at large lead-acid battery recycling facilities. Amendments to Rule 1420.1 further protects public health by addressing arsenic, benzene, and 1,3-butadiene emissions which are the primary contributors to the elevated health risks from large lead-acid battery recycling facilities.

At the January 10, 2014 Governing Board meeting, Rule 1420.1 included provisions for operators to implement a multi-metals continuous emissions monitoring system (CEMS) demonstration program. Staff recommended that this provision be excluded from the January amendment to allow additional time for staff to work with the manufacturer of the multi-metal CEMS, affected facilities, and environmental and community groups. The SCAQMD Staff has worked with these stakeholders and is proposing amendments to Rule 1420.1 to implement a multi-metals CEMS demonstration program.

## REGULATORY HISTORY

Lead-acid battery recyclers have been subject to regulation for more than two decades. Below is a chronology of regulatory activity:

- November 1970, CARB set the state ambient air quality standard for lead at  $1.5 \mu\text{g}/\text{m}^3$  averaged over 30 days.
- October 1978, the U.S. EPA adopted the NAAQS for lead requiring attainment with a lead ambient concentration of  $1.5 \mu\text{g}/\text{m}^3$  averaged over a calendar quarter.
- September 1992, the SCAQMD adopted Rule 1420 – Emissions Standard for Lead. The rule incorporated the state ambient air quality standard and required control devices on lead emission points, control efficiency requirements for lead control devices, housekeeping, and monitoring or modeling of ambient air quality.
- October 1992, OEHHA classified lead as a carcinogenic toxic air contaminant and assigned to it a cancer potency factor and a cancer unit risk factor.
- April 8, 1994, SCAQMD adopted Rule 1402 – Control of Toxic Air Contaminants from Existing Sources
- July 1994, the SCAQMD adopted Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations. The rule reduces emissions of arsenic, cadmium, and nickel from industries such as primary and secondary smelters, foundries, die-casters, and coating processes through requirements for installation of particulate control devices, control efficiency standards, and fugitive emission control.
- June 1997, the U.S. EPA adopted the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) from Secondary Lead Smelting. The federal regulation required

lead emission concentration limits of lead control devices, control of process fugitive emissions, monitoring, recordkeeping, and reporting.

- October 15, 2008, the U.S. EPA promulgated an amended NAAQS for lead of 0.15  $\mu\text{g}/\text{m}^3$ .
- November 5, 2010, the SCAQMD adopted Rule 1420.1 – Emissions Standard for Lead from Large Lead-acid Battery Recycling Facilities. The rule established requirements for total enclosures of areas used in the lead-acid battery recycling operation, ambient air quality concentration standards, ambient air monitoring, and housekeeping practices.
- January 10, 2014, the SCAQMD amended Rule 1420.1 to establish emission limits for arsenic, benzene, and 1,3-butadiene. Amendments also included requirements for an arsenic ambient concentration limit, additional reporting requirements, and requirements to maintain negative pressure for smelting furnaces.

## **PUBLIC PROCESS**

The SCAQMD staff worked with stakeholders for this proposed amendment. The proposed amendment was focused on implementation of a CEMS demonstration program. A public workshop consultation meeting for PAR 1420.1 was held on February 19, 2014 at the SCAQMD Headquarters in Diamond Bar.

## **AFFECTED INDUSTRIES**

PAR 1420.1 applies to large lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the Basin: Exide Technologies located in Vernon, and Quemetco Inc. located in the City of Industry. Both facilities are currently permitted to process approximately 600 tons of lead per day through a combination of smelting furnaces.

## **MULTI-METAL CONTINUOUS EMISSIONS MONITORING SYSTEMS**

Multi-metals continuous emissions monitoring systems (CEMS) are sampling devices that are able to monitor in-stack hazardous air pollutant metal emissions. Cooper Environmental Services LLC has developed the Xact 640 which is a multi-metals CEMS that uses reel to reel filter tape sampling and X-ray fluorescence (XRF) analysis to monitor stack hazardous metal emissions. Vapor phase and particulate matter are deposited on the filter tape. The deposit is automatically advanced and analyzed by XRF for selected metals as the next sample is being collected. Sampling and analysis are performed continuously and simultaneously. The Xact 640 is capable of sampling more than 20 key air toxic metals. The Xact 640 is the only multi-metal CEMS commercially available.

## **CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1420.1**

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**OVERVIEW**

**PROPOSED AMENDED RULE 1420.1**

## OVERVIEW

PAR 1420.1 will require large lead-acid battery recycling facilities to participate in a multi-metals CEMS demonstration program. The proposed amended rule also adds some clarifying language that requires the affected facilities to reimburse SCAQMD for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns.

## PROPOSED AMENDED RULE 1420.1

Proposed amendments to Rule 1420.1 are focused on two areas: subdivision d and n. Subdivision (d) deals with general requirements and subdivision (n) specifies reporting requirements. There are no other proposed changes to any of the other subdivisions of Rule 1420.1.

### Subdivision (d) – Requirements

#### *Demonstration Program for Continuous Monitoring of Multi-Metals*

PAR 1420.1 includes a provision ~~for that~~ the owner or operator of a large lead-acid battery recycling facility shall fund and participate in a multi-metal CEMS demonstration program to continuously monitor lead, arsenic, and other metals emitted from a stack within its facility for a time period specified by the District. During the rulemaking process for the January amendment to Rule 1420.1, the SCAQMD staff received comments that more specificity was needed to implement a multi-metals CEMS demonstration program. The SCAQMD staff also received comments that because there is only one provider of a multi-metals CEMS, Cooper Environmental Services, that there could be an increase in the cost to implement such a program.

The SCAQMD staff has revised the proposed demonstration program such that affected facilities will fund a multi-metals CEMS demonstration program that will be managed by SCAQMD staff. Upon Governing Board approval, the SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and subsequently decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. The SCAQMD staff will rent an Xact 640 Multi-Metals Continuous Emissions Monitor that will be built by Cooper Environmental. The Xact 640 is capable of monitoring 23 metals, which includes lead, arsenic, cadmium, nickel, and chromium. Xact 640 will reside at each facility for a period of time specified by the SCAQMD, but will not exceed a combined total of ten months at both facilities. It is anticipated that the duration of time at each facility will be five months. However, the SCAQMD staff may specify different times at each facility if needed. During demonstration, the SCAQMD staff will conduct parallel emissions testing to compare results from the Xact 640 with actual source testing. The purpose of the demonstration program will be to gather additional emissions data and assess if the Xact can be used as an additional compliance tool to verify emissions from large lead-acid battery recycling on a more continuous basis the utility of the multi-metals CEMS for large lead-acid battery recycling facilities.

PAR 1420.1 requires that each affected facility:

- Submit payment to the District for the District or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS demonstration program according to the following amounts and schedule:
  - \$63,500 by April 1, 2014; and an additional
  - \$143,225 by September 1, 2014
- Provide ~~continuous~~ facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze and decommission a multi-metals CEMS;
- Provide the necessary location and infrastructure for the multi-metals CEMS including:
  - siting location with sufficient spacing and clearance and structural support
  - electric power circuits;
  - compressed air;
  - sampling port(s);
  - wireless modem connection to data unit and instrument PC;
  - any necessary moving, lifting equipment and personnel to operate such equipment in order to install system;
  - personnel to conduct routine maintenance of unit; and
  - day to day instrument operation.

The SCAQMD will assess the viability utility of the Xact 640 ~~to be used as a compliance tool for Rule 1420.1 facilities~~ for large lead-acid battery recycling facilities. The SCAQMD staff will report to the Stationary Source Committee within ~~six~~ three months of completion of the demonstration program on preliminary overall results of the multi-metals CEMS demonstration program, including the accuracy of the Xact 640 compared to traditional source tested ~~emissions~~, ease of use, cost, maintenance, and reliability.

The SCAQMD staff has developed a work plan for the multi-metals CEMS demonstration program (see Appendix B). The multi-metals CEMS demonstration program work plan includes, but is not limited to, the following components:

- A general timeline for the demonstration program, including key milestones, such as CEMS deployment, data review, data sharing, and facility input and comments;
- Specifications for physical requirements for installation of the multi-metals CEMS;
- Description of roles and responsibilities of the affected stakeholders;
- Procedures and requirements for data management and review; and
- Criteria for evaluating the accuracy, reliability and potential future use of multi-metals CEMS.

## **Reporting – Subdivision (n)**

### ***Independent Third Party Verification***

In order to help prevent recurring unplanned shutdowns of emission control devices, Rule 1420.1 paragraph (n)(2)(B) requires the “use of an independent third party approved by the Executive Officer to inspect all equipment repaired or replaced in response to the unplanned shutdown of emission control equipment, to ensure affected control equipment can operate properly.” To implement this provision, the SCAQMD will develop a list approved contractors that must be

used to conduct these investigations. The SCAQMD staff will contract with the approved contractors and will pay the contractors directly. PAR 1420.1 is being modified to clarify that the large lead-acid battery recycling facility must reimburse the SCAQMD in the event a contractor is hired to conduct an investigation of why an unplanned shutdown of pollution control equipment occurred.

The owner or operator shall be responsible for reimbursement to the District for any and all expenses incurred by the independent third-party investigator in the investigation, inspection, and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to this rule, as required by subparagraph (n)(2)(B). The proposed amended rule also specifies that the cost associated with reimbursement to the District for each investigation shall not exceed \$12,000. The owner or operator shall reimburse the District within 30 days of notification from the Executive Officer that payment is due.

## **CHAPTER 3: IMPACT ASSESSMENT**

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**IMPACT ASSESSMENT FOR PROPOSED AMENDMENT RULE 1420.1**

**CALIFORNIA ENVIRONMENTAL QUALITY ACT**

**SOCIOECONOMIC ASSESSMENT**

**FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE  
SECTION 40727**

**COMPARATIVE ANALYSIS**

## **IMPACT ASSESSMENT FOR PROPOSED AMENDED RULE 1420.1**

A technical analysis of the impacts of requirements for facilities subject to PAR 1420.1 has been conducted to evaluate potential economic and environmental impacts of PAR 1420.1. The impact analysis is based on funding and participation in the multi-metals CEMS demonstration program. Implementation of the multi-metals CEMS demonstration program will not result in emission reductions, but if successful may be used in the future as a compliance tool to monitor on a more continuous basis emissions from large lead-acid battery recycling facilities. The cost impacts of requiring facilities to reimburse the SCAQMD for the costs to conduct independent third-party investigations are also estimated.

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 pursuant to CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to PAR 1420.1 would collect basic data, which would not result in a serious or major disturbance to an environmental resource. These requirements are strictly for information gathering purposes that could lead to an action which a public agency has not yet approved, adopted, or funded. CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges also applies because PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal continuous emissions monitoring system for use in the SCAQMD area of jurisdiction; and to reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report. These fees would be for the purpose of recovering cost for operating expenses; and purchasing or leasing supplies, equipment or materials. The multi-metal continuous emissions monitoring system and the investigation, inspection and generation of a written report would not create any significant adverse effects on air quality or any other environmental areas. Since it can be seen with certainty that the proposed project has no potential to adversely affect air quality or any other environmental area, PAR1420.1 is also exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption.

### **SOCIOECONOMIC ASSESSMENT**

A socioeconomic analysis was conducted to assess the impacts of the proposed amendments to Rule (PAR) 1420.1—Emissions Standard for Lead and Other Toxic Contaminants from Large Lead-Acid Battery Recycling Facilities. The Final Socioeconomic Analysis for the January 10, 2014 amendments included analysis of the costs associated with submittal of a compliance schedule and permit applications, additional source testing, additional ambient air monitoring, installation of control equipment and pressure monitoring devices, and implementation of a multi-metals continuous emissions monitoring system (CEMS) demonstration program. In the January Socioeconomic Analysis, SCAQMD staff estimated the capital and installation cost for the purchase of a multi-metals CEMS to be \$313,238 and annual operating and maintenance cost were estimated at \$59,800. At the January 10, 2014 Governing Board meeting, SCAQMD staff

recommended that the multi-metals CEMS provision be excluded from the amendments in order to allow staff additional time to work with stakeholders to further refine the CEMS requirements. SCAQMD staff has worked with affected stakeholders, including the multi-metals CEMS manufacturer, the affected facilities, environmental groups, and community groups, to develop the proposed amendments regarding implementation of a multi-metals CEMS demonstration program. This socioeconomic analysis updates the Final Socioeconomic Analysis for amendments to Rule 1420.1 adopted on January 10, 2014, based on the revised proposed amendments requiring implementation of a multi-metals CEMS demonstration program and updated cost information from the CEMS vendor.

The proposed amendments apply to lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the SCAQMD. Exide Technologies is located in Vernon (Los Angeles County) and Quemetco, Inc. is located in the City of Industry (Los Angeles County). These two facilities belong to the industry of secondary lead smelting, refining, and alloying of nonferrous metal [North American Industrial Classification System (NAICS) 331492] where spent lead-acid batteries, mostly automotive, and other lead-bearing materials are received from various sources and processed to recover lead, plastics, and acids. The process mainly involves the sorting, melting, and refining of lead from lead-acid batteries, which ultimately produces lead ingots that are then sold to other entities or used by the company in manufacturing batteries.

The proposed amendments would require the affected facilities to participate in and fund a multi-metals continuous emissions monitoring system (CEMS) demonstration program. Under PAR 1420.1, the owner or operator of a large lead-acid battery recycling facility must participate in a demonstration program to continuously monitor lead, arsenic, and other metals from a single stack within their facility. The proposed demonstration program is anticipated to take place over a period of five months at each facility and would be initiated by the SCAQMD. However, staff may vary the time required at each facility if deemed necessary. Upon Governing Board approval, the SCAQMD staff will enter into a sole-source contract with Cooper Environmental Services to build, install, maintain, and decommission a multi-metals CEMS that will be used at each large lead acid battery recycling facility. The SCAQMD staff will rent an Xact 640 Multi-Metals Continuous Emissions Monitor that will be built by Cooper Environmental. Although the proposed demonstration program would be implemented by SCAQMD staff, the affected facilities would be responsible to fund the multi-metals CEMS demonstration program. Each affected facility would be required to submit monies in the amounts of \$63,500 by April 1, 2014 and \$143,225 by September 1, 2014, to the Executive Officer for District and/or its contractor to build, install, maintain, test, provide training, and decommission the multi-metals CEMS. PAR 1420.1 requires additional requirements of the facility such as providing electrical circuits, testing ports, and compressed air. If a contractor is needed, it is estimated that four days, at eight hours per day would be needed to complete the work. The estimated cost for a contractor is not expected to exceed \$100 per hour. The total additional cost for site requirements to support the multi-metals CEMS is \$3,200 per facility. A summary of cost data is provided in Table 3-1. A complete quote of costs provided by the CEMS vendor is included in Appendix C.

**Table 3-1  
Multi-Metals CEMS Demonstration Program Costs**

<b>Cost Category</b>	<b>Cost</b>
Multi-Metals CEMS rental (5 months at each site)	\$191,250
One-time Fixed Equipment Costs	\$81,209
Installation, Project Commissioning, and Training	\$101,820
Annual Maintenance	\$15,402
Project Decommissioning	\$23,770
<b>Total Project Cost</b>	<b>\$413,451</b>

PAR 1420.1 would also require the affected facilities to bear responsibility for any expenses incurred when a third party investigator is retained to investigate and report on the reasons for an unplanned shutdown of air pollution control equipment, as required under subparagraph (n)(2)(B). This provision requires the “use of an independent third party approved by the Executive Officer to inspect all equipment repaired or replaced in response to the unplanned shutdown of emission control equipment, to ensure affected control equipment can operate properly.” To implement this provision, the SCAQMD will develop a list of approved contractors that must be used to conduct these investigations. The SCAQMD staff will contract with the approved contractors and will pay the contractors directly. The proposed amendments clarify that the large lead-acid battery recycling facility must reimburse the SCAQMD in the event a contractor is hired to conduct an investigation of why an unplanned shutdown of pollution control equipment occurred. The third party investigation is needed only if the facility cannot identify the reason for the unplanned shutdown of pollution control equipment, so it is uncertain how often this will occur. SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from \$6,000 to \$12,000 per investigation, including the report submittal. This cost range is based on an hourly wage rate of \$150/hour for consultant services and assumed labor of 40 to 80 hours per investigation and report submittal. The proposed amended rule includes a cost ceiling of \$12,000 per investigation. The owner or operator shall reimburse the District within 30 days of notification from the Executive that payment is due.

## **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 SCAQMD 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

The SCAQMD Governing Board finds and determines that a need exists to adopt Proposed Amended Rule 1420.1 because additional tools are needed to monitor on a more continuous basis emissions from large lead-acid battery recycling facilities. In addition, it is necessary to add clarifying language to Rule 1420.1 in order for the SCAQMD to be reimbursed for third-party investigations on unplanned shutdowns at affected facilities.

### Authority

The SCAQMD Governing Board has authority to adopt Proposed Amended Rule 1420.1 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40510, 40702, 40725 through 40728, 41508, 41511, 41700, 41706, 42303, 42408, 42700, 42708, and 44390 through 44394.

### Clarity

PAR 1420.1 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

### Consistency

PAR 1420.1 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

### Non-Duplication

PAR 1420.1 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 SCAQMD.

### Reference

By adopting PAR 1420.1, the SCAQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 39002 & 40000 (control of emissions from non-vehicular sources), 40001 (rules to achieve and maintain ambient air quality standards), 40510 (fees for planning, enforcement, and monitoring related to permitted sources), 41511 (information regarding amount of emissions), 41700 (nuisance), 41706(b) (emission standards for lead compounds from non-vehicular sources), 42700 and 42708 (monitoring devices), and Federal Clean Air Act Section 112 (Hazardous Air Pollutants).

## COMPARATIVE ANALYSIS

Health and Safety Code section 40727.2 requires a comparative analysis of the new provisions of the proposed amended rule with any rules and regulations applicable to the same source.

**Table 3-2: Comparison of PAR 1420.1 with SCAQMD Rule 1420 & 1407, and the NESHAP for Secondary Lead Smelters**

Rule Element	PAR 1420.1	SCAQMD Rule 1420	SCAQMD Rule 1407	NESHAP from Secondary Lead Smelting
Multi-metals Demonstration	On or before July 1, 2014, the owner or operator shall	None	None	None

<b>Rule Element</b>	<b>PAR 1420.1</b>	<b>SCAQMD Rule 1420</b>	<b>SCAQMD Rule 1407</b>	<b>NESHAP from Secondary Lead Smelting</b>
Program	fund and participate in a multi-metals continuous emissions monitoring demonstration program.			
Independent Third Party Investigation of Unplanned Shutdown of Emission Control Devices	The owner or operator shall reimburse the SCAQMD if the SCAQMD contracts with an independent third party to conduct an investigation of any unplanned shutdown of any emission control device that the owner or operator does not know the cause.	None	None	None

## **REFERENCES**

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## REFERENCES

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NTP. 2011. Report on Carcinogens, Twelfth Edition. Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program.

OEHHA 2008a. Inorganic Arsenic Reference Exposure Levels, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1: Summaries Using This Version of the Hot Spots Risk Assessment Guidelines. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

OEHHA 2008b. Acute Toxicity Summary, Benzene, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D2: Acute RELs and Toxicity Summaries Using the Previous Version Of The Hot Spots Risk Assessment Guidelines. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

“Public Notification Procedures for Phase I and II Facilities under the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB2588),” South Coast Air Quality Management District, July 1994.

“Secondary Lead Smelter eTool,” United States Department of Labor, Occupational Safety and Health Administration, (<http://www.osha.gov/SLTC/etools/leadsmelter/index.html>).

“Staff Report for Proposed Rule 1420.1: Emissions Standard for Lead from Large Lead-acid Battery Recycling Facilities,” South Coast Air Quality Management District, November 2010.

“Source Test Report 13-307 and 13-308; Exide Technologies; Multiple Metals and Toxic Organic Emissions from the Hard and Soft Lead Baghouse Exhaust Stacks,” South Coast Air Quality Management District, August/September 2013.

“Source Test ID R12445; Exide Technologies, Hard Lead Baghouse & Neptune Scrubber Source Test Report,” South Coast Air Quality Management District, May-June 2012.

“Source Test ID PR10312; Exide Technologies, Secondary Lead Smelting Source Test Report,” South Coast Air Quality Management District, November-December 2010; January, March, September 2011.

“Source Test Report 13-309; Quemetco Inc.; Arsenic, Lead, Benzene, and 1,3-Butadiene Emissions from the Wet Electrostatic Precipitator (WESP) and Room Ventilator Baghouse Exhaust Stacks of a Battery Recycling Facility,” South Coast Air Quality Management District, October/November 2013.

“Source Test ID 13031; Quemetco Inc., WESP Air Toxics Testing,” South Coast Air Quality Management District, October 2012.

“Source Test ID R11078; Quemetco Inc. WESP Air Toxics Testing,” South Coast Air Quality Management District, November 2010.

“Source Test ID PR08413; Quemetco Inc. WESP Air Toxics Testing,” South Coast Air Quality Management District, November 2008/March 2009.

“Source Test ID R10010; Quemetco Inc. WESP Air Toxics Testing,” South Coast Air Quality Management District, October 2008.

“Source Test ID R13502; Quemetco Inc., Baghouses Source Test Report,” South Coast Air Quality Management District, April 2013.

“Source Test ID R12478; Quemetco Inc., Busch Units Source Test Report,” South Coast Air Quality Management District, February 2012.

“Source Test ID R11534; Quemetco Inc. Busch Units Source Test Report,” South Coast Air Quality Management District, April 2011.

“Source Test ID R10192; Quemetco Inc., Busch Units Source Test Report,” South Coast Air Quality Management District, February 2010.

“Source Test ID PR09105; Quemetco Inc., Busch Units Source Test Report,” South Coast Air Quality Management District, April/May 2009.

Xact 640 Multi-Metals Continuous Emission Monitor Rental Quote,” Estimate # SCAQMD02052014, Cooper Environmental Services, LLC., February 5, 2014.

## **APPENDIX A: COMMENTS AND RESPONSES**

## Response to Comments

1) **Comment:** The commenter asked for clarification regarding the timeframes for the metals sampling.

**Response:** The multi-metals CEMS will collect samples on a continuous basis at 15-minute intervals. Staff will analyze the preliminary sampling results and may modify the sampling interval to 30 minutes, if deemed necessary.

2) **Comment:** The commenter expressed concerns regarding potential “open ended” costs for the third party investigations of unplanned shutdowns. The commenter suggested that the rule incorporate a “ceiling” for costs for the inspections and that the rule should include language stating that the affected facilities only pay for “reasonable expenses” associated with the inspections.

**Response:** The amendments adopted on January 10, 2014 provide a detailed listing of responsibilities that each contractor has to incorporate into their investigation, such as physical inspection of the control equipment and surrounding portions of the facility; review of equipment maintenance and operation records, logs, and other documentation which may provide information to understand the reason(s) for the unplanned shutdown; inspection of all equipment repaired or replaced in response to the unplanned shutdown; and submission of a written report. Therefore, the contractor duties are self limiting. However, the SCAQMD staff has incorporated language in PAR 1420.1 that limits the reimbursement costs to \$12,000 per investigation.

3) **Comment:** The District should also add language that allows the affected facility to object and withhold payment as to any amount above \$12,000, and/or the third-party investigator should have to justify the cost above \$12,000. The District estimates that the cost for any given investigation may be between \$6,000 to \$12,000. It is therefore fair and appropriate to set a cost parameter on that basis.

**Response:** SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from \$6,000 to \$12,000 per investigation, including the report submittal. This cost range is based on an hourly wage rate of \$150/hour for consultant services and assumed labor of 40 to 80 hours per investigation and report submittal. The commenter is also referred to the response to comment #2.

4) **Comment:** The commenter asked if the SCAQMD will be considering amendment of the Rule 1420.1 point source emission limit for lead.

**Response:** The current proposed amendments to Rule 1420.1 focus only on the multi-metals CEMS demonstration program and the third party inspections of

unplanned shutdowns. SCAQMD staff will initiate a separate rulemaking effort to evaluate the feasibility of amending the Rule 1420.1 point source emission rate limit for lead and/or the ambient concentration limit for lead.

5) **Comment:** The commenter asked if the multi-metals CEMS would be capable of measuring gaseous arsenic emissions.

**Response:** The multi-metals CEMS vendor has indicated that the instrument has features which would enable the measurement of some gaseous forms of arsenic and other metals. The purpose of the demonstration program is for SCAQMD staff to evaluate the efficacy of the multi-metals CEMS. During the demonstration program, SCAQMD will conduct concurrent source testing to compare results from the CEMS with actual source testing.

6) **Comment:** The District imposes a fee on each facility, but provides no calculations, data, vendor quotations or other support for the proposed fee. This information should be provided. Exide has the following specific questions: Does the fee cover the entire demonstration program (estimated in the staff report to last 5 months at each facility)? Exide submits that the fee should cover any stack testing to confirm and validate the CEMS, and any other fees incurred by Cooper or the District. It is not clear from Table 3-1 of the Draft Staff Report supporting this PAR that the cost of the testing (by District staff or a District-retained contractor) is included in the program cost or fees assessed on the facilities, yet inclusion of "test" is explicitly stated on Page 3-2 of the Draft Staff Report. Can all or part of the fee be used towards the purchase of the Xact 640 System? If not, Exide submits that the fee is excessive for a demonstration program.

**Response:** Table 3-1 of the staff report summarizes the costs of the demonstration program. However, the SCAQMD staff has included a complete quote of costs provided by the CEMS vendor in Appendix C. PAR 1420.1 includes a provision that the total cost to each facility is not to exceed \$206,725. This amount is paid in two installments: one on or before April 1, 2014 in the amount of \$63,500 and one no later than September 1, 2014 in the amount \$143,225. The first amount is meant to cover the District's expenses related to initiating the building of the CEMS unit, while the remaining amount will cover the District's costs to lease, operate and maintain the unit at each facility. In-kind services such as parallel source testing conducted by SCAQMD staff to verify the accuracy of the CEMS is not part of the not-to-exceed dollar amount and as such, the facilities are not expected to pay for this analysis. However, if the facilities wish to perform their own source testing in tandem with SCAQMD source testing, then those costs would be the responsibility of each facility.

In regards to whether the program participation fee can be used towards the purchase of the CEMS unit, the CEMS vendor has also provided lease to own

costs as well and shown in the quote in Appendix C. If at the end of the demonstration, one of the facilities wants to purchase the Xact 640 we would work to pass the savings to both facilities.

7) **Comment:** The District set a 2/21/14 deadline for public comments, yet in the 2/19/14 working group meeting the District referenced that a Guidance Document would be released next week after the comment period ends. The PowerPoint provided by the District also states that a "work plan" will be included in the Staff Report (it is not clear if this "work plan" is the same as the forthcoming "Guidance Document"). Exide specifically reserves its right to comment on any "work plan" or "Guidance Document" that is presented after the comment deadline, especially if such a document will have relevant details on the CEMS and the emissions to be monitored. If the affected facilities will be mandated to pay over \$200,000, then the affected facilities have a right to know what they are buying before the comment period ends.

**Response:** The Commenter is correct in that the SCAQMD developed an initial Multi-Metal CEMS Work Plan. This document is included as an appendix to the PAR 1420.1 Staff Report and covers the basic deliverables, timelines, responsibilities, and evaluation criteria for the multi-metals CEMS demonstration program. The two documents that the commenter references are one in the same (i.e., Work Plan). While comments on PAR 1420.1 and accompanying draft documents are due on February 21, 2014, affected facilities and interested parties may continue to provide comments through the Clerk of the Board's office as part of the public hearing commenting process up to and on the day of the Public Hearing.

8) **Comment:** District staff indicated at the working group meeting that the CEMS may only monitor particulate phase emissions but not gaseous phase emissions. The demonstration program, given its stated cost, should be able to measure both particulate and gaseous phase emissions, otherwise Exide questions the value of the exercise. We point out specifically that the DSR states at page 1-2 that "vapor phase and particulate matter are deposited on the filter tape." It is important to study arsenic in the unfilterable fraction and this demonstration program must involve monitoring technology addressing that phenomenon.

**Response:** The multi-metals CEMS demonstration program will evaluate the effectiveness of the in-stack CEMS unit in detecting and measuring certain metals in both the vapor (gaseous) and particulate phase. The SCAQMD staff agrees with the commenter that this is an important feature of the demonstration program and it will be evaluated.

9) **Comment:** Please confirm that, since this is a pilot program, data from the demonstration will not be used in enforcement action against the affected facilities.

**Response:** The purpose of the demonstration program will be to gather additional emissions data and assess the utility of the multi-metals CEMS for large lead-acid battery recycling facilities. Data collected from the multi-metals CEMS during the demonstration program will not be used for a compliance tool. However, data collected by other means such as from source testing as part of the demonstration program, may be used for compliance purposes.

**APPENDIX B: MULTI-METALS CEMS DEMONSTRATION PROGRAM  
WORK PLAN**

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## Work Plan

# Multi-Metals Continuous Emissions Monitoring System (CEMS)

## Demonstration Program

### Background

This work plan has been developed to summarize the responsibilities, commitments, and evaluation process of the multi-metals continuous emissions monitoring system (CEMS) demonstration program at large lead-acid battery recycling facilities as required under Proposed Amended Rule (PAR) 1420.1. PAR 1420.1 would require large lead-acid battery recycling facilities to fund and participate in a multi-metals CEMS demonstration program. The goal of the demonstration project is to gather additional emissions data and determine if the CEMS is a feasible and effective means of continuously monitoring lead, arsenic and other toxic metals.

The instrument that will be evaluated is the Xact 640 multi-metals continuous emissions monitoring system (CEMS) built by Cooper Environmental Services, LLC (“Cooper”). The District will contract with Cooper to build, transport, install, maintain, and remove the Xact 640. The instrument will be installed at each of the two large lead-acid battery recycling facilities (Exide Technologies, Inc. and Quemetco, Inc.) for a total of ten months at both locations. The monitor will reside at each location for approximately five months; however, staff may vary the time required at each facility if deemed necessary.

### Anticipated Project Timeline, Key Deliverables, and Responsibilities

The following is an anticipated timeline with key deliverables and responsibilities for the SCAQMD, Cooper Environmental, and the affected large lead-acid battery recycling facilities. The overall timeline is contingent on the approval of amendments to Rule 1420.1. In addition, the timeline may shift based on the actual date the contract is signed and the date the SCAQMD receives funds from the large lead-acid battery recycling facilities. Other dates may also shift depending on the timeframe for building and installing the multi-metals CEMS. The date provided below are general estimates based on information provided to the SCAQMD by Cooper Environmental Services, LLC.

#### March 7, 2014

PAR 1420.1 will be presented to the SCAQMD Governing Board for approval on March 7, 2014. Contingent on approval of PAR 1420.1, staff will recommend that the Governing Board approve a contract with Cooper Environmental Services, LLC to conduct a multi-metals CEMS demonstration program.

#### April 1, 2014

Initial payment of funds, as required by Rule 1420.1 (d)(8)(A)(i).

- Exide Technologies, Inc. and Quemetco, Inc. shall each remit payment of \$63,500 to reimburse the District and its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS for use in a demonstration program.
- SCAQMD will remit payment in the amount of \$126,209 (i.e., “down payment”) to Cooper Environmental Services, LLC to initiate fabrication of one Xact 640 multi-metals CEMS unit. This will represent the initial step to begin implementation of the multi-metals CEMS demonstration program.

**Demonstration Program Phase I - April – September 2014****Fabrication and assembly of one Cooper Environmental Xact 640 multi-metals CEMS unit.**

- Cooper Environmental Services, LLC will provide the SCAQMD with written specifications for the siting, installation, and operational needs for each facility to accommodate the CEMS unit, including:
  - Siting location needs, such as spacing, clearance, and structural support
  - Electric power requirements
  - Compressed air requirements
  - Sampling port specifications
  - Wireless modem connection requirements
  - Personnel and equipment required for installation
- Upon receipt of the final siting, installation, and operational specifications for the CEMS installation, the SCAQMD will convey this information to Exide Technologies, Inc. and Quemetco, Inc.
- Exide Technologies, Inc. and Quemetco, Inc. shall be responsible for providing the necessary location, infrastructure, and equipment for the installation of the multi-metals CEMS, including:
  - Siting location with sufficient spacing, clearance, and structural support
  - Electric power circuits
  - Compressed air
  - Sampling port(s)
  - Access to wireless modem connection to data unit and instrument computer
  - Equipment and labor to lift instrument into position
- Prior to installation of the multi-metals CEMS, Cooper and SCAQMD staff will schedule a “Kickoff Meeting” and site visit at each facility to discuss topics including, but not limited to:
  - Status of location, infrastructure, equipment, and labor necessary for the installation of the CEMS.

- Preliminary schedule and logistics for the CEMS installation, including the sequence of which large lead acid battery recycling facility will be “Site 1” and Site 2.”
- Establishment of training schedule for personnel to be involved in the operation of the multi-metals CEMS.

**Demonstration Program Phase II – September 2014**

Final payment and installation of one Cooper Environmental Xact 640 multi-metals CEMS unit at Site #1.

- Exide Technologies, Inc. and Quemetco, Inc. shall each remit final payment of \$143,225 to the SCAQMD in order to fund the multi-metals demonstration program.
- Exide Technologies, Inc. and Quemetco, Inc. shall provide facility access to District personnel and its contractors to deliver, assemble, monitor, maintain, test, and analyze the multi-metals CEMS.
- Cooper Environmental Services, LLC shall provide the equipment and labor (excluding any moving or lifting equipment and personnel necessary to operate such equipment in order to install the system) to deliver, install, and maintain one Xact 640 multi-metals CEMS and all necessary accessories at Site #1.
- Cooper Environmental Services, LLC shall provide the equipment and labor to calibrate, adjust, or repair the multi-metals CEMS at Site #1, including Quantitative Aerosol Generator (QAG) testing or other assessments.
- Following installation of the Xact 640 at Site #1, Cooper will provide training for personnel involved in the operation of the CEMS unit.
- SCAQMD staff will oversee the multi-metals CEMS demonstration program and will conduct the necessary data retrieval, analysis, and concurrent source testing.
- SCAQMD staff will perform tasks necessary for normal operation of the multi-metals CEMS, including periodic replacement of filter tape.
- Exide Technologies, Inc. and Quemetco, Inc. will be responsible for providing, upon adequate notification by SCAQMD staff, assistance with day-to-day instrument operation.

**Demonstration Program Phase III – February 2015**

Decommissioning Site #1 and transfer of CEMS to Site #2.

- Exide Technologies, Inc. and Quemetco, Inc. shall provide facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze, and decommission the multi-metals CEMS.
- Cooper Environmental Services, LLC will provide the equipment and labor (excluding any moving or lifting equipment and personnel necessary to operate such equipment in order to decommission or install the system) to decommission the CEMS at Site #1 and deliver, install, and maintain the CEMS at Site #2.
- Cooper Environmental Services, LLC shall provide the equipment and labor to calibrate, adjust, or repair the multi-metals CEMS at Site #2, including Quantitative Aerosol Generator (QAG) testing or other assessments.
- Following installation of the Xact 640 at Site #2, Cooper will provide training for personnel involved in the operation of the CEMS unit.
- SCAQMD staff will oversee the multi-metals CEMS demonstration program and will conduct the necessary data retrieval, analysis, and concurrent source testing.
- SCAQMD staff will perform tasks necessary for normal operation of the multi-metals CEMS, including replacement of filter tape.
- Exide Technologies, Inc. and Quemetco, Inc. will be responsible for providing, upon adequate notification by SCAQMD staff, assistance with day-to-day instrument operation.

**Demonstration Program Phase IV – June 2015****Decommissioning Site #2 and final performance determination.**

- Cooper Environmental Services, LLC will provide the equipment and labor (excluding any moving or lifting equipment and personnel necessary to operate such equipment in order to decommission the system) to decommission the CEMS at Site #2.

**Criteria for Evaluating the Accuracy, Reliability and Performance of Multi-Metals CEMS**

Instrument performance parameters to be evaluated will include, but not be limited to, accuracy, reliability, detection limits (as a function of sample duration, e.g. 15 and 30 minutes), drift, ease of use, adequacy of QA/QC procedures, and maintenance and operational needs.

The following are the methods that will be used to evaluate the Xact 640 performance:

- Accuracy: Accuracy will be determined in two ways. At least once at each facility, particulates of known metal concentrations will be generated and introduced into the instrument sampling line. The particulates will be generated using liquid solutions that will

be provided by both Cooper Environmental Services, LLC and SCAQMD. The SCAQMD solution will be provided to Cooper Environmental Services, LLC staff that will generate the particulate stream which will challenge the instrument, but the concentration of the SCAQMD solution will be blind to Cooper Environmental Services, LLC staff. The facilities will also have the opportunity to provide blind solutions to challenge the CEMS. Accuracy will be assessed in terms of measured concentrations for various metals, with emphasis on lead and arsenic, over each of the sampling times (15 and 30 minutes) for different generated particles. SCAQMD staff will also conduct source tests using traditional, time-integrated methods in parallel with the operation of the Xact 640 to further determine accuracy. These source tests will be conducted in triplicate over a 4 to 8 hour period and will be compared to data generated by the instrument over the same time frame.

- Reliability (Data Capture): Reliability will be measured as the time useful data is captured as compared to total time that the instrument should have been generating data, expressed as a percentage.
- Detection Limits: The evaluation goal for this category is to determine the highest time resolution possible while still generating reliable data that is well within the analytical range of the instrument. The Xact 640 has the ability to collect samples in 15, 30 and 60 minute intervals before analysis. Better detection levels are achieved with increased sampling time, but this sacrifices the information that is provided by higher time resolution.
- Drift: The instrument's drift will be determined over a seven day period relative to its lower detection limit. Specific types of drift that will be evaluated are flow drift and upscale and zero drift.
  - Flow Drift: the sample flow as measured by the Xact's flow sensor is checked automatically once per day against an internal standard flow sensor calibrated with the NIST-traceable DryCal®. The deviation between these two sensors will be evaluated.
  - Upscale and Zero Drift Checks: the Xact's mass measurement component is checked automatically once each day during testing using blank tape and an internal QC standard. During the zero drift check, the XRF sensor analyzes a section of blank filter tape (i.e. tape that does not have any sample on it). During the upscale drift check, the XRF sensor analyzes a standard containing known masses of different measured metals.
- Automated Quality Control/Quality Assurance (QA/QC) functions: The evaluation shall include whether the instrument successfully performs a series of drift checks automatically. For each day of operation, the Xact must pass the following three checks to ensure the data from that day is valid. The three checks are the zero drift, upscale drift, and flow drift checks previously described.

- Ease of use: Parameters to judge ease of use will include training requirements, level of expertise needed, data retrieval procedures, sampling tape change out procedures, instrument parameter changes, and completeness of documentation and users manuals.
- Maintenance and operational needs: In addition to the objective quantitative criteria listed above, the SCAQMD will evaluate the maintenance and operational needs of the CEMS. This evaluation criteria will be based on the frequency and level of non-routine maintenance, breakdowns and repairs needed for the continued successful operation of the CEMS instrumentation throughout the deployment period at each facility.

**APPENDIX C: MULTI-METALS CEMS QUOTE**

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**COOPER ENVIRONMENTAL SERVICES, LLC**  
 10180 S. W. Nimbus Ave. Suite J6  
 Portland, OR 97223 U.S.A  
 Phone (503) 670-9215 Fax (503) 624-2120  
 www.cooperenvironmental.com

**Quote**

DATE 2/5/2014  
 Estimate # SCAQMD02052014  
 CUSTOMER ID SCAQMD  
 VALID UNTIL: 5/6/2014

**Quote Prepared For:**

Contact: Philip Fine  
 Address: 21865 Copley Drive, Dimond Bar, CA 91765  
 Phone: 310-486-4295  
 Email: pfine@aqmd.gov  
 End User: Quemetco and Exide

Prepared By: KAP

Lead Time: 8 Months from receipt of down-payment

Description	Unit Cost	Qty.	Total Price
Item 1. Xact 640 Multi-Metals Continuous Emission Monitor Rental	\$22,500	4	\$90,000
a. Per month with a two month minimum at each site <sup>a</sup>			
b. Instrument rental rate for months beyond 4 months <sup>b</sup>	\$16,875	6	\$101,250
Item 2. Probe and Transport			
a. Fixed Cost (Probe, Heater Controllers, Flow measurement, etc)	\$19,325	1	\$19,325
b. Transport line	\$469	20	\$9,388
Item 3. Filter Tape			
a. 15 minute sampling intervals (10 months supply approximately 1 week tape change interval)	\$780	44	\$34,320
Item 4. Site Visit for Instrument Placement	NC	1	NC
Item 5. Site Visit for Kickoff Meeting	NC	1	NC
Item 6. Installation and Training Site 1 <sup>c</sup>	\$26,855	1	\$26,855
Item 7. Installation and Training Site 2 <sup>c</sup>	\$26,855	1	\$26,855
Item 8. Decommissioning Site 1	\$11,885	1	\$11,885
Item 9. Decommissioning Site 2	\$11,885	1	\$11,885
Item 10. Shipping	\$7,000	1	\$7,000
Item 11. QAG Testing Site 1	\$20,555	1	\$20,555
Item 12. QAG Testing Site 2	\$20,555	1	\$20,555
Item 13. Full Suite of standards (23 Analytes and interfering elements)	\$241	36	\$8,676
Item 14. Annual Maintenance (Includes tube)	\$7,412	1	\$7,412
Item 15. Annual Maintenance Labor (All maintenance including running standards for XRF recalibration)	\$7,990	1	\$7,990
Item 16. Remote Control Package	\$9,500	1	\$9,500
<b>Total</b>			<b>\$413,451</b>

NC = No Charge

Exide, Quemetco or SCAQMD responsible for day to day instrument operation

A 1.5% finance charge is automatically applied to the contract balance once it becomes 30 days or more delinquent.

- a. Rental is for operating time - rent is not charged during set up or during any maintenance events should they occur- Month is defined at 30 da
- b. Lease to own - ownership achieved in 14 months. Alternatively the difference to \$259,000 could be paid in full at any time
- c. Please see site requirements below

**PAYMENT TERMS: Net 30**

**DOWN PAYMENT: Fixed Equipment Costs and first and last months rent at signing** **\$126,209.00**

**Remaining Payments: Rental and Labor (training, installation billed monthly)**

#### Site Requirements

Infrastructure as necessary including power, compressed air, appropriate sample port, crane and labor to lift instrument into position, and labor for regular instrument operation (e.g. tape changes)

ATTACHMENT H



**South Coast  
Air Quality Management District**

21865 Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • www.aqmd.gov

**SUBJECT: NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

**PROJECT TITLE: PROPOSED AMENDED RULE (PAR) 1420.1 - EMISSIONS STANDARD FOR LEAD AND OTHER TOXIC AIR CONTAMINANTS FROM LARGE LEAD-ACID BATTERY RECYCLING FACILITIES**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and will prepare a Notice of Exemption for the project identified above.

PAR 1420.1 requires owners or operators of large lead-acid battery recycling facilities to provide funding and participate in a demonstration program of a multi-metals continuous emissions monitoring system (CEMS) to monitor lead, arsenic, and other metals. PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS for use in the SCAQMD area of jurisdiction; and would reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report.

PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the CEMS would collect basic data which would not result in a serious or major disturbance to an environmental resource. In addition, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges because the collection of fees to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS; and reimbursement for any expenses incurred by the independent third-party investigator is for the purpose of meeting operating expenses, and purchasing or leasing supplies, equipment or materials. Finally, because it was determined that the proposed project would not create any adverse effects on air quality or any other environmental areas, and it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption. Upon adoption, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

Any questions regarding this Notice of Exemption should be sent to James Koizumi (c/o Planning, Rule Development & Area Sources) at the above address. Mr. Koizumi can also be reached at (909) 396-3234.

**Date:** February 14, 2014

**Signature:**

A handwritten signature in blue ink that reads "Michael Krause". The signature is written over a horizontal line.

Michael Krause  
CEQA Program Supervisor  
Planning, Rule Development &  
Area Sources

**Reference: California Code of Regulations, Title 14**

## NOTICE OF EXEMPTION

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<b>To:</b> County Clerks of Los Angeles, Orange, Riverside, San Bernardino	<b>From:</b> South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765
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**Project Title:**

Proposed Amended Rule (PAR) 1420.1 - Emissions Standard for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities

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**Project Location:**

South Coast Air Quality Management District (SCAQMD) area of jurisdiction consisting of the four-county South Coast Air 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 and the Mojave Desert Air Basin.

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**Description of Nature, Purpose, and Beneficiaries of Project:**

PAR 1420.1 requires owners or operators of large lead-acid battery recycling facilities to provide funding and participate in a demonstration program of a multi-metals continuous emissions monitoring system (CEMS) to monitor lead, arsenic, and other metals. PAR 1420.1 would collect fees for the SCAQMD or its contractor to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS for use in the SCAQMD area of jurisdiction; and would reimburse SCAQMD for any and all expenses incurred by the independent third-party investigator in the investigation, inspection and generation of a written report.

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**Public Agency Approving Project:**

South Coast Air Quality Management District

**Agency Carrying Out Project:**

South Coast Air Quality Management District

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**Exempt Status:**

General Concepts [CEQA Guidelines §15002 (k)(1)]; and  
CEQA Guidelines §15306 – Information Collection  
CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges  
General Rule Exemption [CEQA Guidelines §15061 (b)(3)]

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**Reasons why project is exempt:**

SCAQMD staff has reviewed the proposed amendments to Rule 1420.1 in accordance with CEQA Guidelines §15002(k) - Three Step Process, and CEQA Guidelines §15061(a) – Review for Exemption, and has determined that the proposed amendments are exempt from CEQA pursuant to CEQA Guidelines §15306 – Information Collection, because the CEMS would collect basic data which would not result in a serious or major disturbance to an environmental resource. In addition, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15273 - Rates, Tolls, Fares and Charges because the collection of fees to assemble, install, maintain, train, test, analyze and decommission a multi- metal CEMS; and reimbursement for any expenses incurred by the independent third-party investigator is for the purpose of meeting operating expenses, and purchasing or leasing supplies, equipment or materials. Finally, because it was determined that the proposed project would not create any adverse effects on air quality or any other environmental areas, and it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment, PAR 1420.1 is exempt from CEQA pursuant to CEQA Guidelines §15061(b)(3) – Review for Exemption.

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**Approval Date:**

SCAQMD Governing Board Hearing: March 7, 2014, 9:00 a.m.; SCAQMD Headquarters

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<b>CEQA Contact Person:</b>	<b>Phone Number:</b>	<b>Fax Number:</b>	<b>Email:</b>
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Date Received for Filing \_\_\_\_\_

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**Final Socioeconomic Assessment for Proposed Amended Rule 1420.1—  
Emission Standards for Lead and Other Toxic Air Contaminants from Large  
Lead-Acid Battery Recycling Facilities**

**February 2014**

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## FOREWORD

Since the adoption of Proposed Amended Rule 1420.1 on January 10, 2014, SCAQMD staff has worked with affected stakeholders, including the multi-metals CEMS manufacturer, the affected facilities, environmental groups, and community groups, to revise proposed amendments regarding implementation of a multi-metals CEMS demonstration program. The “Final” Socioeconomic Analysis estimated the capital and installation cost for the purchase of a multi-metals CEMS for each facility to be \$313,238 and annual operating and maintenance costs were estimated at \$59,800. Based on revised proposed amendments requiring participation in a multi-metals CEMS demonstration program and updated cost information from the CEMS vendor, SCAQMD staff now estimates the total cost to rent, install, and maintain the CEMS at both facilities for the demonstration program to be \$413,451 which is approximately \$206,725 for each facility. PAR 1420.1 requires additional requirements of the facility such as providing electrical circuits, testing ports, and compressed air. If a contractor is needed, it is estimated that four days, at eight hours per day would be needed to complete the work. The estimated cost for a contractor is not expected to exceed \$100 per hour. The total additional cost for site requirements to support the multi-metals CEMS is \$3,200 per facility. Since the total cost based on the current proposed amendments is less than the costs analyzed in the January Socioeconomic Analysis, no additional cost impacts are anticipated for the affected facilities. PAR 1420.1 would also require the affected facilities to bear responsibility for any expenses incurred when a third party investigator is retained to investigate and report on the reasons for an unplanned shutdown of air pollution control equipment, as required under subparagraph (n)(2)(B). The third party investigation is needed only if the facility cannot identify the reason for the unplanned shutdown of pollution control equipment, so it is uncertain how often this will occur. SCAQMD staff estimates that the costs associated with hiring a third party investigator could range from \$6,000 to \$12,000 per investigation, including the report submittal. This cost range is based on an hourly wage rate of \$150/hour for consultant services and assumed labor of 40 to 80 hours per investigation and report submittal. For additional details regarding the costs associated with the proposed amendments, please refer to the PAR 1420.1 Draft Staff Report.

## PREFACE

This preface explains additional analysis performed since preparation of the attached “Final” Socioeconomic Analysis. Quemetco has shown over multiple source tests conducted over years 2009-2013 that they can meet the arsenic, benzene, and 1,3-butadiene emission limits. In October/November 2013, the SCAQMD staff conducted source tests at Quemetco. Arsenic, benzene, and 1,3-butadiene emissions were more than three times the levels of previous source tests. Possible explanations are changes in the feedstock and operation and maintenance of the equipment. The SCAQMD staff views the results as an anomaly.

Nevertheless, this socioeconomic analysis examined some possible measures that Quemetco could implement to reduce the detected emissions with its current control equipment to reduce arsenic, benzene, and 1,3-butadiene in order to meet the proposed rule limits. The SCAQMD staff analyzed the following costs: 1) Increasing operation of the existing cells used in the WESP from 4 to 5 cells, 2) Increasing the voltage in the WESP from 27 to 35 kV, 3) Changing the sump water more frequently, and 4) Decreasing the temperature in the feed dryer. Items 1 through 3 are expected to reduce arsenic emissions and item 4 is expected to reduce benzene and 1,3-butadiene emissions. The additional electricity usage to continuously operate 5 cells at a voltage of 35 kV from 27 kV is estimated to be 5 to 13 kW and the additional electricity cost is estimated to be \$7,000 to \$17,600 per year based on a rate of \$0.15/kWhr. The cost of additional water usage for changing the sump water out from twice to three times a year is estimated to be an additional 28.1 hundred cubic feet (HCF), and the additional cost would be \$60 per year based on the La Puente Valley Water District Zone 4 Commercial water usage rate of \$2.10/HCF. Operating the rotary dryer at a lower temperature is not expected to result in additional costs.

The above additional cost has not been incorporated in the regional modeling analysis which forecasts job impacts because it is so small any impact would be within the “noise” of the model. Based on the worst case scenario, the total cost from these additional operations would not exceed \$18,000 per year and have very few if any job impacts.

## EXECUTIVE SUMMARY

A socioeconomic analysis was conducted to assess the impacts of the proposed amendments to Rule (PAR) 1420.1—Emissions Standard for Lead and Other Toxic Contaminants from Large Lead-Acid Battery Recycling Facilities. A summary of the analysis and findings is presented below. This socioeconomic analysis updates the November 2013 Socioeconomic Analysis for PAR 1420.1 to reflect revisions to PAR 1420.1.

<p><b>Elements of Proposed Amendments</b></p>	<p>The proposed amendments to Rule 1420.1 would reduce the health risk and emissions of toxic air contaminants (i.e., arsenic, benzene, 1, 3-butadiene) from large lead-acid battery recycling facilities. The major requirements of PAR 1420.1 include submittal of a compliance schedule and permit applications, installation of control equipment and pressure monitor devices, and additional source testing. PAR 1420.1 would also require additional ambient air monitoring, and recordkeeping to ensure continuous compliance with the proposed emission limits. Finally, operation curtailments are required if proposed standard limits are not met.</p>
<p><b>Affected Facilities and Industries</b></p>	<p>The proposed amendments affect two facilities that process greater than 50,000 tons of lead annually. These two facilities belong to the industry of secondary lead smelting, refining, and alloying of nonferrous metal [North American Industrial Classification System (NAICS) 331492].</p>
<p><b>Assumptions of Analysis</b></p>	<p>To comply with the emission performance standards of the proposed amendments, it is assumed that one affected facility would install a wet scrubber, a Regenerative Thermal Oxidizer (RTO), and two pressure monitoring devices. It is assumed that one affected facility would submit a compliance schedule and permit applications.</p> <p>It is also assumed that both affected facilities would install Continuous Emission Monitoring System (CEMS) and conduct additional source tests to ensure continuous compliance of required emission reductions.</p> <p>No additional cost is expected for ambient air monitoring and sampling requirements.</p>
<p><b>Compliance Costs</b></p>	<p>The total compliance cost from the proposed amendments is estimated to be \$1.83 million annually. The total annual cost is slightly higher in 2014 (\$2.1 million) because of the one-time cost of a compliance schedule, compliance plan development and permits, and additional source test cost for the first year.</p> <p>Of the \$1.83 million compliance cost, \$1.5 million is the cost of scrubber, RTO, and CEMS. The total annualized cost of pressure monitor devices is estimated to be \$6,318. The total</p>

	<p>cost of the source testing is estimated to be \$508,500 for the first year and \$268,500 for the second year and after.</p>
<p><b>Job Impacts</b></p>	<p>The proposed amendments are expected to result in an annual average of 29 jobs forgone in the four-county area from 2014 to 2030. This represents less than 0.0003 percent of the total employment in the four-county region. The sectors of wholesale trade and professional and technical services are expected to gain jobs from additional spending on equipment installation and maintenance as well as expenditures made to file a compliance schedule and permits.</p> <p>The sector of primary metal manufacturing, where the two affected facilities belong, would have five jobs forgone, on average, between 2014 and 2030.</p>
<p><b>Competitiveness</b></p>	<p>It is projected that the sector of primary metal manufacturing, where the two affected facilities belong, would experience a rise in its relative cost of services by 0.022 percent and a rise in its delivered price by 0.011 percent in 2020 from the implementation of the proposed amendments.</p>

## INTRODUCTION

Proposed Amended Rule (PAR) 1420.1—Emissions Standard for Lead and Other Toxic Contaminants from Large Lead-Acid Battery Recycling Facilities—would require that large lead-acid battery recycling facilities submit a compliance schedule and permit applications, install control equipment and pressure monitoring devices, and conduct additional source testing. PAR 1420.1 would also require additional ambient air monitoring and recordkeeping of arsenic, benzene, and 1, 3-butadiene emissions. Affected facilities would have to curtail operation if proposed standard limits are not met. This socioeconomic analysis updates the November 2013 Socioeconomic Analysis for PAR 1420.1 to reflect revisions to PAR 1420.1. Specifically, changes in source testing requirements for benzene and 1,3-butadiene emissions from emission control devices on total enclosures.

## AFFECTED FACILITIES

The proposed amendments apply to lead-acid battery recycling facilities that process more than 50,000 tons of lead annually. Currently there are only two facilities subject to Rule 1420.1 in the SCAQMD. Exide Technologies is located in Vernon (Los Angeles County) and Quemetco, Inc. is located in the City of Industry (Los Angeles County). These two facilities belong to the industry of secondary lead smelting, refining, and alloying of nonferrous metal [North American Industrial Classification System (NAICS) 331492] where spent lead-acid batteries, mostly automotive, and other lead-bearing materials are received from various sources and processed to recover lead, plastics, and acids. The process mainly involves the sorting, melting, and refining of lead-acid batteries, which ultimately produces lead ingots that are then sold to other entities.

### Small Businesses

The SCAQMD defines a "small business" in Rule 102 for purposes of fees as one which employs 10 or fewer persons and which earns less than \$500,000 in gross annual receipts. The SCAQMD also defines "small business" for the purpose of qualifying for access to services from the SCAQMD's Small Business Assistance Office (SBAO) as a business with an annual receipt of \$5 million or less, or with 100 or fewer employees. In addition to the SCAQMD's definition of a small business, the federal Small Business Administration (SBA), the federal Clean Air Act Amendments (CAAA) of 1990, and the California Department of Health Services (DHS) also provide definitions of a small business.

The SBA's definition of a small business uses the criteria of gross annual receipts (ranging from \$0.5 million to \$25 million), number of employees (ranging from 100 to 1,500), megawatt hours generated (4 million), or assets (\$150 million), depending on industry type. The SBA definitions of small businesses vary by 6-digit North American Industrial Classification System (NAICS) code. A business in the industry of secondary lead smelting, refining, and alloying of nonferrous metal (NAICS 331492) with fewer than 750 employees is considered a small business by SBA. The CAAA classifies a facility as a "small business stationary source" if it: (1) employs 100 or fewer employees, (2) does not emit more than 10 tons per year of either VOC or NO<sub>x</sub>, and (3) is a small business as defined by SBA.

Exide Technologies has operations in 80 countries with 10,000 employees and net sales of approximately \$3.1 billion for fiscal year 2012.<sup>1</sup> Quemetco (RSR-Quemetco) based in Indianapolis, Indiana, has operations in a few states. It has over 150 employees at the location in the City of Industry, Los Angeles. Neither facility is a small business based on the Rule 102 criteria. Exide is not a small business under the U.S. SBA definition. Corporate employment information on Quemetco is not available, as such it is unknown whether it is a small business under the U.S. SBA definition. Neither facility is a small business under the CAAA definition because both emit more than 10 tons of VOC or NOx annually.

## COMPLIANCE COST

The proposed amendments would require both affected facilities to collect a 24-hour ambient air arsenic sample at least once every three days from a minimum of four sampling sites. No additional costs are expected for this requirement since this task can be conducted within the scope of the existing rule requirements for lead. Other requirements of the proposed amendments that have cost impacts include submittal of compliance schedule and permit applications, installation of control equipment and pressure monitor devices, and additional source testing.

The annual total cost to comply with the PAR 1420.1 is estimated to be \$1.83 million, on average, from 2014 to 2030. The cost is slightly higher in 2014 (\$2.1 million) because of the one-time cost of a compliance schedule and permits, and higher cost of source testing in that year. Table 1 presents average annual compliance cost of the PAR 1420.1 by requirement categories.

**Table 1**  
**Annual Compliance Cost of PAR 1420.1 by Category**

<b>Cost Category</b>	<b>Average Annual (2014-2030)</b>
Preparation of Compliance Schedule and Permits*	\$2,878
SCAQMD Fees*	\$2,602
Scrubber, RTO, and CEMS	\$1,534,954
Pressure Monitor Devices	\$6,318
Source Test	\$282,618
<b>Total</b>	<b>\$1,829,370</b>

\*Cost is annualized over 10 years

RTO= Regenerative Thermal Oxidizer

### Compliance Schedule and Permit Fees

The proposed amendments require one of the two affected facilities to submit a compliance schedule for the final performance standards of arsenic, benzene, and 1, 3-butadiene by January 1, 2015. The same facility is also required to submit complete permit applications for all construction and necessary equipment specified in the compliance schedule which would include a scrubber and an RTO. Based on the staff assumption, the affected facility could spend about 160 hours to prepare a compliance schedule and 360 hours to prepare permit applications. The

<sup>1</sup> Exide 2012 Annual Report. Retrieved October 10, 2013 from <http://ir.exide.com/>.

estimated hourly wage to complete these tasks is assumed to be \$45.<sup>2</sup> In addition, the affected facility is required to pay plan fees for pressure monitors and plan review fees for Continuous Emission Monitoring System (CEMS). The total one-time compliance cost is estimated to be \$44,556, as shown in Table 2.

**Table 2**  
**Compliance Schedule and Permit Application Fees**

<b>Compliance Schedule and Permit Fees</b>	<b>One-time Cost</b>
Compliance Schedule and Permit Application for Equipment	\$23,400
Permit Fees Paid to SCAQMD for Scrubber	\$7,264
Permit Fees Paid to SCAQMD for RTO	\$7,264
Plan Fees to SCAQMD for Pressure Monitors	\$2,428
Plan Review Fees to SCAQMD for CEMS	\$4,200
<b>Total</b>	<b>\$44,556</b>

### Scrubber, RTO, and CEMS

Based on its recent source test results, one of the two affected facilities is already in compliance with the point source performance standards. The other facility is expected to install one wet scrubber and one RTO to vent emissions from arsenic, benzene, and 1, 3-butadiene. Based on EPA's air pollution fact sheet for scrubbers (EPA-452/F-03-012), the capital and installation cost of a wet scrubber is estimated to be \$800,822. Based on the 20-year equipment life and a real interest rate of four percent, the total annualized capital cost of the scrubber is estimated at \$59,261. The annual operating and maintenance cost of the scrubber is estimated to be \$855,456, out of which 63 percent is for additional utility (electricity and water) and the remaining 37 percent is for the scrubber's maintenance.

Based on 2012 Risk Reduction Plan submitted by Exide, one-time capital and installation cost of a RTO is estimated to be \$1,170,020. Assuming a 20-year equipment life and a real interest rate of four percent, the total annualized cost of the RTO is estimated at \$86,581. The annual operating and maintenance cost of the RTO is estimated to be \$336,700, out of which 80 percent is for the cost of additional utilities (natural gas and electricity) and the remaining 20 percent is for RTO's maintenance.

The proposed amendments would also require each affected facility to purchase a multimetal CEMS. One-time capital and installation cost of a CEMS is estimated to be \$313,238. Assuming a 10-year equipment life and a real interest rate of four percent, the total annualized cost for two CEMS is estimated at \$77,057. The annual operating and maintenance cost of a CEMS is estimated to be \$59,800. Information on the operating and maintenance costs of scrubber RTO, and CEMS was obtained from affected facilities and air pollution control vendors. The total annualized cost of scrubber, RTO, and CEMS is expected to be \$1.5 million.

<sup>2</sup> Hourly wages are based on median hourly wages for environmental engineers in the BLS 2012 California State Occupational Employment and Wage Estimates. (Retrieved October 3, 2013 from [http://www.bls.gov/oes/current/oes\\_ca.htm#17-0000](http://www.bls.gov/oes/current/oes_ca.htm#17-0000)).

## Differential Pressure Monitoring Devices

PAR 1420.1 would require affected facilities to install differential pressure monitoring devices on each smelting furnaces that measure and record the differential pressure between the internal furnace pressure and the external atmospheric pressure. It is assumed that one of the affected facilities would purchase two monitors at a unit cost of \$14,300 (including installation). Assuming a lifespan of ten years for each monitor and four percent real interest rate, the total annualized cost of two monitors is estimated to be \$3,518. The maintenance cost of each monitor is estimated to be 1,400 per year.

## Source Tests

Both affected facilities are required to conduct annual source tests for metals from all point sources, and organics from all point sources excluding emission control devices for total enclosures. In 2014, both facilities are required to conduct source tests twice for organics from emission control devices for total enclosures. Based on discussions with the local source testing vendors, the cost of the source testing is estimated to be \$508,500 in 2014 and \$268,500 for 2015 and every year after.

## MACROECONOMIC IMPACTS ON REGIONAL ECONOMY

The REMI model (PI+ v1.5.2) is used to assess the total socioeconomic impacts of a policy change (i.e., the proposed amendments). The model links the economic activities in the counties of Los Angeles, Orange, Riverside, and San Bernardino. The REMI model for each county is comprised of a five block structure that includes (1) output and demand, (2) labor and capital, (3) population and labor force, (4) wages, prices and costs, and (5) market shares. These five blocks are interrelated. Within each county, producers are made up of 66 private non-farm industries, 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.

The assessment herein is performed relative to a baseline where the proposed amendments would not be implemented. Direct effects of the policy change (proposed amendments) have to be estimated and used as inputs to the REMI model in order for the model to assess secondary and induced impacts for all the actors in the four-county economy on an annual basis and across a user-defined horizon (2014 to 2030). Direct effects of the proposed amendments include additional costs to the affected entities and additional sales, by local vendors, of equipment, devices, or services that would meet the proposed requirements.

Purchases of wet scrubber, RTO, differential pressure monitors, and CEMS by the affected facilities will increase the sales of the wholesale trade sector (NAICS 423). Installation and maintenance of the aforementioned equipment as well as services rendered for a compliance schedule, compliance plan development, and source testing would result in an increase in sales of the professional and technical services sector (NAICS 541). The utility sector (NAICS 22) will benefit from the sales of additional water, electricity, and natural gas for the operation of wet scrubber and RTO. Fees received from the affected facilities would be additional revenue to the

SCAQMD. All the expenditures that are incurred by the two facilities will increase their cost of doing business.

The proposed amendments are expected to result in an annual average of 29 jobs forgone in the four-county area from 2014 to 2030. This represents less than 0.0003 percent of the total employment in the four-county region. The number of jobs forgone is within the range of recently adopted rules with similar cost estimates. Table 3 presents the estimated job impact by industry for the proposed amendments. In 2014, 27 additional jobs could be created in the overall economy. Positive job impacts in the sector of wholesale trade are due to additional purchases of equipment by the affected facilities. The sector of professional and technical services are projected to have job gains from additional demand for equipment installation and maintenance as well as expenditures made by the two affected facilities to file compliance plans and permits. In earlier years, positive job impacts from the expenditures made by the affected facilities would more than offset the jobs forgone from the additional cost of doing business.

The sector of primary metal manufacturing, where the two affected facilities belong, would have five jobs forgone, on average, between 2014 and 2030 due to the additional cost of doing business incurred by them. The remaining sectors would incur minor jobs forgone from secondary and induced impacts of the proposed amendments.

**Table 3**  
**Job Impacts of Proposed Amendments**

Industries (NAICS)	2014	2020	2030	Average Annual (2014-2030)
Construction (23)	1	-3	-3	-3
Primary metal manufacturing (331)	-2	-6	-6	-5
Fabricated metal product manufacturing (332)	0	-1	-1	-1
Wholesale trade (42)	7	-3	-3	-2
Retail trade (44-45)	-1	-4	-4	-4
Professional and technical services (54)	14	3	2	3
Administrative and support services (561)	2	-3	-3	-2
Ambulatory health care services (621)	1	-2	-2	-1
Food services and drinking places (722)	1	-2	-2	-1
Government (92)	2	-3	-3	-2
Other Industries	2	-12	-12	-10
<b>Total</b>	<b>27</b>	<b>-35</b>	<b>-36</b>	<b>-29</b>

### Competitiveness

The additional cost brought on by the proposed amendments would increase the cost of services rendered by the affected industries in the region. The magnitude of the impact depends on the size and diversification of, and infrastructure in a local economy as well as interactions among industries. A large, diversified, and resourceful economy would absorb the impact with relative ease.

Changes in production/service costs will 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.

It is projected that the sector of primary metal manufacturing, where the two affected facilities belong, would experience a rise in its relative cost of services by 0.022 percent and a rise in its delivered price by 0.011 percent in 2020 from the implementation of the proposed amendments.

## **RULE ADOPTION RELATIVE TO THE COST EFFECTIVENESS SCHEDULE**

On October 14, 1994, the Governing Board adopted a resolution that requires staff to address whether rules being proposed for adoption are considered in the order of cost-effectiveness. The 2012 Air Quality Management Plan (AQMP) ranked, in the order of cost-effectiveness, all of the control measures for which costs were quantified. It is generally recommended that the most cost-effective actions be taken first. PAR 1420.1 is not a control measure in the 2012 Air Quality Management Plan (AQMP), and thus was not ranked by cost-effectiveness relative to other AQMP control measures in the 2012 AQMP. Furthermore, PAR 1420.1 will not be submitted for inclusion into the Lead State Implementation Plan.

**REFERENCES**

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## ERRATA SHEET FOR AGENDA ITEM # 27A

### Amend Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-acid Battery Recycling Facilities

Modify the Resolution by adding the ***bold italic single underlined*** language as follows:

**BE IT FURTHER RESOLVED**, the SCAQMD Governing Board directs staff to ***provide data collected from the multi-metals CEMS to each facility as it becomes available, and as preliminary results regarding the efficacy of the CEMS becomes available, to provide this information to each facility and other stakeholders, and to*** report back to the Stationary Source Committee within three months of completion of the CEMS demonstration program on preliminary results; and