BOARD MEETING DATE: May 4, 2012 AGENDA NO. 30

PROPOSAL: Adopt the 2012 Lead State Implementation Plan for Los Angeles County

SYNOPSIS: In 2008, the U.S. EPA revised the lead National Ambient Air Quality Standard (NAAQS) by reducing it to 0.15 µg/m3. On December 31, 2010, the Los Angeles County portion of the South Coast Air Basin was designated as nonattainment for the 2008 lead NAAQS due to exceedances measured near a large lead-acid battery recycling facility. The federal Clean Air Act requires attainment of the standard by December 31, 2015 and submission of a lead SIP to U.S. EPA by July 1, 2012. The 2012 Lead SIP addresses the recent revision to the lead NAAQS, and outlines the strategy and pollution control activities that demonstrate attainment of the lead NAAQS before December 31, 2015. This action is to approve the 2012 Lead SIP for Los Angeles County.

COMMITTEE: Stationary Source, February 17, and April 20, 2012, Reviewed

RECOMMENDED ACTIONS:

1. Adopt the 2012 Lead State Implementation Plan for Los Angeles County.
2. Certify the previously approved October 2010 Final Environmental Assessment as the CEQA document for the 2012 Lead SIP pursuant to CEQA Guidelines §15153.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:PF:VM

Background

The federal Clean Air Act (CAA) requires U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for lead and five other criteria pollutants considered harmful to public health and the environment (the other pollutants are ozone, particulate matter, including PM_{10} and $PM_{2.5}$, nitrogen dioxide, carbon monoxide, and sulfur dioxide). The law also requires U.S. EPA to periodically review the standards and the latest scientific information to ensure that they provide adequate health and environmental protection, and to update those standards as necessary.

The U.S. EPA promulgated the initial lead standard of 1.5 micrograms per cubic meter ($\mu g/m^3$) in 1978. On October 15, 2008 (73 FR 66964; November 12, 2008), U.S. EPA tightened the standard by reducing it to 0.15 $\mu g/m^3$, and changing the form of the standard to a rolling 3-month average rather than the previous quarterly average. Once U.S. EPA establishes or revises a NAAQS, pursuant to section 107(d) of the CAA, U.S. EPA must designate as "nonattainment" those areas that violate the NAAQS and those nearby areas that contribute to violations.

On December 31, 2010, the U.S. EPA designated a portion of Los Angeles County, excluding the high desert areas, San Clemente and Santa Catalina Islands (southern Los Angeles County), as nonattainment for the 2008 lead NAAQS based on monitored air quality data from 2007-2009 that indicated a violation of the NAAQS near a large lead-acid battery recycling facility, and required attainment no later than December 31, 2015. The federal CAA requires lead nonattainment areas to prepare and submit a SIP outlining the strategies, planning and pollution control activities that demonstrate attainment of the lead NAAQS within 18 months of the effective date of the nonattainment designation. Accordingly, the lead SIP for Los Angeles County must be submitted to U.S. EPA by July 1, 2012, after approval by both AQMD's Governing Board and the California Air Resources Board.

Historically, the major source of lead air emissions has been motor vehicles such as cars and trucks. Motor vehicle emissions of lead have been dramatically reduced over the past forty years due to the phase-out of leaded gasoline, but lead is still used as an additive in general aviation gasoline used in piston-engine aircraft and remains a trace contaminant in other fuels. Sources of lead from stationary sources are mainly from larger industrial sources including, but not limited to metals processing, particularly primary and secondary lead smelters. Emissions consist of those from lead point sources as well as fugitive lead dust emissions. Substantial emissions reductions have also been achieved due to enhanced controls in the metals processing industry.

Reported emissions data shows that that the lead-acid battery recycling industry is the highest stationary source emitter of lead in the Los Angeles County. Ambient measurements have also shown that this industry is the only stationary source category that has the potential to cause nonattainment with the new lead NAAQS. There are only two lead-acid battery recycling facilities in Los Angeles County, Exide Technologies (located in the City of Vernon) and Quemetco Inc. (located in the City of Industry).

AQMD has been proactive in mitigating their impact on ambient lead concentrations through Rule 1420 - Emissions Standard for Lead, and Rule 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities. Although emissions from Exide are only recently below Rule 1420.1 limits, lead concentrations at all ambient network sites in the Los Angeles County portion of the Basin are well below the new 2008 NAAQS for lead, with typical levels of about 0.01 $\mu g/m^3$. Therefore, based on the historical lead measurements in the Los Angeles County, it is clear that the only potential locations for NAAQS exceedances are in the vicinity of these two battery-recycling facilities that are subject to AQMD Rule 1420.1. To achieve the revised lead ambient air quality standards and ensure future attainment in Los Angeles County, implementation of current rules and a new rule amendment are proposed in this SIP.

Proposal

The 2008 lead NAAQS requires full attainment of the revised federal lead standards no later than December 31, 2015. The purpose of this SIP is to outline the strategies, planning and pollution control activities needed to demonstrate attainment of the lead NAAQS by December 31, 2015.

The lead SIP addresses all submittal requirements in the CAA as well as the new federal lead regulation (73 FR 66964) as follows:

- Emission inventories;
- Nonattainment New Source Review;
- Demonstration of attainment for lead nonattainment areas;
- Contingency measures;
- Reasonably Available Control Measures (RACM) and Reasonably Available Control Technology (RACT);
- Reasonable Further Progress (RFP); and
- Modeling

One element of the SIP is to provide emission inventories for base year 2010 and projected future year emission for 2015 for point, area, off-road, and on-road sources for Los Angeles County. The inventory years were selected to comply with federal and state CAA requirements. The 2010 base year emissions inventory reflects actual reported emissions and adopted air regulations with current compliance dates as of 2010; whereas the 2015 emissions inventory shows projected emissions based on growth factors and compliance requirements between 2010 and 2015.

The new lead NAAQS is unique in that attainment must be demonstrated at source-oriented monitors, and thus this attainment demonstration addresses specific facilities that may cause NAAQS exceedances. The overall control strategy relies upon emission reductions from large lead-acid battery recycling facilities which have already been addressed through the 2010 adoption AQMD Rule 1420.1 – Emissions Standard for Lead

From Large Lead-Acid Battery Recycling Facilities. The attainment demonstration employs a combination of emissions reductions as well as an ambient monitoring program outlined in Rule 1420.1, which is more stringent than the federal monitoring requirements. Therefore, implementation of Rule 1420.1 should be more effective at ensuring NAAQS lead attainment than traditional procedures that rely on future emissions reductions alone.

Dispersion modeling was performed for the two large lead-acid battery recycling facilities (Exide and Quemetco). To address comments received from U.S. EPA and further illustrate that ambient monitors required by Rule 1420.1 provide the most effective means of ensuring compliance with the NAAQS since they capture all lead emissions, two different scenarios were modeled to provide attainment demonstration. The first scenario modeled total emissions (fugitive and stack), and the second scenario modeled stack only emissions, utilizing the Rule 1420.1 ambient monitoring to capture the direct impact of fugitive and all other emissions on ambient concentrations.

Contingency measures must be implemented in the event of failure to meet milestone emission reduction targets and/or failure to attain the lead standard by the attainment date of 2015. Contingency measures must be fully adopted rules or control measures that are ready to be implemented without significant further action by the State or U.S. EPA. It should also contain trigger mechanisms with a specific schedule for implementation. Rule 1420.1 already contains contingency measures in the form of compliance plans, a feasibility study, and more stringent ambient monitoring than the federal NAAQS requirements. In response to U.S. EPA's comments on the draft version of the 2012 Lead SIP, additional site specific contingency measures for each of the two large lead acid battery recycling facilities were identified in the document. A Compliance Plan submitted by Exide on 12/20/2011 and approved by AQMD on 1/27/2012 under Rule 1420.1 provisions contains additional measures which meet all the requirements as a contingency measure. For Quemetco, proper design, installation and operation of a wet electrostatic precipitator (WESP) to control particulate and metal emissions such as lead, serves as the contingency measure. This measure has already been implemented and is more stringent than Rule 1420.1 and RACM requirements.

A proposed control measure in the 2012 Lead SIP is to amend Rule 1420. Rule 1420 applies to all non-vehicular sources of lead emissions and contains requirements for emission levels, controls, housekeeping, and monitoring. In addition, sources must currently comply with an ambient air quality lead standard of 1.5 $\mu g/m^3$, averaged over 30 days. The amendment will lower the ambient limit in Rule 1420 to 0.15 $\mu g/m^3$ to correspond to the revised NAAQS for lead of 0.15 $\mu g/m^3$. The more stringent, shorter averaging time of a 30-day rolling average will be retained. In addition, language will be added to Rule 1420 to clarify New Source Review (NSR) requirements for stationary lead sources, consistent with AQMD's current NSR regulation (Regulation XIII) and federal NSR requirements. Amendments to Rule 1420 are scheduled for the 4th quarter of 2012.

California Environmental Quality Act (CEQA) Analysis

Staff reviewed the proposed 2012 Lead State Implementation Plan (SIP) for Los Angeles County, pursuant to CEQA Guidelines §15002(k) - Three Step Process. If the project is not exempt, the lead agency takes the second step and prepares an Initial Study (IS) (CEQA Guidelines §15002(k)(2)). AQMD staff has prepared an IS, which demonstrates the following. The only new proposed control measure in the 2012 Lead SIP would amend Rule 1420 to lower the ambient lead standard from 1.5 to 0.15 ug/m3, consistent with Rule 1420.1. Since the most current monthly lead monitoring data in the Los Angeles County at facilities subject to Rule 1420, but not subject to Rule 1420.1, show that average lead concentrations are less than 0.15 ug/m3, the proposed control measure is not expected to result in any changes at existing affected facilities. In the event that monitoring near or at a lead facility exceeds 0.15 ug/m3, the proposed control measure may require implementing lead control requirements similar to those in Rule 1420.1, resulting in environmental impacts that are essentially the same as those identified in the October 2010 Final Environmental Assessment (EA) for Rule 1420.1 (AQMD No. 100331JK, SCH No. 2010041086). In addition, based on the IS, AQMD has determined that the 2010 Rule 1420.1 Final EA adequately describes the three requisite criteria specified in CEQA Guidelines Section 15153(b)(1)(A-C). As a result, staff intends to use the previously approved October 2010 Final EA as the CEQA document for the 2012 Lead SIP pursuant to CEQA Guidelines §15153.

Staff provided the notice required by Guidelines Section 15153(b)(2). As required by that section, the key issues are whether this EIR should be used for this project and whether there are any additional, reasonable alternatives or mitigation measures that should be considered as ways of avoiding or reducing any significant impacts of the project. Pursuant to CEQA Guidelines §15153(b)(2), the October 2010 Final EA for Rule 1420.1 was available to the public for a 30-day public comment period.

Socioeconomic Impacts & Cost Effectiveness Analysis

Since no existing sources are expected to be affected by the proposed amendments to Rule 1420, no cost assumptions were made and no socioeconomic impact analysis was made. AQMD staff assesses socioeconomic impacts of proposed rule amendments or proposed rules pursuant to the Board resolutions and state legislative requirements, but there is no specific requirement for this SIP submittal.

As additional information on control requirements becomes more well-defined during the rulemaking process, a detailed assessment of their socioeconomic and environmental impacts will be conducted.

Public Process

On February 10, 2012, the AQMD released a 30-day notice of public workshop to solicit information and suggestions from the public on the Draft 2012 Lead SIP for Los Angeles County. The document was released for public comment and review on February 14, 2012, and was also posted on the AQMD's Web page on February 17, 2012. A Public Workshop was held on March 14, 2012 to present the 2012 Lead SIP and receive public comment. In response to comments received and to address U.S. EPA's comments regarding the modeling of fugitive emissions and the contingency measure requirements, a Revised Draft 2012 Lead SIP for Los Angeles County was released and posted on the AQMD's Web page on April 4, 2012. In addition, the AQMD published a notice of public hearing 30 days prior to the public hearing of May 4, 2012, in major newspapers for adoption of the 2012 Lead SIP for Los Angeles County. Throughout the process, comments received have been addressed in the 2012 Lead SIP and changes were made where appropriate. Appendix V of the 2012 Lead SIP has a summary of comments from the Public Workshop and written comments received thus far, along with staff responses.

Recommendation

The AQMD staff recommends adoption of the 2012 Lead SIP for Los Angeles County.

Attachments

A. Resolution
B. 2012 Lead SIP for Los Angeles County
C. Final Environmental Assessment for Proposed Rule 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities (SCAQMD No. 100331JK, SCH No. 2010041086, October 2010)[1]

[1] Due its bulk, the FEA is available online at www.aqmd.gov/ceqa/aqmd.html for any members of the public wishing to view this material.

ATTACHMENT A
RESOLUTION NO.

A Resolution of the Governing Board of the South Coast Air Quality Management District (Governing Board) certifying the previously prepared (October 2010) Final Environmental Assessment for Proposed Rule 1420.1 - Emissions Standard for Lead From Large Lead-Acid Battery Recycling Facilities, as the CEQA document for the 2012 Lead State Implementation Plan for Los Angeles County (2012 Lead SIP for LA County), and adopting the 2012 Lead SIP for LA County.

WHEREAS, the Los Angeles County portion of the South Coast Air Basin is currently classified as nonattainment for the 2008 lead National Ambient Air Quality Standards (NAAQS) in accordance with the federal Clean Air Act (CAA); and

WHEREAS, the federal CAA requires State Implementation Plans for areas not in attainment with the 2008 lead NAAQS be submitted within 18 months of the effective date of the nonattainment designation, meeting the requirements of part D, Title 1 of the CAA, whereby, the 2012 Lead SIP for LA County must be submitted to EPA by July 1, 2012; and

WHEREAS, certain areas classified as nonattainment are required to attain the federal lead NAAQS by December 31, 2015; and

WHEREAS, the South Coast Air Quality Management District is committed to comply with the requirements of the CAA; and

WHEREAS, the 2012 Lead SIP for LA County demonstrates that the Los Angeles County portion of the South Coast Air Basin will attain the federal NAAQS for lead by 2015; and

WHEREAS, the 2012 Lead SIP for LA County satisfies the planning requirements set forth in the federal and California Clean Air Acts; and

WHEREAS, the South Coast Air Quality Management District Board finds and determines that the 2012 Lead SIP for LA County, is considered a "project" pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, the AQMD 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) for Rule 1420.1; and

WHEREAS, AQMD staff has previously prepared a Final Environmental Assessment (EA) pursuant to its certified regulatory program and state CEQA Guidelines Section 15252, setting forth the potential environmental consequences of Rule 1420.1; and

WHEREAS, AQMD staff determined through the preparation of an Initial Study that the October 2010 Final EA for Proposed Rule 1420.1 - Emissions Standard for Lead From Large Lead-Acid Battery Recycling Facilities, (October 2010 Final EA for Rule 1420.1 meets the requirements of CEQA Guidelines §15153(1)(A through C) and has concluded that it is appropriate to rely on the October 2010 Final EA for Rule 1420.1 as the CEQA document for the 2012 Lead SIP for LA County; and

WHEREAS, the Board finds that the circumstances of the currently proposed project are essentially the same or less than those analyzed in the previous prepared October 2010 Final EA for Rule 1420.1; and

WHEREAS, a Notice to Rely on the previously prepared Final EA (October 2010) was circulated for a 30-day public review and comment period; and

WHEREAS, no comment letters on the October 2010 Final EA for Rule 1420.1 as the CEQA document for the 2012 Lead SIP for LA County were received, so that the October 2010 Final EA for Rule 1420.1 is considered to be the Final CEQA document for the proposed project; and

WHEREAS, the adequacy of relying on the October 2010 Final EA for Rule 1420.1 as the CEQA document for the 2012 Lead SIP for LA County has been determined by the AQMD Governing Board prior to its adoption; and

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

WHEREAS, a Statement of Finding and Statement of Overriding Considerations pursuant to CEQA Guidelines §§15091 and 15093, respectively, have not been prepared since no significant adverse impacts were identified or generated; and

WHEREAS, the South Coast Air Quality Management District Board voting on the 2012 Lead SIP for LA County, has reviewed and considered, the October 2010 Final EA for Rule 1420.1 as the CEQA document for the proposed project; and

WHEREAS, the AQMD Governing Board has determined that a need exists to adopt the 2012 Lead SIP for LA County, to further reduce lead particulate emissions and to limit public exposure to lead as fine particulates from affected facilities, and to demonstrate attainment by December 31, 2015; and

WHEREAS, a public workshop was held by the District in the Los Angeles County on March 14, 2012, in order to solicit public input on the 2012 Lead SIP for LA County; and

WHEREAS, a public hearing has been properly noticed in accordance with the provisions of Clean Air Act Section 110(a)(1), 42 U.S.C. §7410(a)(1) and 40 C.F.R. § 51.102 ; and

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

WHEREAS, the AQMD Governing Board specifies the Deputy Executive Officer of the 2012 Lead SIP for LA County, as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this proposed plan is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

WHEREAS, the AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures, that the modifications which have been made the 2012 Lead SIP for LA County, since notice of public hearing was published, would not constitute significant new information pursuant to CEQA Guidelines Section 15088.5; and

NOW, THEREFORE BE IT RESOLVED, that the South Coast Air Quality Management District Board does hereby certify that the October 2010 Final EA for Proposed Rule 1420.1 meets the requirements of CEQA Guidelines §15153(1)(A through C) and has concluded that it is appropriate to rely on the October 2010 Final EA for Rule 1420.1 as the CEQA document for the 2012 Lead SIP for LA County; that the October 2010 Final EA for Proposed Rule 1420.1 was completed in compliance with CEQA and AQMD Rule 110 provisions; and finds that the October 2010 Final EA for Rule 1420.1 was presented to the Governing Board, whose members reviewed, considered and approved the information therein prior to acting on the 2012 Lead SIP for LA County; and

BE IT FURTHER RESOLVED, that the South Coast Air Quality Management District Governing Board adopts the 2012 Lead SIP for LA County dated May 2012, and all appendices attached thereto; and

BE IT FURTHER RESOLVED, that the South Coast Air Quality Management District Governing Board directs the Executive Officer to forward a copy of this Resolution, the Final 2012 Lead SIP for LA County, and the CEQA document to the California Air Resources Board (CARB) and U.S. EPA for concurrent review; and

BE IT FURTHER RESOLVED, that the Executive Officer is hereby directed to work with CARB and U.S. EPA to ensure expeditious approval of the 2012 Lead SIP for LA County; and

BE IT FURTHER RESOLVED, that because no significant adverse environmental impacts were identified as a result of implementing the 2012 Lead SIP for LA County, a Statement of Findings, a Statement of Overriding Considerations, and a Mitigation Monitoring Plan are not required; and

BE IT FURTHER RESOLVED, that the AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, the 2012 Lead SIP for LA County, as set forth in the attached and incorporated herein by reference.

DATE: _____ _____
CLERK OF THE BOARDS

AYES:

NOES:

ABSENT:

Dated: _____ _____
Clerk of the Board

South Coast Air Quality Management District

FINAL 2012 LEAD STATE IMPLEMENTATION PLAN LOS ANGELES COUNTY

May 4, 2012

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EXECUTIVE OFFICER:
BARRY R. WALLERSTEIN, D.Env.

LIST OF ACRONYMS AND ABBREVIATIONS

AER	Annual Emissions Reporting
AERMIC	American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee
AQMD	South Coast Air Quality Management District
AQS	Air Quality Systems
ATCM	Airborne Toxic Control Measure
Avgas	Aviation Gasoline
Basin	South Coast Air Basin
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standard
CARB	California Air Resources Board
CASAC	Clean Air Scientific Advisory Committee
CEQA	California Environmental Quality Act
CTG	Control Technique Guidelines
DTSC	California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
H&SC	Health & Safety Code
HRA	Health Risk Assessment
ISC	Industrial Source Complex
LAER	Lowest Achievable Emissions Rate
MDAB	Mojave Desert Air Basin
MICR	Maximum Individual Cancer Risk
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NLCD	National Land Cover Data
NSR	New Source Review
RACM	Reasonably Available Control Measure
RACT	Reasonably Available Control Technology
RFP	Reasonable Further Progress
SIP	State Implementation Plan
SSAB	Salton Sea Air Basin
TAC	Toxic Air Contaminant
T-BACT	Best Available Control Technology for Toxics
TPY	Tons Per Year
TSP	Total Suspended Particulate
USGS	U.S. Geologic Survey

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

Introduction
Lead Air Quality and Regulatory Background
Guide to the 2012 Lead SIP
Questions and Answers Regarding the 2012 Lead SIP

INTRODUCTION

This executive summary includes:

- Background information regarding recent changes to the National Ambient Air Quality Standards (NAAQS) for lead, the nonattainment area for lead in the South Coast Air Basin (Basin), and other relevant regulatory background;
- A quick guide to the 2012 lead State Implementation Plan (SIP) for Los Angeles County- (2012 Lead SIP);
- Questions and answers concerning this 2012 lead SIP

LEAD AIR QUALITY AND REGULATORY BACKGROUND

The federal Clean Air Act (CAA) requires U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for lead and five other criteria pollutants considered harmful to public health and the environment (the other pollutants are ozone, particulate matter (including PM_{10} and $PM_{2.5}$, nitrogen dioxide, carbon monoxide, and sulfur dioxide). The law also requires EPA to periodically review the standards and the latest scientific information to ensure that they provide adequate health and environmental protection, and to update those standards as necessary.

Lead is a criteria pollutant and is also identified as a carcinogenic Toxic Air Contaminant (TAC) by the California Office of Environmental Health Hazard Assessment (OEHHA). The EPA promulgated the initial lead standard of 1.5 micrograms per cubic meter ($\mu g/m^3$) in 1978. On October 15, 2008 (73 FR 66964; November 12, 2008), EPA tightened the standard by reducing it to 0.15 $\mu g/m^3$, and changing the form of the standard to a rolling 3-month average rather than the previous quarterly average. Once EPA establishes or revises a NAAQS, pursuant to section 107(d) of the CAA, EPA must designate as "nonattainment" those areas that violate the NAAQS and those nearby areas that contribute to violations.

On December 31, 2010, the EPA designated a portion of Los Angeles County, excluding the high desert areas, San Clemente and Santa Catalina Islands (Southern Los Angeles County), as nonattainment for the 2008 lead NAAQS based on monitored air quality data from 2007-2009 that indicated a violation of the NAAQS for two large lead-acid battery recycling facilities. The CAA requires areas classified as nonattainment to attain the lead standard as expeditiously as practicable and within CAA deadlines, which in the case of Los Angeles County is no later than December 31, 2015. The South Coast Air Quality Management District (AQMD) is the regional air agency responsible for air quality planning and regulations of stationary sources in the Orange County, Los Angeles County, and portions of San Bernardino and Riverside Counties. Any state containing an area designated as nonattainment must develop and submit a SIP within 18 months of the effective date of the nonattainment designation, meeting the requirements of part D, Title 1, of the CAA. Accordingly, the SIP for lead must be submitted to EPA by July 1, 2012.

The purpose of this SIP is to outline the strategies, planning and pollution control activities needed to demonstrate attainment of the lead NAAQS as expeditiously as practicable, but no

later than December 31, 2015. The AQMD's SIP submittal process includes a public workshop, 30 days public notice, and a public hearing before the AQMD Governing Board prior to submittal to CARB, who then submits it to EPA.

GUIDE TO THE 2012 LEAD SIP

The 2012 Lead SIP addresses the recent revision to the lead NAAQS, and outlines the strategies, planning and pollution control activities that demonstrate attainment of the lead NAAQS before December 31, 2015. This document is organized into six chapters, each addressing a specific topic. The following summarizes the purpose and contents of each chapter:

Chapter 1, "Introduction," describes the purpose of the 2012 lead SIP and some brief background information on the lead nonattainment area, the history of lead NAAQS, the history and impact of lead control efforts, and the CAA planning requirements for nonattainment areas.

Chapter 2, "Lead Air Quality in Los Angeles County," discusses the lead air quality as measured by monitors in Los Angeles County as well as historical trends in ambient lead concentrations.

Chapter 3, "Lead Inventory," estimates current emissions of lead by different sources and source categories, and provides projections of future year emissions.

Chapter 4, "Lead Control Strategy," presents the overall attainment strategies in achieving the emission reductions necessary for the attainment of the revised NAAQS for lead by 2015.

Chapter 5, "Future Ambient Lead Concentrations," describes the modeling approach and modeling results used to demonstrate attainment of the lead NAAQS under the control strategy described in Chapter 4.

Chapter 6, "Clean Air Act Requirements," discusses specific federal requirements and how they are satisfied by this 2012 Lead SIP.

QUESTIONS AND ANSWERS REGARDING THE 2012 LEAD SIP

Why is this 2012 Lead SIP being prepared?

On December 31, 2010, EPA designated the Los Angeles County portion of the Basin as nonattainment for the 2008 Lead NAAQS. The federal CAA requires lead nonattainment areas to prepare a SIP outlining the strategies, planning and pollution control activities that demonstrate attainment of the lead NAAQS.

Is lead air quality improving?

Yes. Over the past forty years, the lead air quality in the Basin has dramatically improved due to comprehensive control strategies implemented to reduce pollution from mobile and stationary sources. There have been no violations of the federal and state ambient air quality standards at the AQMD's regional air monitoring stations since 1982. The reduction before 1990 is largely due to the phase-out of lead from gasoline for on-road vehicles. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry.

AQMD has been collecting lead monitoring data in the Los Angeles County portion of the South Coast Air Basin since 1975 throughout its regional monitoring network. Trends in monthly average lead concentrations for all available network sites show that lead levels have been reduced by two orders of magnitude since 1975 (from values as high as 7.49 $\mu g/m^3$ in 1976 to an urban background level of about 0.01 $\mu g/m^3$). Although past controls have resulted in substantial lead emission reductions, the revised 2008 NAAQS for lead of 0.15 $\mu g/m^3$ resulted in the Los Angeles County's non-attainment designation for the 2008 federal lead NAAQS. This designation was not due to AQMD's regional network lead monitors, but instead was based on AQMD's source-oriented monitors near specific facilities. These monitors have shown that emissions from two large lead-acid battery recycling facilities, Exide Technologies (located in the City of Vernon) and Quemetco Inc. (City of Industry), have exceeded and have the potential to exceed the new federal lead NAAQS. As a result, the AQMD Governing Board adopted Rule 1420.1 in November 2010 which applies to these large lead-acid battery recycling facilities. The purpose of the rule is to protect public health by reducing exposure to lead, and to provide the additional emissions reductions necessary to ensure the Basin can achieve and maintain the revised lead standards.

What are the major sources contributing to lead nonattainment areas and what is the overall control strategy to meet the revised lead air quality standards?

Based on monitoring data, the AQMD staff has identified large lead-acid battery recycling facilities as the only source of lead in the Basin that have caused or have the potential to cause exceedances of the new lead NAAQS. Therefore, the overall control strategy relies upon emission reductions from large lead-acid battery recycling facilities which have already been addressed through the 2010 adoption AQMD Rule 1420.1 – Emissions Standard for Lead From Large Lead-Acid Battery Recycling Facilities.

What are the main challenges for attainment of lead standards?

The main challenge for future attainment of the lead standard is the inherent uncertainties in quantifying fugitive dust emissions. Given the difficulty in quantifying fugitive lead emissions, and given the known importance of fugitive emissions at lead-acid battery recycling facilities, the ambient monitors required by AQMD Rule 1420.1 provide the most effective means of ensuring compliance with the NAAQS since they capture all lead emissions. As a result, this attainment demonstration relies heavily on ambient monitoring to capture the direct impact of fugitive and all other emissions on ambient concentrations, in a manner similar to, but more stringent, than federal requirements for NAAQS monitoring.

CHAPTER 1
INTRODUCTION

Purpose
Setting / Population
The Lead Nonattainment Area
History of Lead NAAQS
Emission Sources
Lead Health Effects
History of Control Efforts
Impact of Control Efforts
CAA Planning Requirements Addressed by this SIP
State Law Requirements

PURPOSE

The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for lead and five other criteria pollutants as well as any criteria pollutants that EPA may identify in the future. The law also requires EPA to periodically review the existing standards and the latest scientific information to ensure that they provide adequate health and environmental protection, and to update those standards as necessary.

The EPA established the initial lead standard of 1.5 micrograms per cubic meter ($\mu g/m^3$) in 1978. Since then, scientific evidence about lead health effects, environmental effects, and lead in the air has expanded dramatically, and shows that adverse effects occur at much lower levels of lead in the blood than previously thought. As a result, the EPA revised the lead NAAQS on October 15, 2008 (73 FR 66964; November 12, 2008) significantly strengthening the standard from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$. In conjunction with strengthening the lead NAAQS, EPA also established new criteria for the siting of ambient lead monitors. EPA found that the pre-existing ambient lead monitoring networks were inadequate for determining whether many areas are meeting the revised lead NAAQS. Additional monitors meeting the new network siting requirements were to begin operation January 1, 2010.

On December 31, 2010, the EPA designated the Los Angeles County portion of the South Coast Air Basin, excluding San Clemente and Santa Catalina Islands (Southern Los Angeles County), as nonattainment for the 2008 Lead NAAQS based on monitored air quality data from 2007-2009, indicating a violation of the NAAQS, pursuant to section 107 (d)(1) of the CAA.

The AQMD is the air agency responsible for air quality planning and regulations of stationary sources in the Orange County, Los Angeles County, and portions of San Bernardino and Riverside Counties. The Purpose of this State Implementation Plan (SIP) is to outline the strategies, planning and pollution control activities that demonstrate attainment of the lead NAAQS as expeditiously as practicable, but no later than December 31, 2015. The SIP will be submitted to EPA upon approval by AQMD's Governing Board and the California Air Resources Board (CARB).

SETTING /POPULATION

The AQMD jurisdiction covers an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a sub-region of the AQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside county portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federally

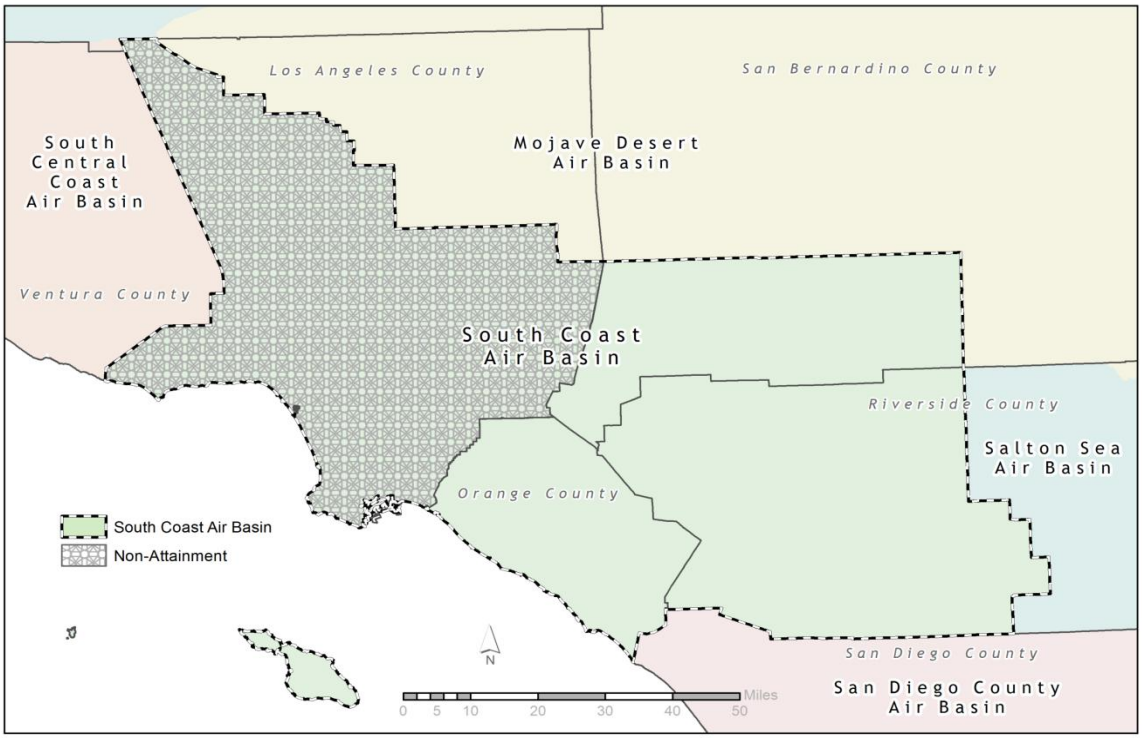
designated nonattainment area for lead consists only of the Los Angeles County portion of the Basin, excluding San Clemente and Santa Catalina Islands (Southern Los Angeles County).

The AQMD portion of Los Angeles County, where the major lead emissions sources are located, is surrounded by mountains which act as barriers to airflow between the Basin and Mojave Desert. Although there are a limited number of gaps in these mountains where transport has been documented, transport of lead emissions from the South Coast into the Mojave Desert is highly unlikely, given the size and weight of lead particles and the rapid decrease in concentration with distance from a source. As a result, emission sources in the Los Angeles County are not expected to have an impact on lead concentrations in the Mojave Desert portion of the County.

The South Coast Air Basin region is shown in Figure 1-1 with the lead nonattainment areas highlighted.

FIGURE 1-1

Boundaries of the South Coast Air Basin and Lead Nonattainment Areas



Population

Since the end of World War II, the Basin has experienced faster population growth than the rest of the nation. Although growth has slowed somewhat, the region's population is expected to increase significantly through 2020. Table 1-1 shows the projected growth based on Southern California Association of Government's (SCAG) regional growth forecast.

Population exposure to air pollutants has declined significantly over the years, primarily due to the impacts of federal, state, and regional air quality control programs. Although population exposure to pollution has been substantially reduced in the Basin through several decades of implementing pollution controls, increases in the population over that time have made overall emission reductions more difficult. Many sources, such as major stationary sources and automobiles, have significantly reduced emissions through technology advances.

TABLE 1-1

Population Growth

Year	1990	2000	2010	2013	2015
Population	13.0 million	14.8 million	16.9 million	17.3 million	17.6 million

THE LEAD NONATTAINMENT AREA

In May 2010, CARB recommended to EPA that the Los Angeles County portion of the South Coast Air Basin, excluding San Clemente and Santa Catalina Islands (Southern Los Angeles County), be designated as nonattainment for the 2008 lead NAAQS based on air quality data from 2007-2009. CARB's recommendation was based on data from Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitors located in the state. The 2008 lead NAAQS requires full attainment no later than December 31, 2015. Demonstration of attainment is based on measurements using a rolling 3-month averaging form of the standard to be evaluated over a 3-year period. Ambient measurement data are to be produced by EPA-required monitoring networks within each state which consist of both source-oriented and population monitors.

HISTORY OF LEAD NAAQS

The CAA requires EPA to set national air quality standards for lead and five other pollutants considered harmful to public health and the environment [(the other pollutants are ozone, particulate matter (including PM_{10} and $PM_{2.5}$), nitrogen dioxide, carbon monoxide, and sulfur dioxide)]. The law also requires EPA to periodically review the existing standards to ensure that they provide adequate health and environmental protection, and to update those standards as necessary.

The CAA established two types of NAAQS for lead and other criteria pollutants. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings. To provide increased protection against lead-related welfare effects, EPA revised the secondary standard to be identical in all respects to the revised primary standards. Once EPA establishes or revises a primary and/or secondary NAAQS, pursuant to section 107(d) of the CAA, EPA must designate as "nonattainment" those areas that violate the NAAQS and those nearby areas that contribute to violations. In addition,

CARB is authorized to establish state ambient air quality standards which may be more stringent than the federal standards.

The following provides a brief summary of the lead NAAQS history:

- In 1970, CARB set the state ambient air quality standard for lead at 1.5 $\mu g/m^3$ based on a 30-day average.
- On October 1978, EPA promulgated primary and secondary NAAQS for lead under section 109 of the Act (43 FR 46246). Both primary and secondary standards were set at a level of 1.5 $\mu g/m^3$ based on a quarterly average (maximum arithmetic mean averaged over a calendar quarter).
- On October 2008, EPA amended the NAAQS for lead from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$ requiring attainment by December 31, 2015 using a rolling 3-month averaged evaluated over 3 year period.
- On May 2010, CARB recommended to the EPA that the South Coast portion of Los Angeles County be designated as nonattainment for the 2008 federal lead standard.
- On December 31, 2010, EPA designated the Los Angeles County portion of the South Coast Air Basin, excluding San Clemente and Santa Catalina Islands (Southern Los Angeles County), as nonattainment for the 2008 lead NAAQS requiring attainment no later than December 31, 2015.

EMISSION SOURCES

Lead is a metal found naturally in the environment and present in some manufactured products. There are a variety of activities that can contribute to lead emissions, which are grouped into two general categories, stationary and mobile sources. Stationary sources can be further grouped into "point" and "area" sources. Point sources have one or more identified and fixed pieces of equipment and emission points at a permitted facility. Area sources consist of widespread and numerous smaller emission sources, such as smaller facilities, households, or other land uses. Mobile sources can also be grouped into two major categories, "on-road" and "other" mobile sources. On-road mobile sources include light-duty automobiles; light-, medium-, and heavy-duty trucks; and motorcycles. Examples of "other" mobile sources include aircraft, locomotives, construction equipment, mobile equipment, and off-road recreational vehicles.

Emissions of lead have dropped substantially over the past forty years. The reduction before 1990 is largely due to the phase-out of lead as an anti-knock agent in gasoline for on-road automobiles. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry. However, with the recent strengthening of the NAAQS for lead, additional reductions may be needed to maintain attainment of the federal lead air quality standards.

Historically, the major source of lead air emissions has been gasoline-powered motor vehicles. Motor vehicle emissions of lead have been dramatically reduced due to the phase-

out of leaded gasoline, but lead is still used as an additive in general aviation gasoline (avgas) and remains as a trace contaminant in other fuels. Avgas is only utilized in general aviation aircraft with piston engines, which are generally used for instructional flying, air taxi activities, and personal transportation. Emissions of lead from piston-engine aircraft using leaded avgas comprise approximately half of the national inventory of lead emitted to the air.

Sources of lead from stationary sources are mainly from larger industrial sources including but not limited to, metals processing, particularly primary and secondary lead smelters. Lead can also be emitted from sources, such as iron and steel foundries; primary and secondary copper smelters; industrial, commercial, and institutional boilers; waste incinerators; glass manufacturing; refineries, and cement manufacturing. The lead-acid battery recycling industry has been determined by AQMD staff to be the highest stationary source emitters of lead in Los Angeles County. Staff's analysis has shown this industry to be the only known stationary source category that has the potential to cause violations of the new lead NAAQS. The lead emission sources in the nonattainment area are described in Chapter 3.

LEAD HEALTH EFFECTS

Lead is generally emitted in the form of particles, which can end up being deposited in the human lung as well as in water, soil, and dust. Human exposure to lead occurs in a variety of ways with common routes being that of inhalation and ingestion. Once in the body, lead is quickly absorbed into the bloodstream and can result in a broad range of adverse health effects. The most widely used indicator of lead exposure in many studies is the amount of lead measured in whole blood because of the direct relationship between blood lead (PbB) levels and health effects. Clinical effects resulting from high-level lead exposure include nervous and reproductive system disorders, neurological and physical developmental effects, cognitive and behavioral changes, and hypertension. Young children are especially susceptible to the effects of environmental lead because they are more vulnerable to certain biological effects of lead including learning disabilities, deficits in IQ, and behavioral problems.[1] Based on studies reviewed by the EPA's Clean Air Scientific Advisory Committee (CASAC), it was concluded that a "population loss of 1-2 IQ points" resulting from exposure to ambient air lead concentrations "is highly significant from a public health perspective."

Under the federal CAA, lead is classified as a "criteria pollutant." Lead has observed health effects at ambient concentrations. The EPA has thoroughly reviewed the lead exposure and health effects research which indicates that PbB concentrations in a range of 5-10 µg/dL, or possibly lower, could likely result in neurocognitive effects in children. The report further states that "there is no level of lead exposure that can yet be identified with confidence, as clearly not being associated with some risk of deleterious health effects."[2]

[1] Environmental Protection Agency, "Lead in Air," (*http://www.epa.gov/air/lead/health.html*), June 12, 2009.

[2] Environmental Protection Agency, Office of Research and Development, "Air Quality Criteria Document for Lead, Volumes I-II," October 2006.

The EPA has determined that a primary and secondary standard of 0.15 $\mu g/m^3$ is requisite to provide an adequate margin of safety that would ensure the protection of public health from the health effects associated with lead exposure.[3]

HISTORY OF CONTROL EFFORTS

The CAA requires EPA to set national air quality standards for lead and five other pollutants considered harmful to public health and the environment (the other pollutants are ozone, particulate matter, nitrogen oxides, carbon monoxide, and sulfur dioxide). Federal, state and regional control efforts are designed to meet those standards by CAA-mandated deadlines. Below is a chronology of federal, state and regional lead control efforts relevant to the Basin, including the nonattainment area in Los Angeles County:

- In November 1970, CARB set the state ambient air quality standard for lead at 1.5 $\mu g/m^3$ averaged over 30 days.
- In October 1978, EPA promulgated primary and secondary NAAQS for lead under section 109 of the Act (43 FR 46246). Both primary and secondary standards were set at a level of 1.5 $\mu g/m^3$ averaged over a calendar quarter.
- In 1987, the California legislature adopted the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588). The goals of the Act are to collect emissions data of toxic air contaminants (TACs), identify facilities having localized impacts, to determine health risks, and to notify affected individuals. Facilities with high health risks must reduce their risks to the community by incorporating risk reduction plans.
- In December 1990, AQMD adopted Rule 1401 – New Source Review of Toxic Air Contaminants. The rule applies to new, relocated, and modified permit units with TAC emissions. Lead was added to the Rule 1401 list of TACs in 1992.
- In September 1992, AQMD 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.
- In October 1992, Office of Environmental Health Hazard Assessment (OEHHA) classified lead as a carcinogenic TAC.
- In January 1993, CARB adopted the Airborne Toxic Control Measure (ATCM) for Emissions of TAC Metals from Non-Ferrous Metal Melting.
- In April 1994, AQMD adopted Rule 1402 – Control of Toxic Air Contaminants from Existing Sources. The purpose of this rule is to reduce the health risk associated with emissions of TACs from existing sources by specifying health limits for cancer and non-cancer compounds applicable to total facility emissions and by requiring facilities to implement risk reduction plans to achieve specified risk limits, as required by the AB 2588 "Hot Spots" and this rule.

[3] Environmental Protection Agency, "National Ambient Air Quality Standards for Lead; Final Rule," 40 CFR Parts 50, 51, 53, and 58, November 2008.

- In April 1997, CARB identified lead compounds (including inorganic lead) as a TAC due to the health impacts associated with neurodevelopmental impairment in children, increased blood pressure in adults and cancer.
- In June 1997, EPA adopted the National Emissions Standards for Hazardous Air Pollutants (NESHAP) 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.
- In September 1998, CARB established a cancer potency value of 1.2×10^{-5} per $\mu g/m^3$ for inorganic lead exposure.
- In March 2001, CARB developed "Risk Management Guidelines for New, Modified and Existing Sources of Lead".
- In October 2008, EPA amended the NAAQS for lead from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$ requiring attainment by December 31, 2015, using a rolling 3-month average evaluated over 3-year period.
- In November 2010, AQMD adopted Rule 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities. The purpose of this rule is to protect public health while ensuring attainment with the 2008 lead NAAQS.

IMPACT OF CONTROL EFFORTS

The ambient air quality standards for lead were set at 1.5 $\mu g/m^3$ by both CARB and EPA in 1970, and 1978, respectively. Air pollution controls have had a positive impact on the Basin's air quality relative to lead. There have been no violations of the federal and state standards at the AQMD's regular air monitoring stations since 1982. The major reductions were due to removal of lead from gasoline, in addition to adoption of AQMD Rule 1420 - Emissions Standard for Lead. Although past controls have resulted in substantial lead emission reductions, the 2008 NAAQS for lead of 0.15 $\mu g/m^3$ may require additional controls to ensure continued attainment of the federal lead air quality standards.

Air quality summaries for ambient lead in the nonattainment areas of the Basin as well as the health effects of lead are briefly discussed in Chapter 2.

CAA PLANNING REQUIREMENTS ADDRESSED BY THIS SIP

In November 1990, Congress enacted a series of amendments to the CAA intended to intensify air pollution control efforts across the nation. One of the primary goals of the 1990 CAA Amendments was an overhaul of the planning provisions for those areas not currently meeting NAAQS. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to attain or to meet interim milestones.

In October 2008, the EPA strengthened the NAAQS for lead from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$ requiring attainment by December 31, 2015, using a rolling 3-month average evaluated over a 3-year period. The Los Angeles County portion of the South Coast Air Basin, excluding

San Clemente and Santa Catalina Islands (Southern Los Angeles County), was designated as nonattainment for the 2008 lead NAAQS based on air quality data from 2007-2009.

There are several sets of general planning requirements, both for nonattainment areas [Section 172(c) and 191 of the CAA] and for implementation plans in general [Section 110(a) (2)]. These requirements are listed and very briefly described in Tables 1-2 and 1-3, respectively. The general provisions apply to all applicable pollutants unless superseded by pollutant-specific requirements.

TABLE 1-2

Nonattainment Plan Provisions
[CAA Section 172(c)]

Requirement	Description
Reasonably Available Control Measures (RACM)	Implementation of all reasonably available control measures as well as Reasonably Available Control Technology (RACT) as expeditiously as practicable.
Reasonable Further Progress (RFP)	Provision for reasonable further progress which is defined as "such annual incremental reductions in emissions of the relevant air pollutant as are required for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date."
Emission Inventory	Development and periodic revision of a comprehensive, accurate, current inventory of actual emissions from all sources.
Allowable emission levels	Identification and quantification of allowable emission levels for major, new, or modified stationary sources.
Permits for new and modified stationary sources	Permit requirements for the construction and operation of major new or modified stationary sources.
Other measures	Inclusion of all enforceable emission limitations and control measures as may be necessary to attain the standard by the applicable attainment deadline.
Contingency measures	Implementation of contingency measures to be undertaken in the event of failure to make reasonable further progress or to attain the NAAQS.

TABLE 1-3

General CAA Requirements for Implementation Plans

Requirement	Description
Ambient monitoring	An ambient air quality monitoring program. [Section 110(a)(2)(B)]
Enforceable emission limitations	Enforceable emission limitations or other control measures as needed to meet the requirements of the CAA [Section 110(a)(2)(A)]
Enforcement and regulation	A program for the enforcement of adopted control measures and emission limitations and regulation of the modification and construction of any stationary source to assure that the NAAQS are achieved. [Section 110(a)(2)(C)]
Interstate transport	Adequate provisions to inhibit emissions that will contribute to nonattainment or interfere with maintenance of NAAQS or interfere with measures required to prevent significant deterioration of air quality or to protect visibility in any other state. [Section 110(a)(2)(D)]
Adequate resources	Assurances that adequate personnel, funding, and authority are available to carry out the plan. [Section 110(a)(2)(E)]
Source testing and monitoring	Requirements for emission monitoring and reporting by the source operators. [Section 110(a)(2)(F)]
Emergency Authority	Ability to bring suit to enforce against source presenting imminent and substantial endangerment to public health or environment [Section (a)(2)(G)]
Plan revisions	Provisions for revising the air quality plan to incorporate changes in the standards or in the availability of improved control methods. [Section 110(a)(2)(H)]
Other CAA requirements	Adequate provisions to meet applicable requirements relating to new source review, consultation, notification, and prevention of significant deterioration and visibility protection contained in other sections of the CAA. [Section 110(a)(2)(I),(J)]
Impact assessment	Appropriate air quality modeling to predict the effect of new source emissions on ambient air quality. [Section 110(a)(2)(K)]
Permit fees	Provisions requiring major stationary sources to pay fees to cover reasonable costs for reviewing and acting on permit applications and for implementing and enforcing the permit conditions. [Section 110(a)(2)(L)]
Local government participation	Provisions for consultation and participation by local political subdivisions affected by the plan. [Section 110(a)(2)(M) & 121]
Equivalent techniques	Provisions allowing usage of equivalent modeling, emission inventory, and planning procedures, unless determined by the

Requirement	Description
	administrator that the techniques are, in the aggregate, less effective than the methods specified by the administrator. [Section 172(c)(8)]

EPA requires a public hearing on many of the required elements in SIP submittals before considering them officially submitted. The AQMD's SIP submittal process includes a public workshop, 30 days public notice, and a public hearing before the AQMD Governing Board prior to submittal.

The CAA requires SIPs for most nonattainment areas to demonstrate reasonable further progress (RFP) toward attainment through emission reductions phased in from the time of the SIP submission until the projected attainment date. The RFP requirements in the CAA are intended to ensure that the lead nonattainment area provide for sufficient emission reductions to attain the lead NAAQS. Chapter 6 provides an estimation of the emission levels at each of the milestone years compared to the CAA target levels, and how this SIP will demonstrate attainment.

The South Coast Air Basin portion of Los Angeles County, where the major lead emissions sources are located, is surrounded by mountains which act as barriers to airflow. Although there are a limited number of gaps in these mountains where transport has been documented, transport of lead emissions is highly unlikely, given the weight of lead particles and the rapid decrease in concentration with distance from a source. As a result, emissions sources in the South Coast portion of Los Angeles are not expected to have an impact on lead concentrations in other parts of the South Coast and as such will not be addressed in this SIP submittal.

STATE LAW REQUIREMENTS

The Health and Safety Code (H&SC) section 39607(e) requires CARB to establish and periodically review area designation criteria. Once CARB establishes health-based State ambient air quality standards to identify outdoor pollutant levels considered safe for the public, State law requires them to designate each area as attainment, nonattainment, nonattainment-transitional, or unclassified. In addition, H&SC section 39608 requires the CARB to use the designation criteria to designate areas of California and to annually review those area designations.

CARB made the first area designations for State ambient air quality standards (State standards) in 1989. Since then, CARB has reviewed the designations each year, making changes as needed. The California ambient air quality standard (CAAQS) for lead has remained the same at 1.5 $\mu g/m^3$. However, the lead designation for the South Coast Air Basin (Los Angeles County portion only) was changed from attainment to nonattainment, based on data for the period 2006 to 2008, effective on September 25, 2010.

CHAPTER 2

LEAD AIR QUALITY IN LOS ANGELES COUNTY

INTRODUCTION

On October 15, 2008, EPA revised the National Ambient Air Quality Standard (NAAQS) for Total Suspended Particulate (TSP) lead, lowering it from 1.5 micrograms per cubic meter ($\mu g/m^3$) (calculated as a quarterly average) to a more stringent 0.15 $\mu g/m^3$ (rolling three-month average "not to be exceeded" over a three-year period) for both the primary and the secondary standard. The final rule was published in the Federal Register on November 12, 2008. The new rule and a revision on November 22, 2010 also established minimum requirements for lead monitoring, including monitoring adjacent to major lead emission sources ("source-oriented" monitors) emitting over 0.5 tons of lead per year. AQMD has been collecting TSP lead monitoring data in the Los Angeles County portion of the South Coast Air Basin since 1975 throughout its routine monitoring network. As described below, AQMD has also maintained source-oriented monitors at various industrial facilities over the past several years. For the most part, the AQMD's existing lead monitoring network meets the new federal monitoring requirements for lead. The only exception was a new monitoring requirement leading to sampling at Van Nuys Airport, implemented in 2010 as described below.

In 1990, EPA requested that AQMD collect ambient air particulate samples near large lead handling facilities. As a result, long-term monitoring at sites located near several of these facilities (i.e. source-oriented sites) began in 1991. Also, additional lead sampling has been conducted by AQMD since the adoption of Rule 1420 (Emissions Standard for Lead) on September 11, 1992. The purpose of Rule 1420 is to reduce lead emissions from non-vehicular sources. It applies to all facilities that use or process materials containing lead, including primary or secondary lead smelters, foundries, and lead-acid battery manufacturers or recyclers, as well as facilities that produce lead-oxide, brass, and bronze. Under Rule 1420, facilities shall not discharge lead emissions into the atmosphere which cause ambient concentrations beyond the property line to exceed 1.5 $\mu g/m^3$ averaged over 30 consecutive days (30-day rolling average). This concentration reflects the current California Ambient Air Quality standard (CAAQS) for lead (also a "not to be exceeded" standard), which has a level that is consistent with, and a form that is more stringent than, the previous federal standard (1.5 $\mu g/m^3$ averaged over a calendar quarter).

Furthermore, on November 5, 2010, AQMD adopted Rule 1420.1 to establish additional requirements for large lead-acid battery recycling facilities (those that process or have ever processed 50,000 tons or more of lead per year), to protect public health, and to ensure attainment of the new 2008 NAAQS for lead in the Los Angeles County portion of the South Coast Air Basin. Rule 1420.1 requires total enclosures for any process associated with the preparation, recovery, refining, and storage of lead-containing material and requires pollution control devices on the enclosures and on lead emission point sources. Rule 1420.1 also includes housekeeping, monitoring potential lead emissions around the facility's perimeter (i.e. fence-line monitoring), and recordkeeping requirements. The trigger level specified in Rule 1420.1 is 0.15 $\mu g/m^3$ averaged over any consecutive 30-day period (30-day rolling average). As of July 1, 2011, any battery recycling facility exceeding an ambient lead concentration of 0.12 $\mu g/m^3$ must submit a Compliance Plan identifying additional lead emission reduction measures, thereby helping to avoid potential subsequent violations of the federal standard.

The results of these sampling programs are summarized and discussed in this chapter. All information reported below refers to TSP lead measurements taken between 1975 and 2010 in the Los Angeles County portion of the South Coast Air Basin only. The discussion is divided into:

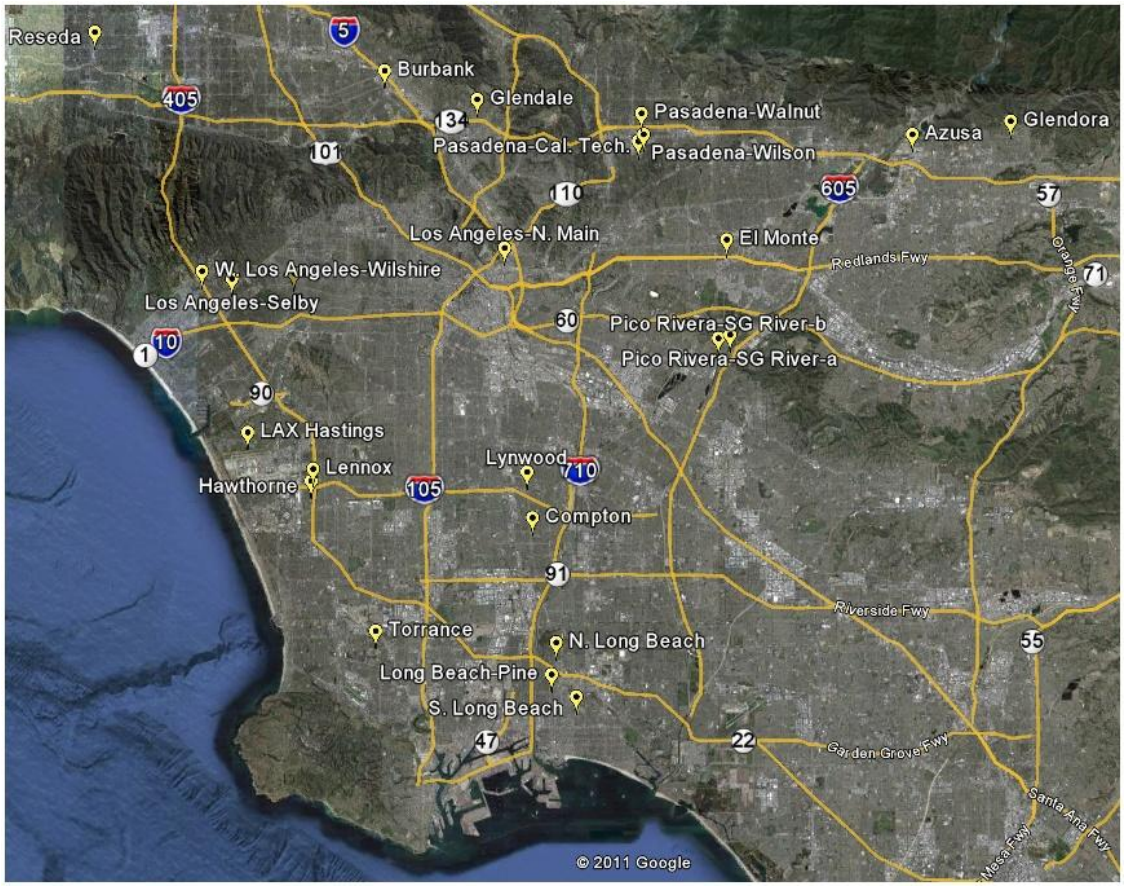
- Ambient measurements (non-source-oriented sites at permanent AQMD regional network monitoring stations that are not near local emissions sources)
- Source-oriented measurements (sites adjacent to lead-emitting facilities, beyond the property line, eligible for NAAQS comparison)
- Fence-line measurements (sites operated by the lead-emitting facility as required by AQMD rules 1420 or 1420.1, generally located just inside the fence-line on facility property or in non-public areas, and thus not eligible for NAAQS comparison)

AMBIENT MEASUREMENTS

Since 1975, AQMD has been measuring ambient lead concentrations at multiple locations (Figure 2-1), typically using a 1-in-6 day sampling schedule, but in some cases sampling more frequently. All sites shown in Figure 2-1 are part of AQMD's current or past monitoring network in the Los Angeles County portion of the South Coast Air Basin. The monitoring stations in Azusa, Burbank, Long Beach (North Long Beach Blvd.), Lynwood, and Los Angeles (North Main St.) have the longest continuous periods of record (Table 2-1).

FIGURE 2-1

Location of all AQMD's network lead monitoring sites in the Los Angeles County portion of the Basin since 1975



Trends in monthly average TSP lead concentrations for all available network sites are shown in Figure 2-2. Noticeably, lead levels have been reduced by two orders of magnitude since 1975 (from values as high as 7.49 µg/m^3 in 1976 to an urban background level of about 0.01 µg/m^3), following the phase-out of lead in gasoline fuels that began during the 1970s. When the EPA first adopted a lead standard in 1978, it was estimated that over 90% of ambient lead concentrations were attributable to the use of lead in gasoline fuels.

Monthly average lead concentrations at all AQMD's network sites have been at or below 0.05 µg/m^3 since 2004. Note that lead concentrations in Figure 2-2 are not directly comparable to the form of the federal standard (monthly vs. a three-month average), but are provided to better illustrate long-term trends and the substantial reduction in the atmospheric levels of lead that has occurred in the Los Angeles County portion of the South Coast Air Basin in the past two decades. As shown in Table 2-1, none of the design values for the 2008-2010 or 2009-2011 time periods (i.e. highest valid 3-month site-level mean over a three year period) is close to the current 2008 NAAQS for lead (0.15 µg/m^3). All monthly-average lead data presented here have been

calculated from daily (24-hour) average values downloaded from EPA's Air Quality System (AQS) database. A list of all available daily, one-month, and three-month average lead concentrations measured at all network sites since 1975 can be found in the supplemental CD provided with this document in Appendix I.

TABLE 2-1

AQMD's monitoring network sites in the Los Angeles County portion of the Basin measuring Total Suspended Particulate (TSP) lead since 1975 with available design values for the 2008-2011 timeframe

Site Name	Site Address	Sampling		Lead Design Value ($\mu g/m^3$) (2008-2010)*	Lead Design Value ($\mu g/m^3$) (2009-2011)^
		Start	End		
Azusa	803 N. Loren Ave., Azusa	01/04/80	12/27/09	NA	NA
Burbank	228 W. Palm Ave., Burbank	02/23/75	12/27/09	NA	NA
Compton	700 North Bullis Rd., Compton	11/02/08	Ongoing	NA	0.02
El Monte	915 Flair Dr., El Monte	01/13/85	06/09/89	NA	NA
Glendale	145 N. Howard St., Glendale	03/19/75	12/20/75	NA	NA
Glendora	840 Laurel, Glendora	12/05/80	03/31/84	NA	NA
Hawthorne	5234 W. 120th Street, Hawthorne	01/08/86	03/28/04	NA	NA
Lancaster	45547 N. Beech St., Lancaster	01/04/80	12/28/86	NA	NA
Lennox	11408 La Cienega Blvd., Los Angeles	01/04/80	10/28/85	NA	NA
Long Beach-Pine Ave.	2655 Pine Ave., Long Beach	02/11/75	03/27/78	NA	NA
Long Beach-N. LB Blvd.	3648 N. Long Beach Blvd., Long Beach	05/03/80	Ongoing	0.01	0.01
S. Long Beach	1305 E. Pacific Coast Hwy., Long Beach	08/07/03	Ongoing	0.01	0.01
Los Angeles-Selby Ave.	2050 Selby Ave, Los Angeles	02/23/75	10/18/80	NA	NA
Los Angeles-N. Main St.	1630 N. Main St., Los Angeles	01/04/80	Ongoing	0.02	0.02
LAX Hastings	7201 W. Westchester Pkwy., Los Angeles	04/15/04	Ongoing	0.01	0.01
Lynwood	11220 Long Beach Blvd., Lynwood	01/04/80	10/27/08	NA	NA
Pasadena-Cal. Tech.	Cal. Tech. (Keck Lab.), Pasadena	02/11/75	03/27/78	NA	NA
Pasadena-Walnut St.	1196 E. Walnut St., Pasadena	01/04/80	08/28/83	NA	NA
Pasadena-Wilson Ave.	752 S. Wilson Ave., Pasadena	04/11/82	12/28/86	NA	NA
Pico Rivera-SG River-a	3713 San Gabriel River Pkwy., Pico Rivera	01/04/80	04/22/05	NA	NA
Pico Rivera-SG River-b	4144 San Gabriel River Pkwy., Pico Rivera	09/19/05	Ongoing	0.02	0.02
Reseda	18330 Gault St., Reseda	01/04/80	04/26/86	NA	NA
Torrance	2300 Carson St., Torrance	02/11/75	09/23/78	NA	NA
West Los Angeles-Rovertson	1535 Robertson Blvd., West Los Angeles	01/04/80	02/18/85	NA	NA
West Los Angeles-Wilshire	11301 Wilshire Blvd., Los Angeles	06/05/84	12/28/86	NA	NA

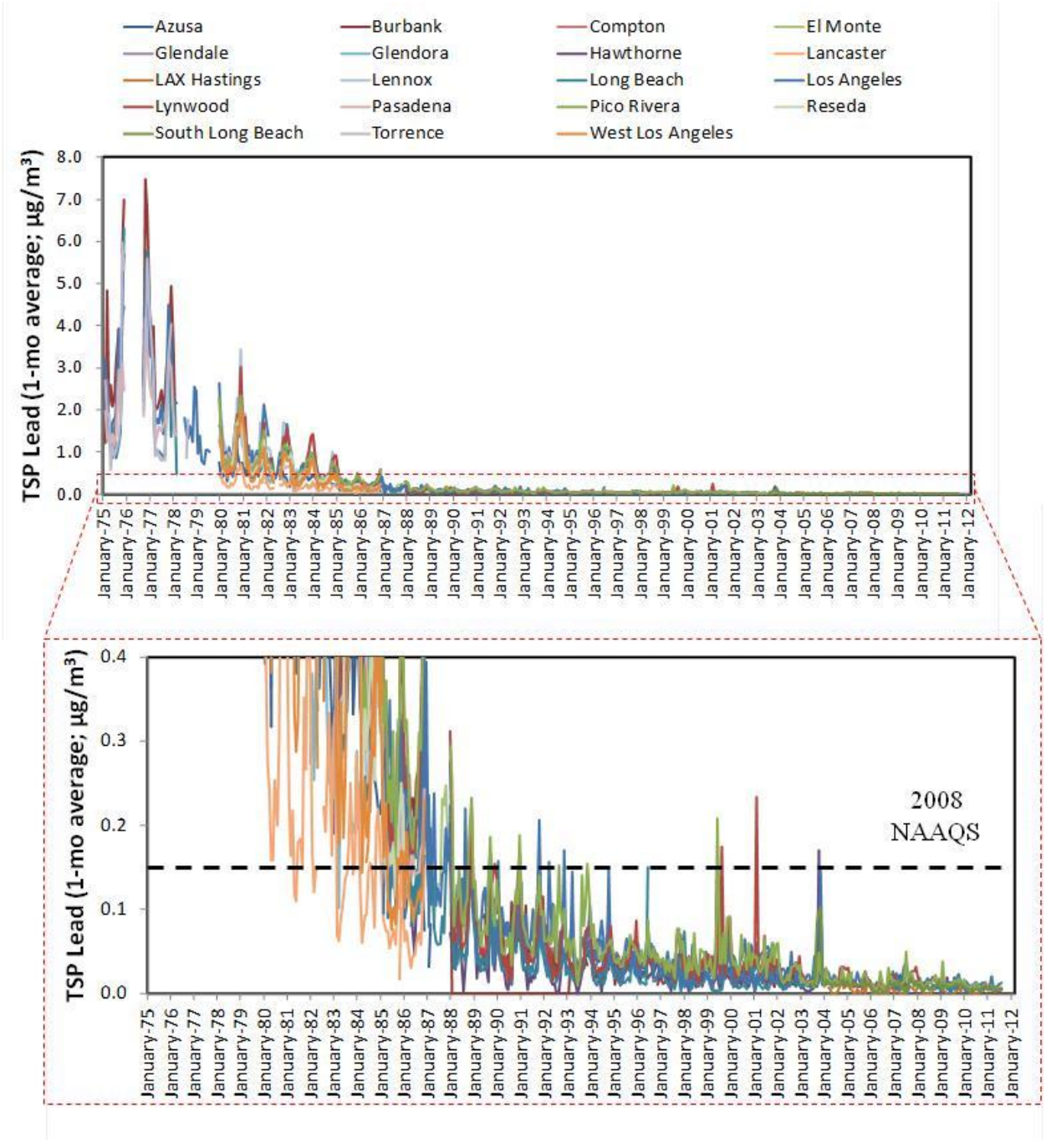
*Highest valid 3-month site-level mean over the most recent 38-month period (November 2007-December 2010)

^Preliminary value calculated as the highest valid 3-month site-level mean over the most recent 35-month period (November 2008-September 2011)

Lead data from October 2011 to December 2011 will be available soon

FIGURE 2-2

Monthly average Total Suspended Particulate (TSP) lead concentrations at all network sites in the Los Angeles County portion of the Basin from 1975 to 2011. The dotted line in the magnified portion of the graph represents the current 2008 NAAQS for lead (0.15 µg/m^3)



MEASUREMENTS AT SOURCE-ORIENTED SITES

TSP lead concentration data have been collected by AQMD during the past two decades in the vicinity of the following facilities, generally using the typical 1-in-6 day sampling schedule, but in some cases sampling more frequently:

- **Exide Technologies**
  - *Vernon Facility (2700 South Indiana Street, Vernon)*: this secondary lead smelter plant recycles lead batteries and other lead bearing material. Since February 1991, AQMD has operated source-oriented lead monitors at four locations at different distances from the facility's perimeter (Figure 2-3a). Sampling at three of these source-oriented sites is still ongoing (Table 2-2).
  - *Commerce Facility (5909 E Randolph St, Commerce)*: this is a lead oxide production facility. From January 1999 to May 2006, AQMD operated one lead monitoring site about 300 m north-west of the facility's perimeter (Table 2-2; Figure 2-3b).
- **Quemetco Inc. (720 South 7th Avenue, City of Industry)**
  - This secondary lead smelter plant recycles lead bearing scrap, primarily in the form of spent lead-acid batteries, and produces lead and lead alloy. AQMD has operated source-oriented sites around the facility at three locations since February 1991 (Figure 2-3c). Sampling at one of these sites is still ongoing (Table 2-2).
- **Trojan Battery (9440 Ann Street, Santa Fe Springs)**
  - This company designs and manufactures deep cycle batteries. AQMD has been operating a source-oriented site less than 100 m south-west of this facility since January 2001 (Table 2-2; Figure 2-3d).

It should be noted that current EPA monitoring requirements for lead include a requirement to monitor at all facilities emitting over 0.5 tons of lead per year, excluding airports for which a pilot program for measuring lead at specified airports was required. However, monitoring at all facilities emitting over 1.0 tons per year, including airports, is also required. Therefore, in 2010, a lead monitor was deployed at **Van Nuys Airport (16461 Sherman Way, Van Nuys)**, about 80 meters east of the main runway blast fence and downwind of the majority of the main runway (Table 2-2; Figure 2-3e). This is a general aviation airport where aircraft with piston-driven engines still use leaded avgas.

Trends in monthly-average TSP lead concentrations for all of AQMD's source-oriented sites are shown in Figure 2-4. Overall, lead levels have been reduced substantially since the early 1990s (from values as high as 3.66 $\mu g/m^3$ in 1991 to concentrations that are close to or below 0.15 $\mu g/m^3$ in 2011). This improvement reflects the reduction in lead emissions from large battery recycling facilities following the adoption of rules 1420 and 1420.1. However, as shown in Table 2-2, the 2008-2010 design value for lead calculated at the Exide-Rehrig station (about 15 m east of Exide Technologies in Vernon) was 2.49 $\mu g/m^3$, which was well above the current 2008 NAAQS. The 2008-2010 design value for lead calculated for the Exide-AT&SF site (150 m north-east of the same facility) was substantially lower (0.22 $\mu g/m^3$), but still above the current federal standard.

The preliminary 2009-2011 design values in Table 2-2 show considerable improvement. The only site above the new 2008 NAAQS for lead is the Rehrig site at Exide Technologies with a three-year design value of 0.66 $\mu g/m^3$. Furthermore, as shown in Figure 2-4, the most recent month of data (December 2011) at the Rehrig site is actually below the 0.15 $\mu g/m^3$ level. Since lead is typically found in larger particles (those with an aerodynamic diameter larger than 2.5 µm) its atmospheric concentration decreases rapidly from the point of release and, as a result, lead impacts are localized. With the exceptions listed above, monthly average lead concentrations at all AQMD's source-oriented sites have been below 0.15 $\mu g/m^3$ since November 2008 and suggest a decreasing trend (Figure 2-4). Monthly average values at Van Nuys Airport have never exceeded 0.04 $\mu g/m^3$.

The monthly average data shown in Figure 2-4 are not directly comparable to the three-month average form of the federal standard specified by EPA, but are provided to better illustrate long-term trends and the substantial reduction in the atmospheric concentration of lead that has occurred in the Los Angeles County portion of the South Coast Air Basin since the mid 70s. All lead measurements presented in this section have been calculated from daily (24-hour) average values measured by AQMD staff. Some of this special monitoring data is not available in AQS, but it has been included in the supplemental CD provided with this document, which also includes all available daily, one-month, and three-month average lead concentrations for all source-oriented sites. This data is public and can be requested through the Public Information Records Act request process.

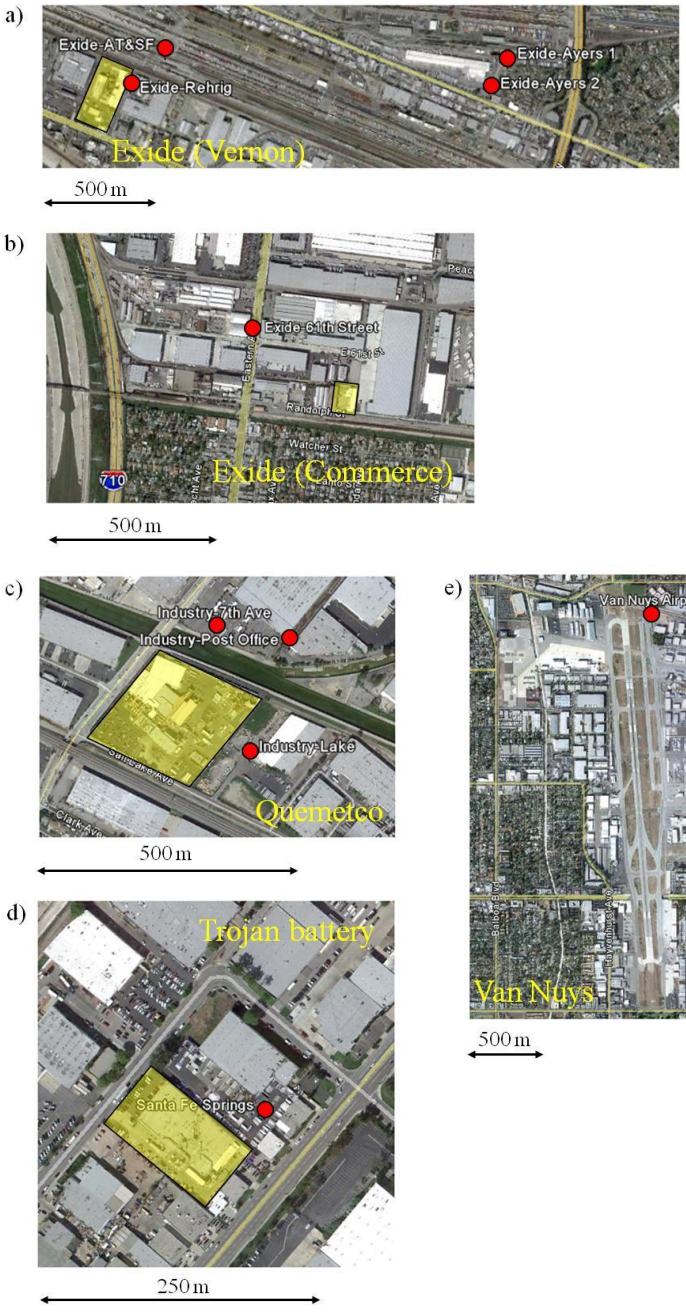


FIGURE 2-3

Location of all source-oriented sites operated by AQMD near:
a) Exide technology (Vernon facility),
b) Exide Technology (Commerce facility),
c) Quemetco Inc.,
d) Trojan Battery, and
e) Van Nuys airport.

TABLE 2-2

AQMD's source oriented sites measuring Total Suspended Particulate (TSP) lead since 1991 with available design values for the 2008-2011 timeframe

Facility Name and Address	Source-oriented Site Name and Address	Sampling		Lead Design Value (µg/m^3) (2008-2010)*	Lead Design Value (µg/m^3) (2009-2011)*
		Start	End		
EXIDE TECH (VERNON) 2700 South Indiana Street, Vernon	**Exide-Ayers 1** 2249 Ayers Ave., Commerce	02/05/91	10/27/92	NA	NA
	Exide-Ayers 2 Ayers and Washington Intersection, Vernon	6/23/2008	Ongoing	NA	0.03
	Exide-AT&SF AT&SF Railroad Yard, Washington Blvd., Vernon	04/19/91	Ongoing	0.22	0.08
	Exide-Rehrig 4010 East 26th Street, Vernon, CA	11/14/2007	Ongoing	2.49	0.66
EXIDE TECH (COMMERCE) 5909 E Randolph St, Commerce	**Exide-61st Street** 61st St., Commerce	01/06/99	05/31/06	NA	NA
QUEMETCO INC. 720 S 7th Ave, Industry	**Industry-7th Ave** 500 S. 7th Ave, Industry^*	2/17/1991^	Ongoing	NA**	0.11#
	Industry-Lake Ave 14755 E. Salt Lake Ave., Industry	03/13/91	09/15/91	NA	NA
	Industry-Post office 500 S. 7th Ave, Industry^*	01/06/99	12/26/00	NA	NA
TROJAN BATTERY 9440 Ann Street, Santa Fe Springs	**Santa Fe Springs** 9440 Santa Fe Springs Rd, Santa Fe Springs^^	01/01/01	Ongoing	0.12	0.12#
VAN NUYS AIRPORT 16461 Sherman Way, Van Nuys	**Van Nuys Airport** 16461 Sherman Way, Van Nuys	01/02/10	12/22/10	NA	NA

*Highest valid 3-month site-level mean over the most recent 38-month period (November 2007-December 2010)

#Preliminary value calculated as the highest valid 3-month site-level mean over the most recent 35-month period (November 2008-September 2011)

Lead data from October 2011 to December 2011 will be available soon

^Sampling was interrupted on October 1992 and resumed on January 2001

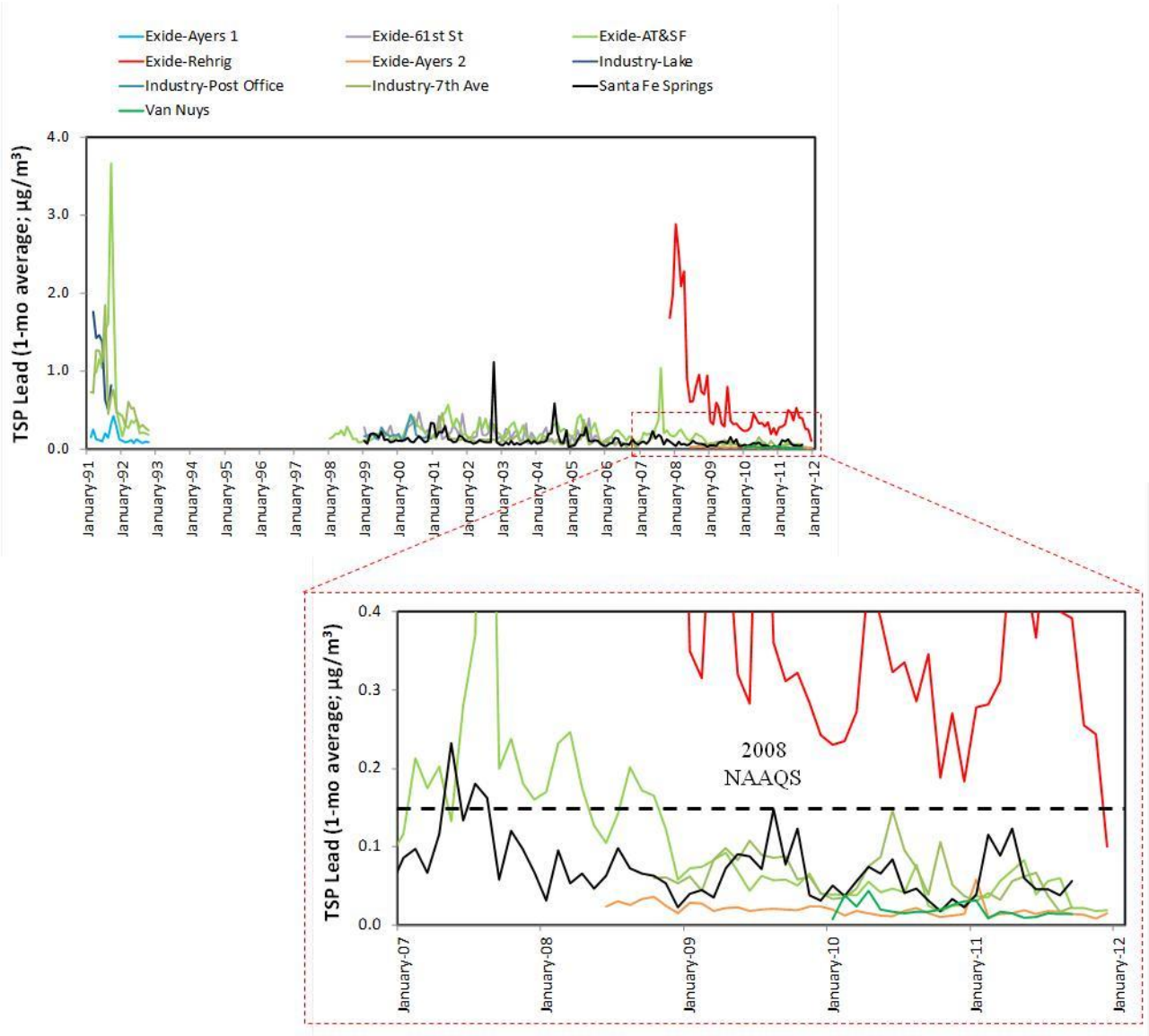
**Sampling was interrupted on December 2006 and resumed on October 2008

^*On 10/06/2003 sampler was moved move to a nearby location (same address)

^^On 01/01/2001 sampler was moved from 9440 Santa Fe Springs Rd to 9331 Santa Fe Springs Rd

FIGURE 2-4

Monthly average Total Suspended Particulate (TSP) lead concentrations at all source-oriented sites from 1991 to 2011. The dotted line in the magnified portion of the graph represents the current 2008 NAAQS for lead (0.15 µg/m^3)



FENCE-LINE MEASUREMENTS

Monitoring of TSP lead in close proximity to Exide Technologies (Vernon facility) and Quemetco Inc. (the two largest lead-acid battery recycling facilities in Los Angeles County) has been conducted by the facilities in accordance with AQMD Rules 1420 and 1420.1 for several years. Fence-line monitors are located at or inside the facility property line at the points of maximum expected ground level lead concentrations. They allow AQMD to identify specific areas of the recycling facility where lead emissions are particularly high. Since monitoring locations are generally sited on facility property in non-public areas the measurements are not considered ambient air by EPA's definition for NAAQS comparison purposes. The data from these sites is included here to show trends in ambient levels at additional monitoring locations to those operated by AQMD, and to show the effectiveness of AQMD rule requirements for monitoring and reducing lead emissions from these facilities.

Exide Technologies – Vernon Facility

Since January 2006, this plant has been operating between three and six fence-line lead monitors (AT&SF, SE, SW, New NE, New N, and MID) near the property line (Figure 2-5). An additional monitor (New NW) was added in May 2008 but ceased sampling in June 2008 (Table 2-3). Lead samples are collected on a 1-in-3 day schedule, although higher sampling frequency is required by Rule 1420.1 at sites where measured concentrations are repeatedly high.

Average lead concentrations (expressed as 30-day rolling averages) recorded at the fence-line monitors installed near the Exide facility have continuously exceeded the 0.15 $\mu g/m^3$ over the majority of the sampling period (Figure 2-6). However, the most recent 30-day rolling averages from December 2011 have dropped below the limit established by Rule 1420.1, which became effective on January 1, 2012. The highest 30-day average TSP lead level (2.41 $\mu g/m^3$) was measured at the New N site in July 2009. Fugitive lead emissions from this battery recycling plant have been decreasing substantially since the initial measurements at Rehrig in 2009 and the adoption of Rule 1420.1 in 2010. As mentioned earlier, fugitive lead particles are relatively large, and tend to settle out quickly after they are emitted. As a result, the highest concentrations occur only in the immediate vicinity of an emission source, with concentrations dropping off rapidly with distance. In a recent guidance, EPA defined the critical transport distance for TSP lead as 2 miles.

FIGURE 2-5

Location of all fence-line monitoring sites (SW, MID, New N, New, NE, New NW, SE and AT&SF) operated near Exide Technologies (Vernon facility). The faded yellow area represents the perimeter of the facility

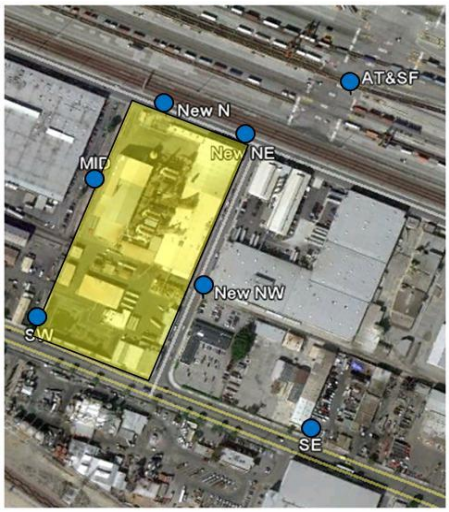


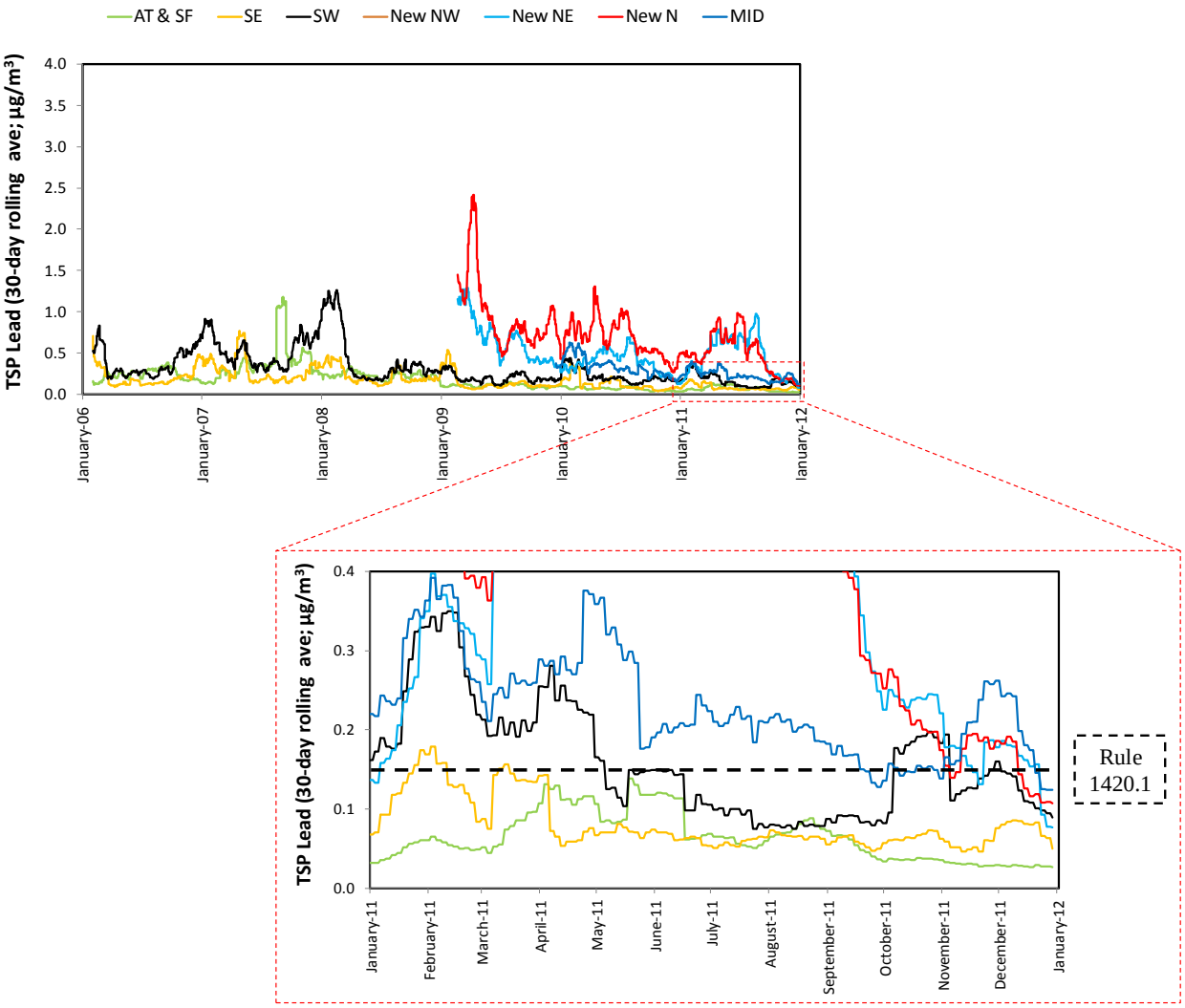
TABLE 2-3

Name and location of all fence-line and off-site monitoring stations operated by Exide Technologies (Vernon facility). Sampling at these locations has been conducted since 2006.

Site		Sampling	
Name	Monitoring Conducted by	Start	End
AT & SF	Exide	01/03/06	Ongoing
SE	Exide	01/03/06	Ongoing
SW	Exide	01/03/06	Ongoing
New NW	Exide	05/24/08	06/20/08
New NE	Exide	01/22/09	Ongoing
New N	Exide	01/22/09	Ongoing
MID	Exide	11/18/09	Ongoing

FIGURE 2-6

Fence-line 30-day rolling average lead concentrations at the Exide recycling battery facility. The dotted line in the lower portion of the Figure represents the current rule 1420.1 rule limit adopted by AQMD (0.15 µg/m^3)



Quemetco Inc.

This facility has been operating three fence-line lead monitors (Sites 1, 2 and 3) since May 2001 (Figure 2-7). An additional monitor (Site 4) was added in May 2003 and Site 3 was moved to the north-west corner of the plant and renamed as Site 5 on September 2007 (Table 2-4). Also in this case, lead samples are currently collected on a 1-in-3 day schedule per Rule 1420.1.

Figure 2-8 shows 30-day rolling average lead concentrations for all five fence-line monitors surrounding Quemetco Inc. The average levels have been decreasing in the past few years, and have been mostly below the Rule 1420.1 limit for the most recent six months of data. (Table 2-4) Quemetco. The highest 30-day average TSP lead concentration was 1.37 $\mu g/m^3$ and was measured at Site 1 in January 2006. Generally, fence-line monitors #1 and #5 (closely located to the part of the plant where the recycling process occurs) have exhibited the highest average values. Fugitive lead emissions from this and other lead-acid battery recycling facilities have been decreasing substantially since the adoption of Rule 1420.1 in 2010.

FIGURE 2-7

Location of all fence-line monitoring stations (Sites 1, 2, 3, 4 and 5) operated near Quemetco Inc. The faded yellow area represents the perimeter of the facility.

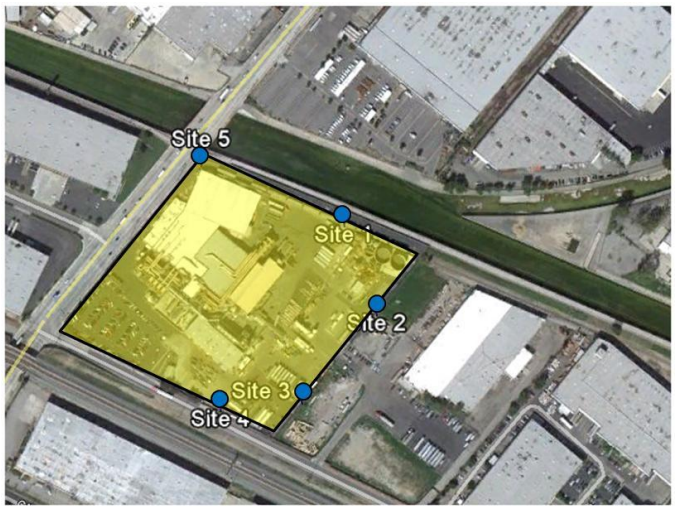


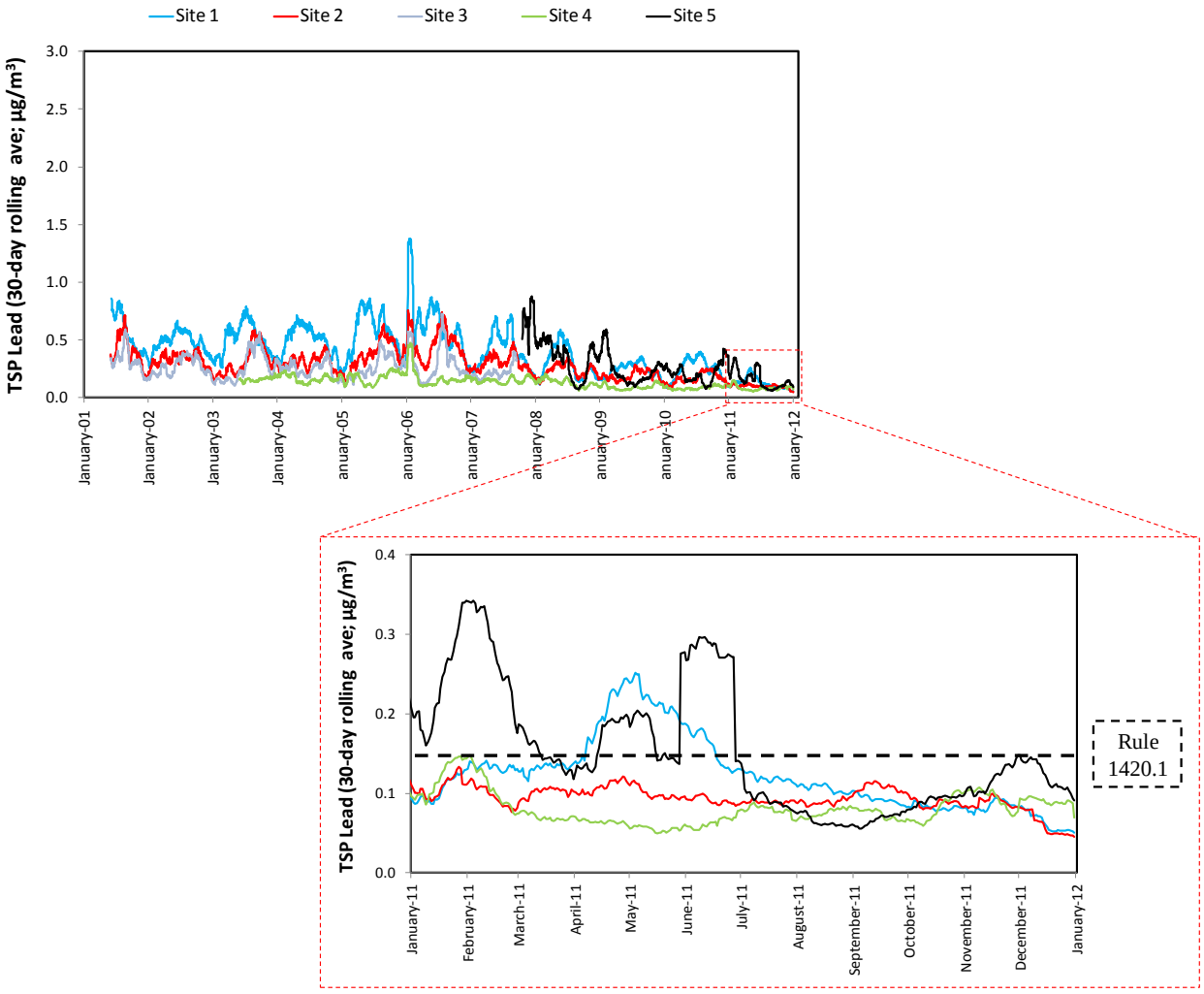
TABLE 2-4

Name and location of all fence-line monitoring stations operated by Quemetco Inc. Sampling at these locations has been conducted since 2001.

Site		Sampling	
Name	Monitoring Conducted by	Start	End
Site 1	Quemetco	05/09/01	Ongoing
Site 2	Quemetco	05/01/01	Ongoing
Site 3	Quemetco	05/01/01	18-Sep-07
Site 4	Quemetco	05/01/03	Ongoing
Site 5	Quemetco	09/21/07	Ongoing

FIGURE 2-8

Fence-line 30-day rolling average lead concentrations at the Quemetco recycling battery facility. The dotted line in the lower portion of the Figure represents the current rule 1420.1 rule limit adopted by AQMD (0.15 µg/m^3)



Note that since Trojan Batteries is not a lead-acid battery recycler and their throughput is below Rule 1420 criteria, no facility-operated fence-line monitor is required around or near its property line.

SUMMARY

The Los Angeles County portion of the South Coast Air Basin is the only area in California designated as non-attainment for the 2008 federal lead NAAQS (0.15 μg/m^3; measured as a rolling three-month average "not to be exceeded" over a three-year period). This nonattainment status is due to lead emissions from two large battery recycling facilities, Exide Technologies (located in the City of Vernon) and Quemetco Inc. (City of Industry). AQMD has jurisdiction over stationary sources in Los Angeles County and has been proactive in mitigating their impact on ambient lead concentrations through Rule 1420 (Emissions Standard for Lead) and Rule 1420.1, which applies specifically to large lead-acid battery recycling facilities. Although emissions from Exide and Quemetco are only recently below Rule 1420.1 limits, and are still causing a violation of the federal standard over the last three-year period, lead concentrations at all ambient network sites in the Los Angeles County portion of the Basin are well below the new 2008 NAAQS for lead, with typical levels of about 0.01 μg/m^3. Therefore, based on the historical lead measurements in the Los Angeles County, it is clear that the only potential locations for NAAQS exceedances are in the vicinity of these two battery-recycling facilities that are subject to AQMD Rule 1420.1.

CHAPTER 3
LEAD INVENTORY

Introduction
Emission Inventories
Base and Future Year Emissions
Uncertainty in the Inventory

INTRODUCTION

This chapter summarizes emissions that occurred in the Los Angeles County portion of the South Coast Air Basin, excluding San Clemente and Santa Catalina Islands (Southern Los Angeles County), during the base year 2010, and projected emissions for 2015.

These inventory years are selected to comply with federal and state Clean Air Act requirements. The 2010 base year emissions inventory reflects adopted air regulations with current compliance dates as of 2010; whereas 2015 emissions inventory shows projected emissions based on growth factors and compliance requirements between 2010 and 2015.

The emissions inventory is divided into four major classifications: point, area, off-road, and on-road sources. The 2010 base year point source emissions are based principally on reported data from facilities. The 2010 on-road emissions are calculated using the CARB EMFAC2007 V2.3 emission factor and the transportation activity data provided by the Southern California Association of Governments (SCAG) from their modified 2004 Regional Transportation Plan (2004 RTP) as used in the 2007 AQMP. [1] The 2010 area source and off-road emissions are also calculated based on 2007 AQMP inventories and projections. These emissions were developed primarily based on estimated activity levels and emission factors. The future projections rely upon the 2004 RTP, and the planning assumptions and the best available information from CARB's EMFAC for the on-road mobile source emissions inventory, CARB's off-road model for the off-road mobile source emission inventory, the latest point source inventories, emission limits in adopted rules, air quality modeling analysis, and SCAG's growth forecast assumptions utilized in the 2007 AQMP. It should be noted that the draft 2012 RTP forecasts and EMFAC2011 are not used in this analysis since they were not finalized as of the preparation of the Draft Lead SIP, and the 2004 RTP and EMFAC2007 represent more conservative estimates.

EMISSION INVENTORIES

There are a variety of activities that can contribute to lead emissions, which are grouped into two general categories, stationary sources and mobile sources. Stationary sources can be further divided into "point" and "area" sources. Point sources have one or more identified and fixed pieces of equipment and emission points at a permitted facility which are reported to the AQMD through the Annual Emissions Reporting Program (AER). [2] Area sources consist of widespread and numerous smaller emission sources such as smaller permitted facilities, households, or other land uses. Mobile sources can also be grouped into two major categories, "on-road" and "other" mobile sources. On-road mobile sources include light-duty automobiles, light-, medium-, and heavy-duty trucks; and motorcycles. Examples of "other" mobile sources include aircraft, locomotives, construction equipment, mobile equipment, and off-road recreational vehicles.

[1] South Coast Air Quality Management District, "Final 2007 Air Quality Management Plan," June 2007.

[2] From AQMD's website, available at: http://www.aqmd.gov/aer/aer.html

Emissions of lead have dropped substantially over the past forty years. The reduction before 1990 is largely due to the phase-out of lead as an anti-knock agent in gasoline for on-road automobiles. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry.

Historically, the major source of lead air emissions has been gasoline-powered motor vehicles. Motor vehicle emissions of lead have been dramatically reduced due to the phase-out of leaded gasoline, but lead is still used as an additive in general aviation gasoline (avgas) and remains as a trace contaminant in other fuels. Avgas is only utilized in general aviation aircraft with piston engines, which are generally used for instructional flying, air taxi activities, recreational flying, and personal transportation. Emissions of lead from piston-engine aircraft using leaded avgas comprise approximately half of the national inventory of lead emitted to the air.

Sources of lead from stationary sources are mainly from larger industrial sources including but not limited to, metals processing, particularly primary and secondary lead smelters. Lead can also be emitted from sources such as iron and steel foundries; primary and secondary copper smelters; industrial, commercial, and institutional boilers; waste incinerators; mineral processes & glass manufacturing; and refineries. The lead-acid battery recycling industry has been determined by AQMD staff to be the highest stationary source emitters of lead in Los Angeles County. Staff's analysis has shown this industry to be the only known stationary source category that has the potential to cause violations of the new lead NAAQS.

BASE AND FUTURE YEAR EMISSIONS

For the purpose of this SIP, the baseline for lead emissions was set at 2010. Table 3-1 shows the 2010 lead emissions inventory and projected 2015 lead emissions inventory by major source category. Overall, about 4.25 tons per year (TPY) of primary lead emissions are emitted by mobile sources which accounts for 23 percent of the total lead inventory for the Los Angeles County. Within the mobile source category, emissions from aircraft make up about 93 percent of all mobile source emissions. This is due to the fact that lead is still used as an additive in general aviation fuel (avgas) for aircraft with piston engines. Seventy seven percent of total lead inventory is attributed to stationary sources with a 90 percent contribution from construction and demolition and paved road dust.

Stationary Sources

The 2010 base year stationary source emissions presented in this chapter are based on the emissions data reported by each facility in the AQMD's 2010 AER program. Facilities calculate and report their emissions primarily based on their throughput data (e.g. fuel usage, material usage), appropriate emissions factors or source tests, and control efficiency (if applicable). Table 3-2 provides Los Angeles County 2010 lead emissions for all facilities with reported lead emissions over one pound per year. In 2010, no facility reported lead emissions greater than 0.50 TPY, the threshold for monitoring under EPA regulations to evaluate compliance with the lead NAAQS. Inventories in previous years showed Exide

Technologies emitting over 0.50 TPY, and the AQMD continues to monitor at Exide even though the recent lower emissions inventory does not require it under the federal regulation.

The nonattainment status in the Los Angeles County is based on lead emissions from two large lead battery recycling facilities, Exide Technologies and Quemetco Inc., and fugitive lead emissions are believed to be a major source of lead at these two facilities. Given the fact that fugitive emissions cannot be readily captured or directly measured, they are challenging to estimate. As such, the methodology in the EPA document titled: "Development of the RTR Emissions Dataset for the Secondary Lead Smelting Source Category", used for development of Secondary Lead Smelting NESHAP was used by AQMD staff to estimate fugitive emissions from these two facilities.[3] The document uses data collected by EPA on June of 2010 as part of an information collection request (ICR) pursuant to section 114 of the CAA to six companies who own 14 secondary lead smelting facilities operating in the United States. The emissions and process data collected under the ICR were used to develop site-specific baseline emissions estimates for each of the facilities. The fugitive emission estimation methodology evaluated the estimates of fugitive lead emissions that were submitted by each facility under the 2010 ICR program, and selected the ones that seemed reasonable and relatively complete. Due to the lack of reasonable estimates at nine facilities and the large amount of variability in emissions estimates and methodologies between the other facilities, the emissions provided by one facility were selected as a model for estimating fugitive emissions at all other facilities. Each facility was compared to the model facility and an estimate of total lead fugitives was calculated based on a number of factors that described the activity level at the facility. The lead emission estimates for each facility were calculated by multiplying the fugitive lead emissions rate for the model facility (0.71 tons/yr) by a site-specific size factor, enclosure factor, and housekeeping factor.

The size factors were developed based on the activity level of each facility based on several factors (e.g. vehicle traffic, facility footprint and arrangement, as well as other factors) supplied in the ICR. The size factors developed for Exide (Vernon) and Quemetco were 1.84 and 1.19, respectively.

The information provided by each facility regarding the degree of containment of secondary lead smelting processes was used to categorize the facilities as having Level 1 enclosure, Level 2 enclosure, or Level 3 enclosure. Level 3 enclosure is consistent with the enclosure requirements identified in Rule 1420.1. The facilities categorized as having Level 3 enclosure generally have complete enclosures with negative pressure for all their process activities. A factor of 0.25 was assigned to facilities with total enclosures for all processes (level 3) which reflects 75% reduction from total enclosure. Total enclosures can provide up to 99% control of fugitive emissions from the source inside a building, however, this factor was chosen for our facilities as a reasonable conservative estimate.

A housekeeping factor was also developed to characterize the level of work practices implemented by each facility to control fugitive emissions. Factors ranging from 1.0 (work practices consistent with the NESHAP) to 0.2 (work practices far beyond the NESHAP) were

[3] From EPA's website, available at http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0344-0163

applied to the fugitive lead estimates in order to reflect reductions that are likely to occur due to the work practices in place at each facility. A housekeeping factor of 0.2 is consistent with practices specified in Rule 1420.1. However, in the EPA document, a housekeeping factor of 0.5 was used for Exide since at the time, Exide had not yet incorporated all of the enhanced housekeeping measures. In consultation with EPA, it is appropriate to use the housekeeping factor of 0.2 in the calculation, since both facilities are now required to implement the measures in Rule 1420.1.[4]

Using the EPA formula, estimated fugitive lead emissions for Exide (Vernon) and Quemetco are 130 lbs/yr and 85 lbs/yr, respectively.

The future emissions forecasts for stationary sources were derived using emissions from the 2010 base year, and emissions growth in various source categories between the base and future year. Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry), as well as industry growth factors utilized in the 2007 AQMP were used to estimate future emissions. It should be noted that 2015 inventories are based on growing the level of lead emissions estimated for 2010 using growth factors developed before the 2008 economic downturn. This results in a conservatively high estimate of future emissions for 2015.

Future emissions for the individual facilities that have the potential to cause NAAQS exceedances are discussed as part of the control strategy in Chapter 5.

Area sources include source categories associated with human activity causing emissions that take place over a wide geographic area. Construction and demolition, and unpaved road dust are examples of area sources. CARB maintains and updates estimates of the chemical composition and particle size fractions for each source profile which are then used in emission inventory and air quality models. Area source lead emissions are calculated by applying the latest CARB speciation profiles for lead to the total particulate matter emissions.[5] CARB particulate matter speciation profile #420 was used for estimating emissions from "Construction and Demolition" and profile #471 was used for estimating emissions from "Paved Road Dust." The lead fraction of PM emissions is 0.0557 percent for "Construction and Demolition" and 0.0124 percent for "Paved Road Dust." The source of lead in the PM emissions from these source categories are likely from the historical lead content in materials, such as paint and gasoline. Although the total lead inventory is dominated by these sources, the lead from area sources is emitted over a wide geographical area and the ambient lead concentrations (illustrated in Chapter 2) show that they currently do not lead to high ambient levels or NAAQS exceedances.

Mobile Sources

The 2010 base year emissions inventory for all mobile sources categories are developed using the same methodology as described below, with the exception of aircraft emissions.

[4] Nathan Topham, EPA, conversation with AQMD staff, 3/8/2012.
[5] CARB speciation profiles can be viewed or downloaded from the following CARB link: http://www.arb.ca.gov/ei/speciate/interopt01.htm

The mobile source emissions summaries were developed using emissions that occurred in Los Angeles County during the base year 2002 as identified in the "Final 2007 Air Quality Management Plan" for AQMD, and projected emissions for the years 2010, and 2015. On-road vehicle emissions are calculated using socioeconomic data and transportation models provided by SCAG, spatial distribution data from Caltrans' Direct Travel Impact Model (DTIM4), and EMFAC2007 V2.3 inventories obtained from CARB. The EMFAC2007 V2.3 reflects SCAG's revised baseline activity data from the modified 2004 RTP. The 2000 Census data, combined with SCAG's 2001 origin and destination survey data, are used in SCAG's modified 2004 RTP and in this SIP. Lead emissions from off-road vehicle categories (e.g., trains, ships, construction equipment, ports and rail cargo handling equipment) were developed primarily based on estimated activity levels, emission factors, and latest CARB speciation profiles for the particulate matter emissions. The forecasts for emissions were derived using: 1) emissions from the 2002 base year; 2) expected controls after implementation of District rules adopted by June 30, 2006, and most CARB rules adopted as of June 2005; and 3) emissions growth in various source categories between the base and 2015. Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry), developed by SCAG, were used in the modified 2004 RTP to estimate future emissions. Industry growth factors for 2002, 2010, and 2015 were provided by SCAG.

The aircraft lead emissions for 2010 were developed using historical airport specific operations data reported for 2008 and forecast operations data for 2010 and 2015 in the Terminal Area Forecast (TAF) system in the Federal Aviation Administration (FAA database) when available.[6] The TAF system is the official forecast of aviation activity at FAA facilities. Emissions from general aviation aircraft with piston engines were estimated using the methodology outlined in the 2008 National Emissions Inventory (NEI) developed by EPA, and scaling it to 2010 and 2015 using TAF forecast data.[7] The 2008 NEI utilizes Appendix B of the updated Technical Support Document (TSD) titled "'Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2008 National Emissions Inventory".[8] The methodology employed here uses the January 15, 2009 version of the Federal Aviation Administration (FAA) 5010 airport data report.[9] Table 3-3 provides the lead emission inventory for piston engine aircrafts for Los Angeles County airports.

The piston aircraft activity is reported to the FAA as general aviation (GA) or Air Taxi (AT) activity. Airport-specific inventories require information regarding landing and takeoff (LTO) activity by aircraft type. An aircraft operation is defined as any landing or takeoff event; therefore, to calculate LTOs, operations are divided by two. Most data sources from

[6] From FAA's website, "Terminal Area Forecast", available at: http://aspm.faa.gov/main/taf.asp.

[7] Environmental Protection Agency, "2008 National Emissions Inventory, Version 1," (http://www.epa.gov/ttn/chief/net/2008inventory.html), January 27, 2011.

[8] Environmental Protection Agency, "Documentation for Aircraft Component of the National Emissions Inventory Methodology," January 27, 2011

[9] From FAA's website, available at: http://www.faa.gov/airports_airtraffic/airports/airport_safety/airportdata_5010/

FAA report aircraft activity in numbers of operations, which, for the purposes of calculating lead emissions were converted to LTO events. To calculate LTOs for piston engine aircrafts, operations of GA and AT aircrafts were summed and then divided by two. The methodology and equations identified in Appendix B of the updated TSD were utilized to calculate lead emissions for piston engine aircrafts, as follows:

$$\text{Lead Emissions (TPY)} = (\text{piston-engine LTO}) * (7.7 \times 10^{-6})$$

Where piston-engine LTO = (GA LTO x 0.725) + (AT LTO x 0.231)

This methodology assumes certain fractions of GA and AT operations are piston-driven aircraft.

Several smaller airports did not have TAF forecast data, and those airports are indicated with an asterisk (*) in Table 3-3. For those facilities, 2010 and 2015 LTO estimates were developed using the average growth of the other Los Angeles County airports that are included in the TAF forecasts, applied to the actual reported 2008 LTOs. The growth ratios were developed as follows:

$$\text{Growth Ratio} = \frac{2010\ \text{LTO} * 7.7 \times 10^{-6}}{2008\ \text{LTO} * 7.7 \times 10^{-6}}$$

2010 Emissions = 2008 Emissions * Growth Ratio

Current EPA regulations require NAAQS monitoring at airports emitting over 1.0 ton per year of lead. Based on an earlier version of the EPA's 2008 NEI inventory that is not reflected in Table 3-3, Van Nuys Airport (VNY) exceeded this threshold and, based on that inventory, AQMD established a monitor near this source. Although a subsequent revision to the NEI, reflected in Table 3-3, showed less than one ton per year of lead emitted from VNY, AQMD continues to monitor there to demonstrate compliance with the NAAQS. Chapter 2 presents data from this site showing levels much lower than the national ambient lead standard.

As also shown in Table 3-3, the revised 2008 NEI calculates more than one ton per year of lead emissions from Long Beach/Daugherty Field (LGB). Although this would trigger the federal monitoring requirements if this level of emissions persisted, the 2010 and future year inventories show less than one ton per year. Thus, no lead monitoring is currently required.

TABLE 3-1

2010 & 2015 Lead Emission Inventory by Major Source Category
Los Angeles County (TPY)

SOURCE CATEGORY	2010	2015
STATIONARY SOURCES		
Fuel Combustion		
Electric Utilities	0.02	0.02
Cogeneration	0.01	0.01
Petroleum Refining (Combustion)	0.05	0.05
Manufacturing and Industrial	0.08	0.08
Service and Commercial	0.04	0.04
Total Fuel Combustion	**0.20**	**0.20**
Waste Disposal		
Incinerators	0.01	0.01
Total Waste Disposal	**0.01**	**0.01**
Petroleum Production & Marketing		
Petroleum Refining	0.03	0.03
Petroleum Production & Marketing	**0.03**	**0.03**
Industrial Processes		
Mineral Processes	0.06	0.06
Metal Processes	0.42	0.38
Glass and Related Products	0.02	0.02
Total Industrial Processes	**0. 50**	**0.46**
Miscellaneous Processes		
Residential Fuel Combustion	0.02	0.02
Construction and Demolition	5.80	6.05
Paved Road Dust	6.83	6.91
Unpaved Road Dust	0.47	0.47
Fugitive Windblown Dust	0.06	0.06
Fires	0.01	0.01
Waste Burning and Disposal	0.03	0.03
Total Miscellaneous Processes	**13.22**	**13.56**
TOTAL STATIONARY SOURCES	**13.96**	**14.26**

TABLE 3-1 (Continued)

2010 & 2015 Lead Emission Inventory by Major Source Category
Los Angeles County (TPY)

SOURCE CATEGORY	2010	2015
MOBILE SOURCES		
On-Road Vehicles		
Light-Duty Passenger	0.09	0.09
Light & Medium Duty Trucks	0.06	0.07
Heavy-Duty Gas Trucks	0.00	0.00
Heavy-Duty Diesel Trucks	0.07	0.06
Total On-Road Vehicles	**0.23**	**0.22**
Other Mobile		
Aircraft	3.95	3.98
Trains	0.01	0.01
Ships & Commercial Boats	0.00	0.00
Off-Road Equipment	0.06	0.03
Total Other Mobile	**4.02**	**4.02**
Total On-Road Vehicles	**0.23**	**0.22**
Total Other Mobile	**4.02**	**4.02**
Total Mobile Sources	**4.25**	**4.24**
TOTAL ALL SOURCES	**18.21**	**18.50**

TABLE 3-2

2010 Lead Emissions by Facility Emitting Over One Pound per Year
Los Angeles County

Facility ID	Facility Name	2010 Lead Emissions (lbs/yr)	2010 Lead Emissions TPY
124838	EXIDE TECHNOLOGIES *	655.54	3.28E-01
17325	ACE CLEARWATER ENTERPRISES	117.81	5.89E-02
800089	EXXONMOBIL OIL CORPORATION	99.44	4.97E-02
8547	QUEMETCO INC. *	96.21	4.81E-02
131249	BP WEST COAST PRODUCTS LLC,BP WILMINGTON	78.76	3.94E-02
13854	EAST LOS ANGELES COLLEGE	68.04	3.40E-02
7427	OWENS-BROCKWAY GLASS CONTAINER INC	48.22	2.41E-02
800030	CHEVRON PRODUCTS CO.	29.60	1.48E-02
124805	EXIDE TECHNOLOGIES	27.72	1.39E-02
800363	CONOCOPHILLIPS COMPANY	24.75	1.24E-02
140878	LIBERTY MFG INC	22.50	1.12E-02
800327	GLENDALE CITY, GLENDALE WATER & POWER	20.80	1.04E-02
4477	SO CAL EDISON CO	18.44	9.22E-03
44577	LONG BEACH CITY, SERRF PROJECT	18.07	9.04E-03
131003	BP WEST COAST PROD.LLC BP CARSON REF.	16.24	8.12E-03
21872	TROJAN BATTERY CO	12.66	6.33E-03
800026	ULTRAMAR INC (NSR USE ONLY)	9.20	4.60E-03
16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	8.79	4.39E-03
800335	LA CITY, DEPT OF AIRPORTS	6.48	3.24E-03
123774	HERAEUS METAL PROCESSING, LLC	6.44	3.22E-03
800236	LA CO. SANITATION DIST	6.28	3.14E-03
37507	TROJAN BATTERY CO	6.05	3.02E-03
800362	CONOCOPHILLIPS COMPANY	5.60	2.80E-03
93399	BARRY CONTROLS	5.56	2.78E-03
800409	NORTHROP GRUMMAN SYSTEMS CORPORATION	5.19	2.60E-03
148236	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	4.35	2.17E-03
83102	LIGHT METALS INC	2.62	1.31E-03
8927	GLOBE IRON FOUNDRY INC	1.87	9.35E-04
20604	RALPHS GROCERY CO	1.79	8.96E-04
7796	TECHNI-CAST CORP	1.78	8.89E-04
91868	THE STRELITZ CO INC	1.73	8.64E-04
152952	SA RECYCLING LLC DBA SA RECYCLING OF LA	1.67	8.33E-04

Facility ID	Facility Name	2010 Lead Emissions (lbs/yr)	2010 Lead Emissions TPY
144010	L-3 COMMUNICATIONS ELECTRON TECH INC	1.35	6.73E-04
800037	DEMENNO/KERDOON	1.26	6.28E-04
82613	ANCON MARINE INC	1.12	5.60E-04
37336	COMMERCE REFUSE TO ENERGY FACILITY	1.06	5.31E-04
154540	ARROWHEAD BRASS PRODUCTS	1.02	5.10E-04

* For these facilities, fugitive emissions estimated by EPA for lead-acid battery recyclers were added to the point source emissions to obtain total facility emissions (http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0344-0163). The lead fugitive emissions for each facility were calculated as follows:

Fugitive lead emissions (Lbs/Yr) = (0.71 tons/yr * size factor * enclosure factor * Housekeeping factor) * 2000

Exide fugitive emissions = (0.71 * 1.84 * 0.25 * 0.2) * 2000 = **130 lbs/yr**

Quemetco fugitive emissions = (0.71 * 1.19 * 0.25 * 0.2) * 2000 = **85 lbs/yr**

TABLE 3-3

2008, 2010 & 2015 Lead Emission Inventory for Piston Engine Aircrafts Los Angeles County (TPY)

Facility Identifier	Facility Site Name	2008 Lead Emissions TPY	2010 Lead Emissions TPY	2015 Lead Emissions TPY
VNY	Van Nuys	0.766	0.888	0.856
LGB	Long Beach / Daugherty Field	1.025	0.758	0.807
POC	Brackett Field	0.332	0.324	0.300
TOA	Torrance / Zamperini Field	0.580	0.300	0.302
SMO	Santa Monica Muni	0.326	0.290	0.294
EMT	El Monte	0.236	0.245	0.244
WHP	Whiteman	0.201	0.238	0.245
CPM	Compton / Woodley	0.165	0.184	0.184
HHR	Hawthorne / Jack Northrop Field	0.158	0.160	0.163
WJF	General Wm J Fox Airfield	0.160	0.157	0.153
LAX	Los Angeles International	0.110	0.141	0.162
BUR	Burbank-Glendale-Pasadena Airport	0.116	0.126	0.125
AVX	Catalina *	0.056	0.058	0.059
PMD	Palmdale Prodn Flt/Test	0.032	0.027	0.030
L11	Pebbly Beach *	0.012	0.012	0.012
L70	Agua Dulce Airpark *	0.007	0.007	0.007
0CL6	Bohunk's Airpark *	0.007	0.006	0.007
1CL1	Little Buttes Antique Airfield *	0.006	0.006	0.006
CL46	Quail Lake Sky Park *	0.006	0.006	0.006
64CL	Goodyear Blimp Base *	0.005	0.005	0.005
8CL0	Nichols Farms *	0.005	0.005	0.005
46CN	Crystal *	0.002	0.003	0.003
Total Piston Engine Aircraft Emissions		**4.31**	**3.95**	**3.98**

* Avg. 2010 Growth Ratio = 0.98636948
* Avg. 2015 Growth Ratio = 1.006049
* 2010 Emissions = 2008 Emissions * Avg. 2010 Growth Ratio
* 2015 Emissions = 2008 Emissions * Avg. 2015 Growth Ratio

For facilities with actual piston engine LTOs:

Emissions = (piston-engine LTO) * (7.7×10^{-6})

UNCERTAINTY IN THE INVENTORY

Over the years, significant improvements have been made to quantify emission sources upon which control measures are developed. Increased use of source tests has contributed to the improvement in point source inventories. Technical assistance to facilities and auditing of reported emissions by the AQMD also have improved the accuracy of the emissions inventory. However, fugitive emissions are believed to be a significant source of ambient lead concentrations in the Los Angeles County, and quantifying fugitive emissions is problematic, given the large uncertainties in quantifying fugitive emissions under either controlled or uncontrolled scenarios.

Mobile source inventories also remain a challenge due to the high number and types of equipment and engines involved, in-use performance variables, and complex emission characteristics. The latest approved models and planning assumptions were used in compiling the emissions inventory in this Chapter.

CHAPTER 4

LEAD CONTROL STRATEGY

INTRODUCTION

This chapter provides the overall control strategy in achieving emission reductions necessary for the attainment of the revised NAAQS for lead in the Los Angeles County portion of the Basin. Great strides have been made in lead control technologies and emission reduction programs, and attainment of the new lead NAAQS is achievable with the implementation of currently adopted AQMD rules. However, an additional control measure is proposed as part of this SIP to further ensure future attainment as demonstrated in Chapter 5.

This chapter presents the control measures for the lead NAAQS and associated emission reductions, where currently quantifiable. For additional information regarding baseline emission projections and air quality modeling, please refer to Chapter 3 as well as Chapter 5 and Appendix III, respectively.

OVERALL ATTAINMENT STRATEGY

Historically, the major source of lead air emissions has been motor vehicles such as cars and trucks. Motor vehicle emissions of lead have been dramatically reduced over the past forty years due to the phase-out of leaded gasoline, but lead is still used as an additive in general aviation gasoline used in piston-engine aircraft and remains a trace contaminant in other fuels. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry. To achieve the revised lead ambient air quality standards and ensure continued attainment in Los Angeles County, implementation of current rules and a new rule amendment are necessary.

Sources of lead from stationary sources are mainly from larger industrial sources including but not limited to metals processing, particularly primary and secondary lead smelters. Emissions consist of those from lead point sources as well as fugitive lead dust emissions. Lead point source emissions are generally from the main exhaust of the battery breaking process, smelting furnaces, and refining kettles vented through a stack. Fugitive lead dust emissions are from facility roadways subject to wind, vehicular, or foot traffic, materials handling and storage areas, battery breaking areas, and smelting and refining areas. Lead can also be emitted from sources such as iron and steel foundries; primary and secondary copper smelters; industrial, commercial, and institutional boilers; waste incinerators; glass manufacturing; refineries, and cement manufacturing. Sources of lead from mobile sources are mainly from aviation gasoline utilized in general aviation aircraft with piston engines. These engines are generally used for instructional and recreational flying, air taxi activities, and personal transportation. Emissions of lead from piston-engine aircraft using leaded avgas comprise approximately half of the national inventory of lead emitted to air.

In May 2010, CARB recommended that the Los Angeles County portion of the South Coast Air Basin, excluding San Clemente and Santa Catalina Islands (Southern Los Angeles County), be designated as nonattainment for the 2008 lead NAAQS based on air quality data from 2007-2009. CARB's recommendation was based on data from Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitors. The 2008 NAAQS for lead requires that each state install and operate a network of ambient air lead monitors in order to determine attainment status with the standard. Two types of monitors are required; those that

are non-source-oriented, and those that are facility-based referred to as "source-oriented." CARB's lead designation recommendation was based on data from both sets of monitoring networks. Data values from measurements made at non-source-oriented monitors in the Basin were reviewed for years 2007 through 2009 and showed concentrations well below the new lead NAAQS. Ambient levels at non-source-oriented sites have consistently been an order of magnitude less than the new NAAQS for at least six years. Furthermore, the recent data at the source-oriented site at Van Nuys Airport also shows no potential to exceed the NAAQS. However, the source-oriented monitors near lead-acid battery recyclers showed exceedances of the new standard in 2005 at monitors for one facility, and from February 2008 through January 2010 at monitors for another facility.

The lead-acid battery recycling industry is the highest stationary source emitter of lead in Los Angeles County. Ambient measurements have shown that this industry is the only stationary source category that has the potential to cause nonattainment with the new lead NAAQS. There are currently two large lead-acid battery recyclers within Los Angeles County (the only two in the Western United States: Exide Technologies and Quemetco, Inc.) These facilities receive spent (used) lead-acid batteries and other lead-bearing material and recycle them, recovering the lead. Lead is recycled because of its value and the reduction of toxic waste, and is primarily used to manufacture new batteries. Approximately 98 percent of lead acid batteries in the United States are recycled, and all components of the batteries, primarily lead, plastic, and acid, are recycled. Through the recycling process, approximately 95 percent of the lead in the batteries is recovered.

Given that the ambient lead concentrations at non-source-oriented sites and at the Van Nuys Airport site show very low levels relative to the new lead NAAQS, and that the only ambient levels exceeding or even approaching the new lead NAAQS are at the sites near the lead-acid battery recyclers, the lead attainment strategy is exclusively focused on directly-emitted lead from stationary sources. Further controls on mobile sources are not needed.

EXISTING LEAD EMISSIONS CONTROL REGULATIONS

The following provides a chronology of existing lead control regulations:

- In November 1970, CARB set the state ambient air quality standard for lead at 1.5 $\mu g/m^3$ averaged over 30 days.
- In October 1978, EPA promulgated primary and secondary NAAQS for lead under section 109 of the Act (43 FR 46246). Both primary and secondary standards were set at a level of 1.5 $\mu g/m^3$ averaged over a calendar quarter.
- In 1987, the California legislature adopted the Air Toxics "Hot Spots" Information and Assessment Act. The goals of the Act are to collect emissions data of toxic air contaminants, identify facilities having localized impacts, to determine health risks, and to notify affected individuals. Facilities with high health risks must reduce their risks to the community by incorporating risk reduction plans.
- In December 1990, AQMD adopted Rule 1401 – New Source Review of Toxic Air Contaminants. The rule applies to new, relocated, and modified permit units with TAC

emissions. Lead was added to the Rule 1401 list of TACs in 1992. The rule denies granting permits to construct a new, relocated or modified permit unit if emissions of any TACs create a maximum individual cancer risk (MICR) of greater than one in one million at any receptor location unless the permit unit is constructed with Best Available Control Technology for Toxics (T-BACT). If the unit has T-BACT, MICR of ten in one million is allowed.

- In September 1992, AQMD adopted Rule 1420 – Emissions Standard for Lead. The rule incorporated the state ambient air quality standard 1.5 $\mu g/m^3$ averaged over a 30-day period and required control devices on lead emission points, control efficiency requirements for lead control devices, housekeeping, and monitoring or modeling of ambient air quality.
- In January 1993, CARB adopted the Airborne Toxic Control Measure (ATCM) for Emissions of TAC Metals from Non-Ferrous Metal Melting. The state regulation required control devices for lead and other toxic metal emission points, control efficiency requirements for control devices, fugitive emission control, and recordkeeping.
- In April 1994, AQMD adopted Rule 1402 – Control of Toxic Air Contaminants from Existing Sources. The purpose of this rule is to reduce the health risk associated with emissions of TACs from existing sources by specifying health limits for cancer and non-cancer compounds applicable to total facility emissions and by requiring facilities to implement risk reduction plans to achieve specified risk limits, as required by the AB2588 "Hot Spots" Program and this rule.
- In June 1997, EPA adopted the National Emissions Standards for Hazardous Air Pollutants (NESHAP) 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.
- In October 2008, EPA amended the NAAQS for lead from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$ requiring attainment by December 31, 2015, using a rolling 3-month average evaluated over three year period.
- In November 2010, AQMD adopted Rule 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities. The purpose of this rule is to protect public health and to help ensure attainment with the amended lead NAAQS.

AQMD'S EXISTING RULES

The 2008 lead NAAQS requires full attainment of the revised federal lead standards no later than December 31, 2015. The lead-acid battery recycling industry has been determined by AQMD staff to be the highest stationary source emitter of lead in Los Angeles County, and the only known stationary source category that causes or has the potential to cause exceedances of the new lead NAAQS.

The AQMD's control strategy for this source category is based on the following approaches: 1) permit conditions; 2) core rule requirements with contingency compliance plans; 3)

process changes; 4) good management practices and housekeeping requirements; and 5) more stringent monitoring requirements.

Over the past several years, both facilities (Exide and Quemetco) have been the subject of several actions resulting from violations of AQMD rules, including exceeding ambient lead limits at fence-line monitors. Violations have led to modifications of facility compliance plans, new permit conditions, and in some cases, additional conditions under orders of abatement. Many of the conditions have included additional housekeeping requirements, process changes, and more frequent monitoring at more locations. The exceedances of Rule 1420 ambient lead limits, along with the promulgation of the more stringent lead NAAQS by EPA, also led to the adoption of AQMD Rule 1420.1 in 2010, applicable specifically to the two large lead-acid battery recycling facilities. In addition to air quality regulations, these two facilities are subject to other toxics requirements under the California Department of Toxic Substances Control (DTSC).

Lead-acid battery recycling facilities are secondary lead smelting operations 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, crushing, melting, and refining of lead-acid batteries, which ultimately produces lead ingots that are then sold to other entities. Several types of controls for lead emissions are currently used at the lead-acid battery recycling facilities in the Basin. Lead emissions at lead-acid battery recycling facilities are generally categorized as point and fugitive lead emissions. Point source emissions are those emissions that are vented to a stack where the stack can be from a specific piece of equipment such as a furnace, building, or air pollution control device. Fugitive emissions are particulate matter that contain lead, are not vented through a stack or control device that can become airborne from anywhere in the facility, including dust. Fugitive lead-dust at lead-acid battery recycling facilities can be a major source of lead emissions. Fugitive lead-dust deposits and accumulates in and around process areas, from lead point sources, on roof tops, in and around a facility, and during maintenance operations. There are a variety of housekeeping and management practices that can be implemented to minimize fugitive lead dust. Housekeeping activities must be implemented frequently and properly to ensure they are effective. The concept behind many of these strategies is to either stabilize, contain, or remove lead dust so it cannot become airborne. Housekeeping practices specifying adequate frequencies and locations for all cleaning actions to be performed are also critical in the effectiveness to control fugitive lead-dust emissions.

Currently, emissions of lead from stationary sources, including lead-acid battery recycling facilities, are regulated by AQMD Rule 1420 – Emissions Standard for Lead, and AQMD Rule 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities.

Rule 1420 was adopted in August 1992 and controls emissions of lead from stationary sources which use or process lead-containing materials. The rule was adopted to help ensure that facilities would not discharge emissions which would cause ambient air concentrations of lead to exceed the 1978 federal and state ambient air quality standards for lead of 1.5 $\mu g/m^3$.

Rule 1420.1 was adopted on November 5, 2010 and controls emissions of lead from large lead-acid battery recycling facilities which are the highest stationary source emitter of lead in Los Angeles County. The rule was adopted to address the amended NAAQS for lead to ensure the Los Angeles County can achieve the revised lead ambient air quality standard of 0.15 $\mu g/m^3$.

Rule 1420 – Emissions Standards for Lead

AQMD Rule 1420 was adopted in September 1992 and has not been amended since its adoption. The full text of the Rule is included in Appendix II. The rule applies to facilities that process or use lead-containing materials which includes, but is not limited to, primary or secondary lead smelters, foundries, lead-acid battery manufacturers or recyclers, and lead-oxide, brass and bronze producers. Rule 1420 is based on the state ambient air quality standard for lead of 1.5 $\mu g/m^3$ averaged over a 30-day period, and it ensures that the standard is met through requirements for emission control systems, monitoring, sampling, recordkeeping, reporting, and good housekeeping practices.

Rule 1420 requires facilities that process more than two tons of lead per year to submit a Compliance Plan. Historically, Rule 1420 Compliance Plans have included requirements for monitoring, air dispersion modeling, and installation and implementation of point source controls.

Under Rule 1420, both Exide and Quemetco are required to maintain and operate two fence line monitors to collect samples to demonstrate compliance with the Rule 1420 ambient lead standard of 1.5 $\mu g/m^3$. Each facility currently operates an ambient fence-line air monitoring and sampling network. The fence-line monitors are installed at locations that are based on the maximum expected ground-level concentrations of lead at or beyond the facility's property line. (See Chapter 2 for the location of Exide's and Quemetco's fence-line monitors.)

Since the AQMD's source-oriented monitors have shown that these two facilities have the potential to exceed the new federal lead ambient air quality standard of 0.15 $\mu g/m^3$, the AQMD Governing Board adopted Rule 1420.1 in November 2010. This Rule applies to large lead-acid battery recycling facilities that process more than 50,000 tons of lead a year. The provisions of Rule 1420.1 are more stringent and are in addition to the requirements of Rule 1420.

Rule 1420.1 – Emissions Standards for Lead from Large Lead-Acid Battery Recycling Facilities

Rule 1420.1 was adopted in November 2010 and is designed to address lead emissions from large lead-acid battery recycling facilities in order to help achieve attainment with the 0.15 $\mu g/m^3$ standard. The full text of the Rule is included in Appendix II.

Rule 1420.1 incorporated in regulation many of the provisions and requirements that were being implemented via compliance plans and orders of abatement at Exide Technologies, and included additional safeguards to help ensure that the Los Angeles County will achieve the 2008 NAAQS for lead. The rule establishes facility-wide and individual point source

maximum allowable emission rates, and requires secondary lead control devices on dryers. Fugitive lead emissions are addressed through housekeeping and maintenance activity requirements, and total enclosures, vented to control devices, of all areas where lead is being processed and where maintenance activities are occurring. The rule also sets ambient standards for airborne lead concentrations at monitors around the facility, and requires more facility-operated monitors (a minimum of four) that collect samples on a more frequent schedule (once every three days). Additional, source testing, recordkeeping, and reporting requirements are included to ensure continuous compliance. The rule also includes provision for the submittal of new compliance plans and emission reduction feasibility studies if ambient levels reach 80% (0.12 $\mu g/m^3$) of the rule limit. The following provides a detailed and description of Rule 1420.1 requirements.

- ***Ambient Air Lead Concentrations:*** Beginning January 1, 2012, large lead-acid battery recycling facilities subject to Rule 1420.1 are not allowed to discharge into the atmosphere emissions which contribute to ambient air concentrations of lead that exceed 0.15 $\mu g/m^3$ averaged over any 30 consecutive days. The averaging time for Rule 1420.1 is shorter than that of the lead NAAQS (rolling three-month average of monthly averages) with a more frequent sampling requirement of one sample in three days versus the NAAQS which requires one sample in six days. In addition, the compliance date of Rule 1420.1 is January 1, 2012 vs. December 31, 2015 for the lead NAAQS.
- ***Total Enclosures:*** Under Rule 1420.1, all areas used in the lead-acid battery recycling operation for processing or storage of lead-containing material, and all areas where maintenance is being performed, are required to install total enclosures vented to a lead control device. The areas may be enclosed individually or in groups. This requirement provides maximum containment and will minimize fugitive lead-dust emissions generated in areas where processing, handling and storage of lead-containing materials occur. Rule 1420.1 also establishes requirements for monitoring and maintaining negative pressure and in-draft velocity at the openings of these enclosed areas. Facilities are required to complete construction of all necessary equipment for total enclosures by July 1, 2011.
- ***Lead Point Source Emission Controls:*** All lead emissions from lead point sources are required to be vented to an emissions collection system that ducts the entire gas stream to a lead control device. The effective date for lead point source emission control requirements is July 1, 2011. The total facility mass lead emission rate for all lead point sources shall not exceed 0.045 pounds of lead per hour, with a maximum emission rate for any single lead point source not to exceed 0.010 pounds of lead per hour. The total facility and maximum emission rates shall be determined using the most recent source tests conducted by the facility or the AQMD. The maximum emission rates of 0.045 and 0.010 lb/hr were established to adequately provide a protective limit for exposure to lead emissions and achieve the ambient standard of 0.15 $\mu g/m^3$.
- ***Housekeeping Requirements:*** More stringent housekeeping practices must be conducted to minimize fugitive lead-dust emissions. The housekeeping requirements include prescribed requirements for cleaning frequencies of specific areas; maintenance activity; encapsulation of all facility grounds, removal of weather caps on any lead emissions source stacks; building structural integrity inspections; storage and transport of

lead-containing materials; onsite mobile vacuum sweeping; and surface impoundment pond or reservoir cleanings.

- ***Annual Source Testing:*** Rule 1420.1 requires annual source tests for all lead control devices in order to demonstrate compliance with the facility total lead mass emission rate standard of 0.045 lb/hr, and the maximum individual stack lead emission rate standard of 0.01 lb/hr. If the most recent source test for a lead point source demonstrates emissions of 0.0025 lb/hr or less, the facility may alternatively elect to conduct the next source test for that device within 24 months.
- ***Ambient Air Monitoring and Sampling Requirements:*** Under Rule 1420.1, each facility will be required to collect and analyze ambient air lead samples to determine compliance with the ambient air quality lead concentration standard of Rule 1420.1. The rule requires a minimum of four monitors at facility locations approved by AQMD. Federal regulations require only one source-oriented monitor at all facilities emitting more than 0.5 tons of lead per year. Rule 1420.1 requires facilities to collect samples at least once every three days, more frequent than the federal requirement of once every six days. Under Rule 1420.1, on and after January 1, 2012, facilities that exceed an ambient air lead concentration of 0.15 $\mu g/m^3$ averaged over any 30 consecutive days, measured at any fence line monitor, will be in violation of the rule and be required to increase ambient air monitoring and sampling to a daily frequency. Daily monitoring and sampling will be required to be conducted for a period of at least 60 consecutive days at each sampling site that measured an exceedance until no 30-day average exceedances are recorded. In addition, according to Rule 1420.1, 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. As a result, monitors required under Rule 1420.1 will be located closer to fugitive lead sources, in most cases, when compared to monitors required by federal monitoring requirements which must be in publicly accessible areas. Along with the shorter averaging time described previously, all of the ambient air monitoring and sampling requirements of Rule 1420.1 are more stringent than the federal requirements, such that potential Rule 1420.1 violations will likely occur before exceedances of the lead NAAQS.
- ***Recordkeeping and Reporting Requirements:*** Rule 1420.1 requires recordkeeping and reporting, including public notifications, for specific maintenance activity, turnarounds and shutdowns for all lead-containing materials processed at the facility. Records for all housekeeping, maintenance activity, ambient air lead monitoring, lead control device inspection and maintenance, and unplanned shutdowns of any smelting furnaces must be maintained. Facilities are required to submit reports for monthly ambient air monitoring results for lead and wind data measured at each sampling location on a monthly basis. Rule 1420.1 also requires notifications of planned and unplanned shutdowns, and turnarounds.
- ***Core Requirements with a "Contingency" Compliance Plan:*** Rule 1420.1 establishes the core requirements for lead emissions sources described above, with the additional provision of a "Contingency" Compliance Plan. Establishing core requirements in the rule provides regulatory certainty for affected facilities of the key required controls core

requirements for lead point sources that are based on both facility-wide and individual emission rates for the facility's lead point sources, as well as source testing requirements. Core requirements for fugitive lead sources include total enclosures, comprehensive housekeeping and maintenance activities, and ambient monitoring and limits that capture fugitive as well as point source emissions. As an additional safeguard against the facilities exceeding ambient NAAQS or Rule 1420.1 limits, the preparation and submittal of a "Contingency" Compliance Plan is triggered if the facility approaches the lead ambient air quality standard with a 30-day rolling average of 0.12 ug/m^3. The Compliance Plan would be implemented if the facility exceeded the Rule 1420.1 ambient lead standard of 0.15 ug/m^3. The Compliance Plan provision serves as a contingency to ensure that measures can be identified prior to exceeding the 0.15 ug/m^3 standard and are ready for fast implementation if the 0.15 ug/m^3 standard is exceeded.

- ***Compliance Plan:*** The most important provision of Rule 1420.1 is the limit on ambient concentrations of lead at fence line monitors. Given the challenges in quantifying fugitive lead emissions, and given the known importance of fugitive emissions at lead-acid battery recycling facilities, the ambient monitors provide the most effective means of ensuring compliance with the NAAQS since they capture all emissions. The Compliance Plan allows for rapid deployment of additional controls on fugitive or other sources if a facility approaches the ambient lead standard even after all core requirements of Rule 1420.1 have been implemented. As of July 1, 2011, any facility that exceeds an ambient air lead concentration of 0.12 µg/m^3 averaged over any 30 consecutive days is required to submit a Compliance Plan that identifies additional lead emission reduction measures to ensure that the ambient air quality concentration of 0.15 µg/m^3 is not exceeded. An exceedance of the Rule 1420.1 lead standard averaged over any 30 consecutive days will constitute a violation, as well as triggering implementation of the Compliance Plan.

AQMD'S PROPOSED LEAD CONTROL MEASURE

A proposed control measure is to amend AQMD Rule 1420 – Emissions Standard for Lead. Rule 1420 applies to all non-vehicular sources of lead emissions and contains requirements for emission levels, controls, housekeeping, and monitoring. In addition, sources must comply with an ambient air quality lead standard of 1.5 µg/m^3, averaged over 30 days. The amendment will lower the ambient limit in Rule 1420 to 0.15 µg/m^3 to correspond to the revised NAAQS for lead of 0.15 µg/m^3. The more stringent, shorter averaging time of a 30 day rolling average will be retained. In addition, language will be added to Rule 1420 to clarify New Source Review (NSR) requirements for stationary lead sources, consistent with AQMD's current NSR regulation (Regulation XIII) and federal NSR requirements. Amendments to Rule 1420 are scheduled for the 4th quarter of 2012.

California Environmental Quality Act (CEQA) Analysis

Staff has reviewed the proposed 2012 Lead State Implementation Plan (SIP) for Los Angeles County, pursuant to CEQA Guidelines §15002(k) - Three Step Process. If the project is not exempt, the lead agency takes the second step and prepares an Initial Study (IS) (CEQA Guidelines §15002(k)(2)). AQMD staff has prepared an IS, which demonstrates the

following. The only new proposed control measure in the 2012 Lead SIP would amend Rule 1420 to lower the ambient lead standard from 1.5 to 0.15 ug/m3, consistent with Rule 1420.1. Since the most current monthly lead monitoring data in the Los Angeles County at facilities subject to Rule 1420, but not subject to Rule 1420.1, show that average lead concentrations are less than 0.15 ug/m3, the proposed control measure is not expected to result in any changes at existing affected facilities. In the event that monitoring near or at a lead facility exceeds 0.15 ug/m3, the proposed control measure may require implementing lead control requirements similar to those in Rule 1420.1, resulting in environmental impacts that are essentially the same as those identified in the October 2010 Final Environmental Assessment (EA) for Rule 1420.1 (AQMD No. 100331JK, SCH No. 2010041086). In addition, based on the IS, AQMD has determined that the 2010 Rule 1420.1 Final EA adequately describes the three requisite criteria specified in CEQA Guidelines Section 15153(b)(1)(A-C) As a result, staff intends to use the previously approved October 2010 Final EA as the CEQA document for the 2012 Lead SIP pursuant to CEQA Guidelines §15153.

Staff has provided the notice required by Guidelines Section 15153(b)(2). As required by that section, the key issues are whether this EIR should be used for this project and whether there are any additional, reasonable alternatives or mitigation measures that should be considered as ways of avoiding or reducing any significant impacts of the project. Pursuant to CEQA Guidelines §15153(b)(2), the October 2010 Final EA for Rule 1420.1 was available to the public for a 30-day public comment period.

Socioeconomic Impacts & Cost Effectiveness Analysis

Since no existing sources are expected to be affected by the proposed amendments to Rule 1420, no cost assumptions were made and no socioeconomic impact analysis was made. AQMD staff assesses socioeconomic impacts of proposed rule amendments or proposed rules pursuant to the Board resolutions and state legislative requirements, but there is no specific requirement for this SIP submittal.

As additional information on control requirements becomes more well-defined during the rulemaking process, a detailed assessment of their socioeconomic and environmental impacts will be conducted.

IMPLEMENTING AGENCY

The AQMD has the authority to adopt and enforce rules and regulations to achieve and maintain the NAAQS under H&SC Section 40460 and 40440(a). For lead NAAQS, the AQMD is responsible for implementing stationary source control measures.

CHAPTER 5
FUTURE AMBIENT LEAD CONCENTRATIONS

Introduction
Modeling Approach
Model Results by Facility

INTRODUCTION

This chapter provides a description of the atmospheric dispersion modeling performed to predict future ambient lead concentrations and demonstrate attainment of the NAAQS in the vicinity of the two major lead sources in the Los Angeles County.

For additional information regarding the actual input and output files, please refer to Appendix III.

MODELING APPROACH

The new federal lead NAAQS regulation requires states to employ atmospheric dispersion modeling to demonstrate attainment in the vicinity of major point sources of lead: primary lead smelters, secondary lead smelters, primary copper smelters, lead gasoline additive plants, lead-acid storage battery manufacturing plants that produce 2,000 or more batteries per day. Dispersion modeling was performed following the procedures outlined in EPA's latest guidance document entitled "Guideline on Air Quality Models".[1]

The two large lead-acid battery recycling facilities (Exide and Quemetco) were modeled to determine the monthly lead concentration for for the attainment year 2015. As shown in Chapter 2, these are the only two lead sources in the Los Angeles County with the potential to cause exceedances of the new lead NAAQS. All facility boundary information, source parameters, and emission rates were obtained from the most recently submitted health risk assessment (HRA) for each facility and recently conducted source tests.

AERMOD MODELING SYSTEM

The American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee (AERMIC) was formed to introduce state-of-the-art modeling concepts into the EPA's air quality models.[2] Through AERMIC, a modeling system, AERMOD, was introduced that incorporated air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. As of December 9, 2006, the EPA promulgated the AERMOD modeling system as a replacement for the Industrial Source Complex (ISC) Model as the recommended dispersion model.[3] The AERMOD modeling system consists of the following components which were utilized: AERMET, a meteorological data preprocessor that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts; AERMAP, a terrain data preprocessor that incorporates complex terrain using U.S. Geologic Survey (USGS) Digital Elevation Data; AERSURFACE, a surface characteristics preprocessor; and BPIPPRIME, a multi-building dimensions program incorporating the good engineering practice technical procedures for PRIME applications.

[1] From EPA's website, available at http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf
[2] From EPA's website, available at http://www.epa.gov/ttn/scram/dispersion_prefrec.htm
[3] From EPA's website, available at http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod

METEOROLOGICAL DATA

A set of meteorological data were developed for AERMOD applications in the Basin by EnviroComp Consulting Inc. under contract to the AQMD. The reports documenting the effort can be found at http://www.aqmd.gov/smog/metdata/AERMOD.html. Meteorological data from three independent monitoring networks were employed: AQMD, National Weather Service (NWS) and California Irrigation Management Information System (CIMIS). Among them, wind speed and direction were taken from the AQMD network given the spatial coverage, locations, sensor height of the measurements. Solar radiation measured from the CIMIS stations were primarily used due to its temporal completeness and spatial coverage, while AQMD radiation measurements were employed as supplementary data to fill missing data in the CIMIS data. Fractional cloud coverage was available only from the NWS. As for temperature, all the data from the three networks – 28 AQMD, 22 NWS, and 17 CIMIS stations – were integrated into AQMD measurements to construct a complete set of missing-value free data. Upper air profiles were obtained from the NWS San Diego Miramar Naval Air Station rawinsonde data.

AERSURFACE was used to determine the surface albedo and surface roughness. A Bowen ratio of 1.0 was used, instead of the AERSURFACE output value. This was done because the National Land Cover Data (NLCD) 92 dataset does not include the recent land development projects that occurred within Southern California, which would result in a lower Bowen ratio. According to Section 8.3.1.2 of Appendix W, five years of representative meteorological data should be used when estimating concentrations with an air quality model.[4] Therefore, AERMET (version 11059) was used to develop the necessary 5-year meteorological data set for each facility using the meteorological data from the appropriate monitoring station and upper air sounding data collected at the Miramar Naval Air Station, as described above. For Exide, the Central LA monitoring station was used. However, only 4 years of meteorological data is available for this station (2006 to 2009). For Quemetco, the La Habra monitoring station was used and all 5 years (2005 to 2009) of meteorological data is available.

AERMOD MODEL INPUTS

Dispersion modeling for each facility was performed using AERMOD (version 12060) to determine the monthly lead concentrations for the attainment year 2015.

All facility boundary information, source parameters, and building information were obtained from the most recently submitted health risk assessment (HRA) for each facility. All stacks were modeled as point sources while the fugitive emission sources were modeled as volume sources.

For Exide, there were a total of 10 point sources, one volume source representing the fugitive emissions from the raw materials processing, and the roadway fugitive emissions were modeled as line sources (i.e. separate volume sources along the roadway where the trucks would travel). In 2012, in an effort to further reduce emissions, Exide constructed an enclosure for their bag-house row. As a result, the stacks which are located within the bag-house row had to be raised above the roof line. Therefore, in the modeling for 2015, the stack

[4] From EPA's website, available at http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf

heights were increased to reflect the new bag-house row enclosure based on the permit application filed by Exide. Furthermore, the Exide facility now includes a truck wash where all trucks dealing with lead deliveries will be required to have their wheels washed prior to leaving the facility. As such, for the 2015 modeling, the roadways were modeled to reflect the addition of this truck wash and the opening of two other gates along the north and east property lines which allow for other deliveries that do not include lead sources.

For Quemetco, there were a total of 13 point sources, one volume source representing the fugitive emissions from the battery wrecking activities, and the roadway fugitive emissions were modeled as line sources (i.e. separate volume sources along the roadway where the trucks would travel). For Quemetco, different roadway configurations were used for the 2015 modeling. This is based on information from the facility that the existing gate will be moved in order to move the on-site truck movement from areas where people are frequently walking and to allow for more efficient truck movement. Specific modeling information and source parameters are included in Appendix III.

Both facilities are located in the densely populated areas of Los Angeles County. Thus, all lead sources modeled are identified as urban sources. The Los Angeles County population of 9,862,049 (2008 estimate from the Census Bureau) is input under the URBANOPT keyword and urban surface roughness length is unspecified. By not specifying the urban surface roughness length, AERMOD assumes the regulatory default value of one meter.

The latest version of EPA's recommended building downwash program, BPIPPRM, is used to identify structures causing building downwash effects and provide the source specific and direction specific building downwash parameters required by AERMOD (i.e., BUILDHGT, BUILDWID, BUILDLEN, XBADJ, and YBADJ).

A 50-meter by 50-meter receptor grid centered on the facility was used, as well as fence-line receptors placed using 25-meter intervals. Receptors within the facility's property boundaries were removed.

Receptor elevations and hill heights were assigned using AERMAP (Version 11103). Terrain data, available from the United States Geological Survey (USGS), is used by AERMAP to produce terrain base elevations for each receptor and source and a hill height scale value for each receptor.

To comply with the EPA's modeling requirement, a background concentration of 0.01 $\mu g/m^3$ for lead obtained from the latest AQMD network monitoring data was modeled in AERMOD using the BACKGRND keyword.[5]

At this time, AERMOD does not have the capability to calculate design values for the lead NAAQS, therefore, the EPA's post processor, LEADPOST, was used to calculate the rolling cumulative (all sources) 3-month average concentration at each modeled receptor with source group contributions and the maximum cumulative (all sources) rolling 3-month average concentration by receptor.

[5] From AQMD's website, available at: http://www.aqmd.gov/smog/historicaldata.htm

EMISSION RATES

STACK EMISSIONS: For 2015 modeling, the emission rates were calculated from the emissions limits specified in Rule 1420.1. As of January 1, 2012, large lead-acid battery recycling facilities subject to Rule 1420.1 are not allowed to discharge into the atmosphere emissions which contribute to ambient air concentrations of lead that exceed 0.15 $\mu g/m^3$ averaged over any 30 consecutive days. Rule 1420.1 requires annual source tests for all lead control devices in order to demonstrate compliance with the facility total point source lead mass emission limit of 0.045 lb/hr, and the maximum individual stack lead emission rate standard of 0.01 lb/hr. Using the most recent source tests for each facility, the facility total emission limit of 0.045 lb/hr was distributed among the stacks based on the ratio of the measured emissions, ensuring that no individual stack exceeded the 0.01 lb/hr per stack limit.

FUGITIVE EMISSIONS: As stated in Chapter 3, fugitive lead emissions are believed to be a major source of lead to the atmosphere at these two facilities. However, estimating and modeling fugitive dust emissions accurately is challenging, given the uncertainties in magnitude, location, timing, and lead content of the dust. Therefore, the fugitive emissions estimated in the EPA document entitled "Development of the RTR Emissions Dataset for the Secondary Lead Smelting Source Category", were used in the modeling analysis.[6]

In 2010, the adjusted fugitive lead emissions for Exide are 130.64 lbs/year compared to 82.52 lbs/yr as reported in the AQMD's AER program. Exide reported fugitive lead emissions from two sources: 13.49 lbs/year from the raw materials processing system (RMPS) and 69.03 lbs/year from roadway fugitives. Although these amounts were not used in the modeling, this relative ratio (16.35% from the raw materials processing and 83.65% from roadway fugitives) was used to apportion the total fugitive lead emissions listed in the EPA document.

For Quemetco, the fugitive emissions of 85 lbs/year contained in Table 5-2 of EPA's document were used. In the AQMD's AER program, Quemetco did not report fugitive lead emissions for 2010. Since the battery wrecking area is approximately equivalent to Exide's raw materials processing area, the same ratio (16.35% from the raw materials processing and 83.65% from roadway fugitives) was used to apportion the total fugitive lead emissions listed in the EPA document.

For 2015 modeling, the same lead fugitive emissions were applied to the raw materials processing and battery wrecker areas for Exide and Quemetco, respectively. No further reductions were applied since the EPA document had assumed that both of those areas were fully enclosed in their fugitive emissions calculations. As part of housekeeping requirements identified in Rule 1420.1, each large lead battery recycling facility shall maintain and use an onsite mobile vacuum sweeper or vacuum that is in compliance with AQMD Rule 1186, or a vacuum equipped with filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles. The pick-up efficiency, as identified in AQMD's test protocol for Rule 1186 specifies a pick-up efficiency of 80% or greater for certified street

[6] From EPA's website, available at http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0344-0163

sweepers. An 80% reduction was applied to the roadway fugitive emissions for 2015 as a reasonable conservative estimate since the measure identified in Rule 1420.1 is already in place.

MODEL RESULTS BY FACILITY

To illustrate how Rule 1420.1 ambient monitoring requirements provide the assurance that fugitive emissions will not cause a NAAQS exceedance, modeling results for total emissions as well as stack only emissions are provided for both facilities.

EXIDE

Total Emissions – Stack and Fugitive Emissions

By applying Rule 1420.1 emission limits for 2015 (emission rates for the stacks were apportioned based on the most recent source test for the facility), applying an 80% reduction to the roadway fugitives, and keeping the RMPS emissions the same, the modeled maximum 3-month rolling average lead concentration is 0.135 $\mu g/m^3$. The results are given in Table 5-1.

Stack Emissions Only

Using the Rule 1420.1 emission limits for 2015, the 0.045 lb/hr stack emission limit was evenly distributed throughout the stacks, ensuring that no individual stack exceeded the 0.01 lb/hr per stack limit in Rule 1420.1, the modeled maximum 3-month rolling average lead concentration is 0.115 $\mu g/m^3$. The results are given in Table 5-1.

QUEMETCO

Total Emissions – Stack and Fugitive Emissions

By applying the Rule 1420.1 emission limits for 2015 (emission rates for the stacks were apportioned based on the most recent source test for the facility), applying an 80% reduction to the roadway fugitives, and keeping the Battery Wrecker emissions the same, the modeled maximum 3-month rolling average lead concentration is 0.140 $\mu g/m^3$. The results are given in Table 5-1.

Stack Emissions Only

Using the Rule 1420.1 emission limits for 2015, the 0.045 lb/hr stack emission limit was evenly distributed throughout the stacks, ensuring that no individual stack exceeded the 0.01 lb/hr per stack limit in Rule 1420.1, the modeled maximum 3-month rolling average lead concentration is 0.083 $\mu g/m^3$. It is important to note that the 2015 modeled lead concentrations are a very conservative estimate since it assumes allowable limits set by Rule 1420.1, which are significantly higher than the current emissions at the facility. No significant increases in actual emissions are expected beyond the modest growth factors used in the actual emission projection. The results are given in Table 5-1.

TABLE 5-1

Dispersion Model Results by Facility for Demonstrating NAAQS Attainment (2015)

	Maximum Concentration Stack and Fugitives	Maximum Concentration Stack Only
Exide	0.135 $\mu g/m^3$	0.115 $\mu g/m^3$
Quemetco	0.140 $\mu g/m^3$	0.083 $\mu g/m^3$

Figures showing modeled concentration isopleths for each facility are included in Appendix III.

Note that the results in Table 5-1 represent a series of very conservative estimates of emissions and ambient concentrations since they are based on the allowable, not projected actual emissions under Rule 1420.1. Actual stack emissions in 2015 will be lower to ensure compliance with Rule 1420.1 by both facilities.

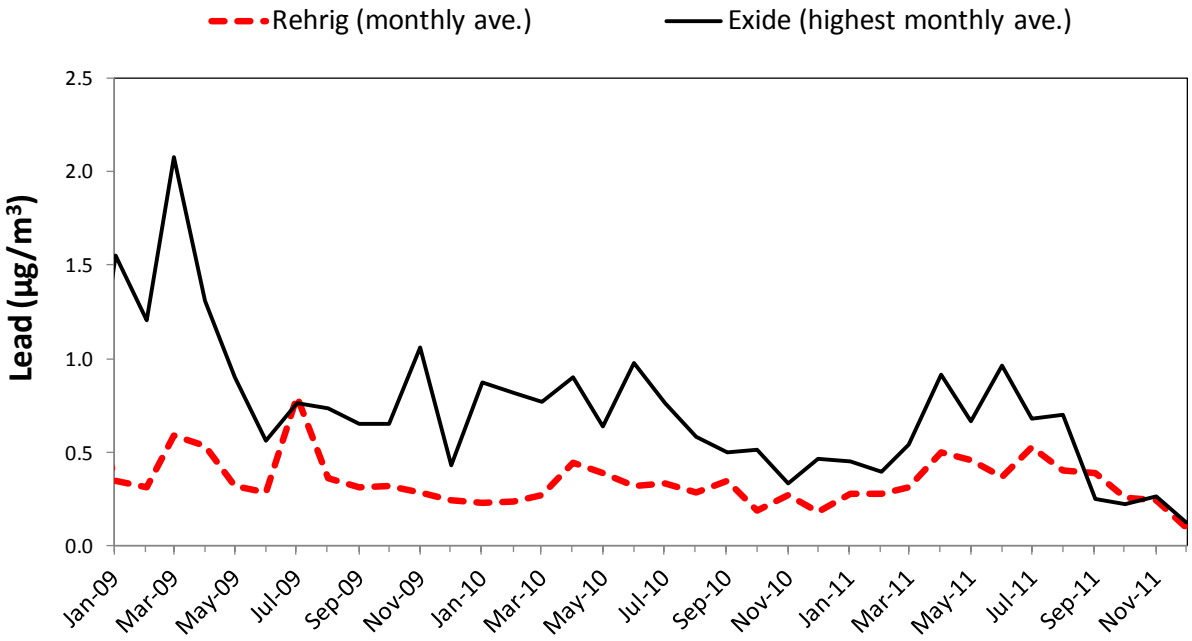
ON-SITE MONITORING

The Rule 1420.1 monitoring provisions, which include the influence from fugitive as well as point sources, will ensure attainment of the NAAQS given that the Rule 1420.1 monitoring requirements and limits are more stringent than the federal NAAQS. The averaging time is a rolling 30-day average rather than a rolling three month average of monthly averages. At least four monitoring locations are required rather than the single monitor per facility required in the federal regulations. These monitors, placed to capture maximum impacts, are generally located closer to the facility since they are allowed to be just inside the fence-line. Federally required monitors must be off facility property to meet the definition of ambient air, and thus are farther from the facility and are often subject to logistical constraints that preclude locating at maximum impact locations. The minimum monitoring frequency in Rule 1420.1 is one day in three, more frequent than the federal one day in six requirements. Taken together, the monitoring provisions of Rule 1420.1 were designed such that a facility would be in violation of the Rule before causing an exceedance of the federal lead NAAQS. As a result, the facility will be required to take steps to avoid future violations of Rule 1420.1, thus avoiding any violations of the lead NAAQS. This protection against NAAQS exceedances is illustrated in Figure 5-1 which depicts the relationship between the AQMD-operated, NAAQS comparable, source-oriented site near Exide at Rehrig, and the sites operated by Exide pursuant to Rule 1420.1. The monthly averages at Rehrig are generally lower than the highest monthly average measured at the Rule 1420.1 sites. Note that Figure 5-1 shows monthly averages, while the federal NAAQS is in the form of a three month average. Also note that according to Rule 1420.1, a 30-day average above 0.15 $\mu g/m^3$ at any

site near the facility would cause a violation of the rule. So a 30-day exceedance at the Rehrig site would lead to a violation of Rule 1420.1, and require measures to reduce lead emissions well before a three-month average exceedance of the federal NAAQS at the same location.

FIGURE 5-1

Highest monthly average lead concentrations measured near the Exide facility in Vernon. The dashed red line represents average monthly lead levels recorded by AQMD at the Rehrig source-oriented site. The solid black line indicates the highest monthly average lead concentrations measured by the Exide facility pursuant to Rule 1420.1 at their monitoring locations (i.e. AT&SF, SE, SW, New NW, New NE, New N, and MID)



CHAPTER 6

CLEAN AIR ACT REQUIRMENTS

INTRODUCTION

The purpose of this chapter is to demonstrate this lead SIP meets all submittal requirements in the CAA as well as the new federal lead regulation (73 FR 66964). Note that CAA Section 172(c)(8) (42 U.S.C. §7502(c)(8)) provides as follows:

Upon application by any state, the Administrator may allow the use of equivalent modeling, emission inventory, and planning procedures, unless the Administrator determines that the proposed techniques are, in the aggregate, less effective than the methods specified by the Administrator.

The new lead NAAQS is unique in that attainment must be demonstrated at source-oriented monitors, and thus the attainment demonstration must address specific facilities that may cause NAAQS exceedances. The attainment demonstration presented in Chapter 5 employs a combination of emissions reductions as well as an ambient monitoring program that is more stringent than the federal monitoring requirements. These techniques should be more effective at ensuring NAAQS lead attainment than traditional procedures that rely on future emissions reductions alone.

FEDERAL CLEAN AIR ACT REQUIREMENTS

In November 1990, Congress enacted a series of amendments to the CAA intended to intensify air pollution control efforts across the nation. One of the primary goals of the 1990 CAA Amendments was an overhaul of the planning provisions for those areas not currently meeting NAAQS. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to attain or to meet interim milestones. There are several sets of general planning requirements, both for nonattainment areas [Section 172(c)] and for implementation plans in general [Section 110(a)(2)]. These requirements are listed and briefly described in Chapter 1 (Tables 1-2 and 1-3). The general provisions apply to all applicable pollutants unless superseded by pollutant-specific requirements. The following sections discuss the federal CAA requirements for lead.

SPECIFIC LEAD PLANNING REQUIREMENTS

The EPA promulgated the initial lead standard of 1.5 $\mu g/m^3$ in 1978, and revised it on October 15, 2008 to a level of 0.15 $\mu g/m^3$. On December 31, 2010, the EPA designated the Los Angeles County portion of the Basin, excluding San Clemente and Santa Catalina Islands, as nonattainment for the 2008 lead NAAQS. The CAA requires areas classified as nonattainment to attain the lead standard as expeditiously as practicable and within the CAA's deadlines, which in AQMD's case is no later than December 31, 2015. The requirements specifically addressed for the lead SIP are:

- Nonattainment New Source Review (NSR) Program;
- Contingency Measures;

- Reasonable Further Progress (RFP);
- Reasonably Available Control Measures (RACM); and
- Reasonably Available Control Technology (RACT)

NONATTAINMENT NEW SOURCE REVIEW (NSR) PROGRAM

The nonattainment New Source Review (NSR) program applies when a major source of a criteria pollutant that is located in an area that is designated as nonattainment for that pollutant is constructed or undergoes a major modification. The major source threshold for lead under the nonattainment NSR program is 100 TPY for all source categories.[1] Accordingly, the nonattainment NSR program for lead applies when any major source of lead located in an area designated nonattainment for lead is constructed, or undergoes a major modification. A major modification is a project at a major stationary source that results in a significant emissions increase and a significant net emissions increase, where "significant" for lead emissions is defined as 0.6 TPY. Nonattainment NSR requirements include but are not limited to:

- Installation of Lowest Achievable Emissions Rate (LAER) control technology;
- Offsetting new emissions with creditable emissions reductions;
- A certification that all major sources owned and operated in the state by the same owner are in compliance with all applicable requirements under the CAA;
- An alternatives analysis demonstrating that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification; and
- Public comment on a permit.

Due to the persistent nature of lead and the potential for lead particle accumulation over time, Rule 1420.1 has additional requirements for new large lead-acid recycling facilities. Under Rule 1420.1, any new battery recycling facility that begins construction or operations shall not be located in an area that is zoned for residential or mixed use, and shall not be 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. A siting provision for new battery recycling facilities is also included to avoid the possibility of high lead exposure for nearby residences and sensitive receptors from any new lead-acid battery recycling facility.

In addition, language will be added to the proposed amendments to AQMD Rule 1420 to clarify lead NSR requirements for stationary sources, consistent with AQMD's Regulation XIII and federal NSR requirements.

[1] Environmental Protection Agency, "National Ambient Air Quality Standards for Lead; Final Rule," 40 CFR Part 51.166, November 2008.

CONTINGENCY MEASURES

The federal CAA Section 172(c)(9) requires that state implementation plans include specific contingency measures to be implemented in the event of failure to meet milestone emission reduction targets or Reasonable Further Progress (RFP) and/or failure to attain the national primary ambient lead standard by the attainment date of 2015. As described later in the RFP section of this document, the RFP requirements for 2012 are already met via Rule 1420.1 implementation. Therefore, contingency measures only need to address any possible failure to attain the lead NAAQS by 2015.

Contingency measures must be fully adopted rules or control measures that are ready to be implemented without significant further action by the State or EPA, upon determination by EPA that the area has failed to achieve, or maintain RFP, or attain the lead NAAQS by the statutory attainment date. The EPA interprets this provision to allow states to meet this requirement with control measures that have already been implemented but are not needed for attainment, and to allow for "minimal action" to be necessary prior to implementation of the measures (73 FR 66964, at 67039). It should also contain trigger mechanisms with a specific schedule for implementation. The amount of reductions yielded by implementation of contingency measures should be quantified, and for a five-year plan, the measures should reduce emissions by 20 percent of the total amount needed for attainment. Under certain circumstances, this amount may be derived by reference to reductions in ambient air concentrations (2008 lead NAAQS Implementation Q&A, July 8, 2011, EPA).[2]

The provisions included in adopted AQMD Rule 1420.1 as well as other approved compliance and permit provisions satisfy the CAA contingency requirements as described below:

Rule 1420.1 Compliance Plan: As of July 1, 2011, if a facility approaches the lead ambient air quality standard with a 30-day rolling average of 0.12 ug/m^3 as determined by monitors pursuant to Rule 1420.1, or at any District-installed monitor, it will trigger the preparation and submittal of a Compliance Plan by the facility, subject to AQMD approval. The Compliance Plan provision provides a means to identify the necessary measures which can be implemented prior to exceeding the 0.15 ug/m^3 standard and are ready for fast and automatic implementation if the 0.15 ug/m^3 ambient standard is exceeded. The Compliance Plan is required to be automatically implemented if the facility exceeds the Rule 1420.1 ambient lead standard of 0.15 ug/m^3. Note that the Rule 1420.1 ambient standard is a 30-day rolling average, which would show an exceedance of the 0.15 ug/m^3 limit before an exceedance of three-month rolling average NAAQS was recorded. Therefore, the additional controls in the approved Compliance Plan would be triggered for implementation prior to a NAAQS exceedance and are thus designed to avoid a NAAQS exceedance. They take effect *without any further action* by EPA or the State, being automatically triggered by an exceedance of the 0.15 ug/m^3 30-day rolling average limit in Rule 1420.1.

According to the language in AQMD Rule 1420.1, the Compliance Plan shall, at a minimum, include the following *specific* components and emission reduction measures:

[2] From EPA's website, available at: http://www.epa.gov/oaqps001/lead/pdfs/20110708QAguidance.pdf

- A description of additional lead emission reduction measures to achieve the ambient lead concentrations of 0.15 ug/m^3 averaged over any 30 consecutive days as determined by any District-installed monitors, including, but not limited to, requirements for the following:
  - Housekeeping, inspection, and maintenance activities;
  - Additional total enclosures;
  - Modifications to lead control devices;
  - Installation of multi-stage lead control devices;
  - Process changes including reduced throughput limits; and
  - Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment.
- The locations within the facility and method(s) of implementation for each lead reduction measure identified above;
- An implementation schedule for each lead emission reduction measure to be implemented if lead emissions discharged from the facility contribute to ambient air concentrations for lead that exceed 0.15 ug/m^3 averaged over any 30 consecutive days measures at any District-installed monitor. The schedule shall also include a list of lead reduction measures that can be implemented immediately prior to plan approval.
- The owner or operator shall implement the additional measures identified in the compliance plan based on the schedule in the compliance plan if lead emissions discharged from the facility contribute to ambient air concentrations of lead to exceed 0.15 ug/m^3 averaged over any 30 consecutive days measured at any District-installed monitors.

The Compliance Plan approach provides the fastest and most efficient tool for both the AQMD and the facility to achieve and maintain the federal NAAQS by tailoring each Compliance Plan to address facility specific problems. The different operational parameters at different facilities will necessarily require different approaches for further reduction of lead emissions. A pre-specified control approach will likely not effectively address the specific problem that a specific facility may experience at a particular time. The requirements of Rule 1420.1 already include *all* feasible generic measures to reduce lead emissions from lead-acid battery recyclers. Additional specific measures to be used for contingency purposes must necessarily be targeted to the specific situation, which cannot be anticipated in a prior rulemaking.

To illustrate examples of specific measures to be included in a Compliance Plan, the following site specific controls and measures were identified in a recent Compliance Plan submitted by a facility and approved by AQMD. Each of these measures may be implemented individually or in any combination based on the specific situation to address the suspected lead emission source:

- Install doors between the shipping and enclosed processing buildings to enhance negative pressure in the building;

- Install automated doors between processing areas to reduce the amount of time the door is open;
- Resurface the outside area of the facility to enhance the effectiveness of pavement cleaning activities;
- Upgrade ride-on yard sweeper to a combination hybrid dry sweeper /wet scrubbing unit to enhance pavement cleaning efforts;
- Install ventilated negative pressure enclosure on specific operations;
- Replace strip curtains with doors;
- More focused housekeeping on roofs and other horizontal surfaces in processing areas to minimize fugitive dust;
- Designating one or more forklifts to be used exclusively inside the total containment buildings to avoid tracking lead bearing materials outside of the containment building;
- Install additional room ventilation baghouse or dust collector, equipped with second stage high efficiency particulate air (HEPA) filter to reduce fugitive lead emissions;
- Install additional differential pressure monitoring system on the enclosures;
- Install second stage HEPA filters on specific control systems; and
- Conditional percent curtailment of specific activities generating the exceedance as a function of exceedance amount over the NAAQS limits. The curtailments shall remain in effect until the monitoring results at the affected monitoring station reflect a specified number of consecutive 30-calendar day averages of less than 0.15 $\mu g/m^3$.

Rule 1420.1 Feasibility Study: As of July 1, 2011, if emission are discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 0.12 $\mu g/m^3$, averaged over any 30 consecutive days, determined by monitors pursuant to Rule 1420.1 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 (much lower than the current rule 1420.1 cap of 0.045 pounds per hour) . The study shall be submitted within 30 calendar days after exceeding 0.12 $\mu g/m^3$, averaged over any 30 consecutive days. The intent of this feasibility study is to provide information that could be incorporated into future facility-specific emission reduction efforts, such as Compliance Plan revisions, permit modifications, abatement orders, or rule amendments.

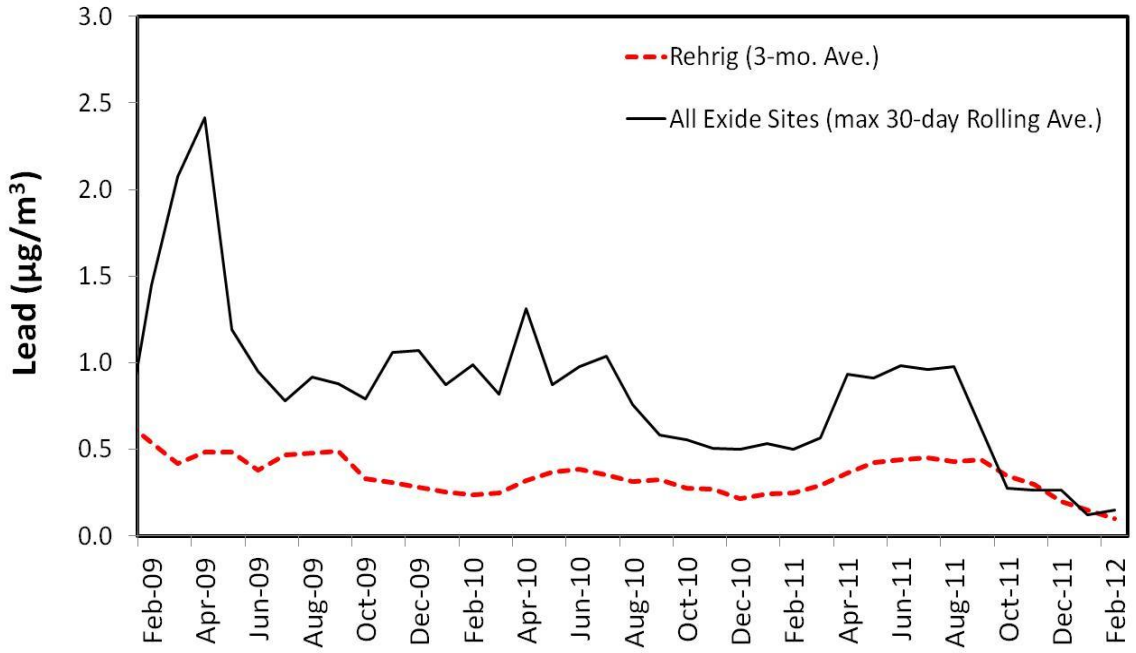
Rule 1420.1 Ambient Monitoring: As of January 1, 2012, facilities are not allowed to discharge lead emissions which contribute to ambient air concentrations of lead exceeding 0.15 $\mu g/m^3$ averaged over any 30 consecutive days measured by fence-line ambient monitors (30-day rolling average). Given the inherent uncertainty in quantifying fugitive lead emissions, and given the known importance of fugitive emissions at lead-acid battery recycling facilities, the ambient monitors provide the most effective means of ensuring compliance with the NAAQS since they capture all emissions from a facility. The monitoring requirements and limit under Rule 1420.1 are more stringent than the federal NAAQS and monitoring requirements. The averaging time is a rolling 30-day average rather than a rolling three month average of monthly averages. At least four monitoring locations are required

rather than the single monitor per facility required in the federal regulations. These monitors, placed to capture maximum impacts, are generally located closer to the facility since they are allowed to be just inside the fence-line. Federally required monitors must be off facility property to meet the EPA definition of ambient air, and thus are farther from the facility and are often subject to logistical constraints that preclude locating at maximum impact locations. The minimum monitoring frequency in Rule 1420.1 is one day in three, more frequent than the federal one day in six requirements. Taken together, the monitoring provisions of Rule 1420.1 were designed such that a facility would be in violation of the Rule *before* causing an exceedance of the federal lead NAAQS. An exceedance of the Rule 1420.1 lead standard averaged over any 30 consecutive days will constitute a violation of the Rule, as well as triggering automatic implementation of daily monitoring and the approved Compliance Plan.

These ambient monitoring provisions of Rule 1420.1 serve as a quantifiable contingency measure based on ambient air concentrations. Where a single source is responsible for nonattainment, EPA allows for the identification of the amount of reductions required by reference to reductions in ambient air concentrations (2008 Pb NAAQS Implementation Q&A, July 8, 2011, EPA). The extra stringency provided by the more stringent 30-day rolling average limit vs. federal three-month average NAAQS provides for the equivalent of lower facility emissions. This is illustrated by a comparison of maximum monthly 30-day rolling average TSP lead concentration for all Rule 1420.1 fence-line ambient monitoring sites at Exide vs. the AQMD operated Exide-Rehrig station that is used for NAAQs comparison (about 15 m east of Exide Technologies in Vernon) as shown in Figure 6-1. In almost all cases, the 30-day rolling average measured at the Rule 1420.1 locations significantly exceed the corresponding three-month average at Rehrig. Given the inherent lag time in the response of the three-month average, it may exceed the 30-day average only when concentrations are dropping, as seen in the last quarter of 2011. However, the more relevant question is whether a potential NAAQS exceedance would be *preceded* by a corresponding Rule 1420.1 ambient limit violation and associated Compliance Plan implementation trigger.

FIGURE 6-1

Comparison between Rehrig lead concentrations and the corresponding maximum lead levels at all Exide locations



This question is better addressed by Table 6-1 showing the three-month average at Rehrig corresponding to the maximum 30-day rolling average in the first month of that three month period. This comparison illustrates that historically at Exide, all potential 3-month exceedances were preceded two months earlier by a higher 30-day average at the Rule 1420.1 sites. This extra stringency can be quantified as shown in the last column in Table 6-1. Over the time period when the Rehrig site was operating, the average difference between the two monitoring approaches was 57%, with a minimum monthly difference of 22%.

TABLE 6-1
Comparison between Rehrig lead concentrations and the corresponding maximum lead levels at all Exide locations

REHRIG		ALL EXIDE SITES		Difference (%)
3-mo Average		Max 30-day Rolling (2-months Prior)		
Date	Lead (µg/m^3)	Date	Lead (µg/m^3)	
1-Mar-09	0.42	1-Jan-09	0.53	22%
1-Apr-09	0.48	1-Feb-09	1.45	67%
1-May-09	0.48	1-Mar-09	2.08	77%
1-Jun-09	0.38	1-Apr-09	2.41	84%
1-Jul-09	0.47	1-May-09	1.19	61%
1-Aug-09	0.48	1-Jun-09	0.95	50%
1-Sep-09	0.49	1-Jul-09	0.78	37%
1-Oct-09	0.33	1-Aug-09	0.91	64%
1-Nov-09	0.31	1-Sep-09	0.88	65%
1-Dec-09	0.28	1-Oct-09	0.79	64%
1-Jan-10	0.25	1-Nov-09	1.06	76%
1-Feb-10	0.24	1-Dec-09	1.07	78%
1-Mar-10	0.25	1-Jan-10	0.88	72%
1-Apr-10	0.32	1-Feb-10	0.99	68%
1-May-10	0.37	1-Mar-10	0.82	55%
1-Jun-10	0.39	1-Apr-10	1.31	71%
1-Jul-10	0.35	1-May-10	0.87	60%
1-Aug-10	0.31	1-Jun-10	0.98	68%
1-Sep-10	0.32	1-Jul-10	1.03	69%
1-Oct-10	0.27	1-Aug-10	0.76	64%
1-Nov-10	0.27	1-Sep-10	0.58	54%
1-Dec-10	0.21	1-Oct-10	0.55	61%
1-Jan-11	0.24	1-Nov-10	0.50	52%
1-Feb-11	0.25	1-Dec-10	0.50	50%
1-Mar-11	0.29	1-Jan-11	0.53	45%
1-Apr-11	0.36	1-Feb-11	0.50	27%
1-May-11	0.42	1-Mar-11	0.57	25%
1-Jun-11	0.44	1-Apr-11	0.93	53%
1-Jul-11	0.45	1-May-11	0.91	51%
1-Aug-11	0.43	1-Jun-11	0.98	56%
1-Sep-11	0.44	1-Jul-11	0.96	54%
1-Oct-11	0.35	1-Aug-11	0.98	64%
1-Nov-11	0.30	1-Sep-11	0.62	52%
1-Dec-11	0.20	1-Oct-11	0.28	28%
1-Jan-12	0.15	1-Nov-11	0.26	43%
1-Feb-12	0.10	1-Dec-11	0.26	62%
			Average	57%
			Minimum	**22%**

This extra stringency in monitoring can be directly related to emissions reductions for contingency purposes. For lead SIPs, EPA believes it is reasonable for contingency measures to reduce emissions by **20%** (one-year's worth) of the amount of reductions required for attainment. Table 6-1 shows that a minimum of 22% of reduction in *total* ambient concentrations is inherent in the more stringent monitoring requirements of Rule 1420.1. The 20% of the lead reductions needed for attainment will necessarily correspond to less than 20% in ambient concentration reductions (given background levels of lead and the fact that emissions do not need to be reduced to zero for attainment). Thus, the minimum of 22% in ambient reductions conservatively satisfies the requirement for the amount of contingency reductions according to the following EPA guidance. The EPA allows states to meet contingency requirements with control measures that have already been implemented but are not needed for attainment. The monitoring requirements in Rule 1420.1 have already been implemented, and, being more stringent than the NAAQS requirements, are not needed for attainment. Furthermore, EPA allows for the identification of the amount of reductions required by reference to reductions in ambient air concentrations. The extra stringency of Rule 1420.1 monitoring provides for quantifiable reductions in ambient air concentrations, and corresponding reductions in facility emissions, in excess of the 20% of total required emission reductions needed to satisfy contingency requirements. Although only data from Exide was used in this example, ambient data at Quemetco show the same relationship and also satisfy the contingency requirement.

The Rule 1420.1 monitoring requirements are designed to provide advance warning to avoid an exceedance of the lead NAAQS with a quick response. Alternatively, the CAA contingency requirements are intended to provide quick implementation of control measures *after* an exceedance occurs or RFP is not met. EPA generally expects all actions needed to affect full implementation of the measures to occur within 60 days after EPA notifies the state of such failure. The state should ensure that the measures are fully implemented as expeditiously as practicable after the requirement takes effect (73 FR 67039). As noted above, there will be up to a two month period between a Rule 1420.1 violation and a potential NAAQS violation. There will likely have been a previous trigger for a Compliance Plan at the lower ambient limit of 0.12 $\mu g/m^3$. Ambient data are collected, validated, and reported to EPA on a quarterly basis with an associated three to six month lag time. Ambient data from a particular year are not required to be certified by state and local agencies until May 31st of the following year. Therefore, there will be a minimum of five months between an exceedance and a potential EPA notification to implement contingency measures, and then 60 more days to implement those measures. More likely, given the lag in data reporting, there will be much more than seven months to implement contingency measures. This time frame is much longer than needed under Rule 1420.1 to prepare (30 days), approve (usually 60-90 days), get EPA approval under Title V permitting requirements (maximum 45 days), and if needed, implement a facility's Compliance Plan. In practice, if there is a NAAQS exceedance, the measures in the Compliance Plan will already be implemented by the time EPA has the data to make a determination and notification of failure to attain.

A proposed control measure is to amend AQMD Rule 1420 – Emissions Standard for Lead. Rule 1420 applies to all non-vehicular sources of lead emissions and contains requirements

for emission levels, controls, housekeeping, and monitoring. In addition, sources must comply with an ambient air quality lead standard of 1.5 $\mu g/m^3$, averaged over 30 days. The proposed amendment seeks to lower the ambient limit in Rule 1420 to 0.15 $\mu g/m^3$ to correspond to the revised NAAQS for lead of 0.15 $\mu g/m^3$. The more stringent, shorter averaging time of a 30 day rolling average will be retained. This proposed amendment will ensure that the Los Angeles County can comply with the federal NAAQS. The 30-day average form of the proposed Rule 1420 limit, being more stringent than the three-month average federal NAAQS, will serve as a contingency measure in the same manner described above for Rule 1420.1 as it will be triggered before any actual violation of the lead NAAQS. In addition, language will be added to Rule 1420 to clarify New Source Review (NSR) requirements for stationary lead sources, consistent with AQMD's current NSR regulation (Regulation XIII) and federal NSR requirements. Amendments to Rule 1420 are scheduled for the 4th quarter of 2012.

In response to U.S. EPA's comments on a draft version of this Lead SIP, additional site specific contingency measures for each of the two large lead acid battery recycling facilities are described below.

Exide:

The preamble to the Lead NAAQS final rule (73 FR 67040), specifies that the SIP should contain trigger mechanisms for the contingency measures, must be implemented without further action by the state or the Administrator, and specify a schedule for implementation.

A Compliance Plan submitted by Exide on 12/20/2011 and approved by AQMD on 1/27/2012 under Rule 1420.1 provisions provides specific measures to be taken if Rule 1420.1 ambient limits are exceeded. AQMD is submitting measures 8A and 8B specified in the compliance plan as contingency measures. These measures state that as of March 31, 2012, if monitored ambient lead concentrations exceed 0.15 $\mu g/m^3$ on a rolling 30-day average at any AQMD or AQMD-approved ambient monitor, Exide shall implement mitigation measures individually or in any combination based on the specific situation and information available at the time. These specific mitigation measures are as follows:

1. Install an additional room ventilation baghouse or dust collector, equipped with a second stage high efficiency particulate air (HEPA) filter, with sufficient blower capacity to move a minimum of 50,000 CFM of air from one or more of the following locations:

   - The battery crusher room in the north end of the RMPS building.
   - The truck loading and unloading dock on the south end of the RMPS building.
   - The furnace room in the smelter building.
   - The cupola feed room in the south end of the smelter building.

   As an alternative to adding additional ventilation with individual baghouses or dust collectors, Exide may install a single larger air pollution control system with at least 200,000 CFM of blower capacity to cover all four of these locations.

2. Install second stage HEPA filters on one or more of the following air pollution control systems:
   - The hard lead refinery baghouse (device C47).

- The soft lead refinery baghouse (device C46).
- The MAC baghouses venting the RMPS building (devices C156, C157).
- The cupola furnace feed room baghouse (device C48).

These measures identified in Exide's Compliance Plan are now included in the Title V permit for the facility. These measures are in addition to measures identified in and required by Rule 1420.1. The trigger mechanism is a monitored ambient lead concentration exceeding NAAQS (i.e., 0.15 $\mu g/m^3$ on a three-month average). Rule 1420.1 ambient lead concentration limit of 0.15 $\mu g/m^3$ based on rolling 30 day average, will occur before a three-month average NAAQS exceedance. The specific implementation will be no more than twelve months from the date of the NAAQS exceedance. Therefore, the contents of this approved, enforceable Compliance Plan meet all the requirements as a contingency measure for the Exide facility.

Quemetco:

The EPA allows states to meet contingency requirements with control measures that have already been implemented but are not needed for attainment. The contingency measures should also consist of control measures that are not already included in the control strategy for the attainment demonstration of the SIP. The SIP must indicate that the measures will be implemented without further action (or only minimal action) by the state or by the Administrator.

Quemetco has designed, constructed, source tested, and now operates a wet electrostatic precipitator (WESP) to control particulate and metal emissions such as lead. The WESP technology serves as a secondary control device to capture low concentrations of specific contaminants present in the gas stream as condensable particulates.

For Quemetco, proper design and operation of WESP would serve as the contingency measure. The operating conditions as specified in the Title V permit for the facility is as follow:

- The operator shall use this equipment in such a manner that the pH being monitored is not less than 6.5 of the pH scale. To comply with this condition, the operator shall install and maintain a(n) pH meter to accurately indicate the pH in the recirculation tank serving the scrubber. In addition, each pH meter shall be equipped with a chart recorder to continuously monitor and record the pH in the recirculation tank serving the scrubber.
- The operator shall use this equipment in such a manner that the flow rate being monitored, is not less than 1200 gallons per minute (gpm). To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the flow rate in the liquid supply lines to the top of each scrubber compartment. Each flow meter shall be equipped with a chart recorder to continuously record the recirculating liquid flow rate, in gpm.
- The operator shall install and maintain a(n) flow meter to accurately indicate the flow rate in the water wash supply line in each WESP device. Each flow meter shall be equipped with a chart recorder with continuously records the flow rate, in gpm, and the duration, in

minutes, of each wash cycle. The flow rate to the WESP spray wash nozzles shall not be less than 144 gpm whenever a wash cycle is in progress.

- The operator shall install and maintain a(n) voltmeter to accurately indicate the voltage in the high voltage electric circuit serving each WESP device. The initial electric field voltage in each WESP device shall not be less than 15 kilovolts.
- The operator shall install and maintain a(n) flow meter to accurately indicate the flow rate in the exhaust outlet in each WESP device. A minimum of 4 WESP shall be in full operation at any one time.

The WESP is included in the Title V permit for the facility, and after more than three years of continuous operation, and several rounds of extensive testing, it has demonstrated a substantial reduction in emissions of lead. The control efficiency achieved by the WESP is not required by Rule 1420.1. It has already been implemented and is more stringent than Rule 1420.1 and RACM requirements. The emissions reductions provided by this device are not needed for or included in the control strategy to demonstrate attainment for this facility as presented in Chapter 5. Therefore, it meets all the requirements necessary as a contingency measure for the Quemetco facility.

WESPs are considered to be an excellent control technology for target compounds such as arsenic and lead. Arsenic is expected to be greatly reduced in the scrubber section of the WESP, while the other particulate metals compounds can be removed in the electrode collection section. Generally, WESPs are regarded as particulate removal devices. After construction of the WESP, a series of tests were performed in November 2008, March 2009, June 2009, and November 2009 to assess the effectiveness of the design. Comparison of before and after the installation and operation of the WESP indicates an overall control efficiency of up to 86% for lead.

At Quemetco, an "upflow" WESP design was selected. With upflow design, inlet gas from the kiln, reverberatory furnace, electric arc furnace, and refinery flows through the primary particulate control equipment (compliant with Rule 1420.1 requirements), and then into the bottom of the WESP. Initial treatment is performed in the scrubber section at the lower part of the WESP. The scrubber section contains a packed bed condenser/absorber. In this section, SO2 is removed from the gas stream through the use of a low-concentration sodium carbonate solution as the scrubber liquid. For particulate metals control, the main purpose of the scrubber section is to ensure that the flow of inlet gas is saturated and evenly distributed as it moves to the collection section above. A liquid cooling circuit consisting of a cooling tower and a plate-and-frame heat exchanger cools the gas and condenses the water vapor. A blowdown stream is taken from the scrubber section recirculation line to bleed sulfate reaction products and condensed water from the system. The blowdown is used as make-up water for other scrubbing processes in the plant.

Gas cooling in the scrubber section offers a number of advantages. Of these, the most important is water condensing on the sub-micron particulate metals. This results in increased particle size and higher collection efficiencies in the collection section. The gas volume is also reduced, allowing the collection section to be smaller than would otherwise be needed. Finally, gas cooling in the scrubber section ensures the greatest possible capture of

condensable compounds such as arsenic from the gas stream prior to entering the collection section.

After passing through the scrubber section, the gas enters the collection section, which is made up of an array of tubes with a high-voltage electrode running through the center of each. Particulate metals collection in this area involves three steps. Initially the particles are given a negative charge by an ionizing corona produced by the electrode. Next the electrical field between the electrode and the tube wall causes the charged particles to migrate to and accumulate on the tube walls. Finally, accumulated particulate is periodically washed from the tube walls into a discharge basin at the bottom of the WESP. As the treated exhaust exits the collection section, it passes through a mist eliminator for water droplet removal prior to discharge through a stack.

Satisfaction of Contingency Requirements: According to the preamble to the Lead NAAQS final rule (73 FR 67040), the key requirements associated with contingency measures are:

- Contingency measures must be fully adopted rules or control measures that are ready to be implemented as expeditiously as practicable upon a determination by EPA that the area has failed to achieve, or maintain reasonable further progress, or attain the lead NAAQS by the applicable statutory attainment date.
- The SIP should contain trigger mechanisms for the contingency measures and specify a schedule for implementation.
- The SIP must indicate that the measures will be implemented without further action (or only minimal action) by the state or by the Administrator.
- The contingency measures should also consist of control measures for the area that are not already included in the control strategy for the attainment demonstration of the SIP.
- The measures should provide for emission reductions that are at least equivalent to one year's worth of reductions needed for the area to meet the requirements of RFP, based on linear progress towards achieving the overall level of reductions needed to demonstrate attainment.

All of these key requirements are satisfied by the provisions of adopted AQMD Rule 1420.1 and the other compliance and permit mechanisms listed above.

The rule is fully adopted, and the Compliance Plan provision serves as a contingency measure that will *already be* implemented before a determination of failure to meet RFP or the attainment date. Rule 1420.1 contains specific trigger mechanisms more stringent than the NAAQS, with specific contingency control measures to be included in a targeted, facility-specific Compliance Plan. Implementation of the contingency measures in the approved Compliance Plan is triggered automatically without further action by the state or the Administrator. The approval of the Compliance Plan will necessarily occur months *before* EPA can provide notification of the need to implement contingency measures. Therefore, the Compliance Plan approval process is not subject to the minimal action requirement, although it still meets the EPA interpretation of this requirement, i.e. that no further *rulemaking actions* by the state, or EPA, would be needed to implement the

contingency measures (73 FR 67039). The contingency measures in the Compliance Plan are not already included in the SIP or Rule 1420.1; they are additional, targeted measures to control lead emissions from unanticipated problems not already covered by the rule. The more stringent ambient monitoring requirements under rule 1420.1 are an additional contingency measure that leads to more than one year's worth of reductions based on observed ambient air concentrations.

In addition, an approved and enforceable Compliance Plan with a trigger mechanism at Exide, and an existing additional control device at Quemetco, provide additional contingency measures that further satisfy CAA requirements

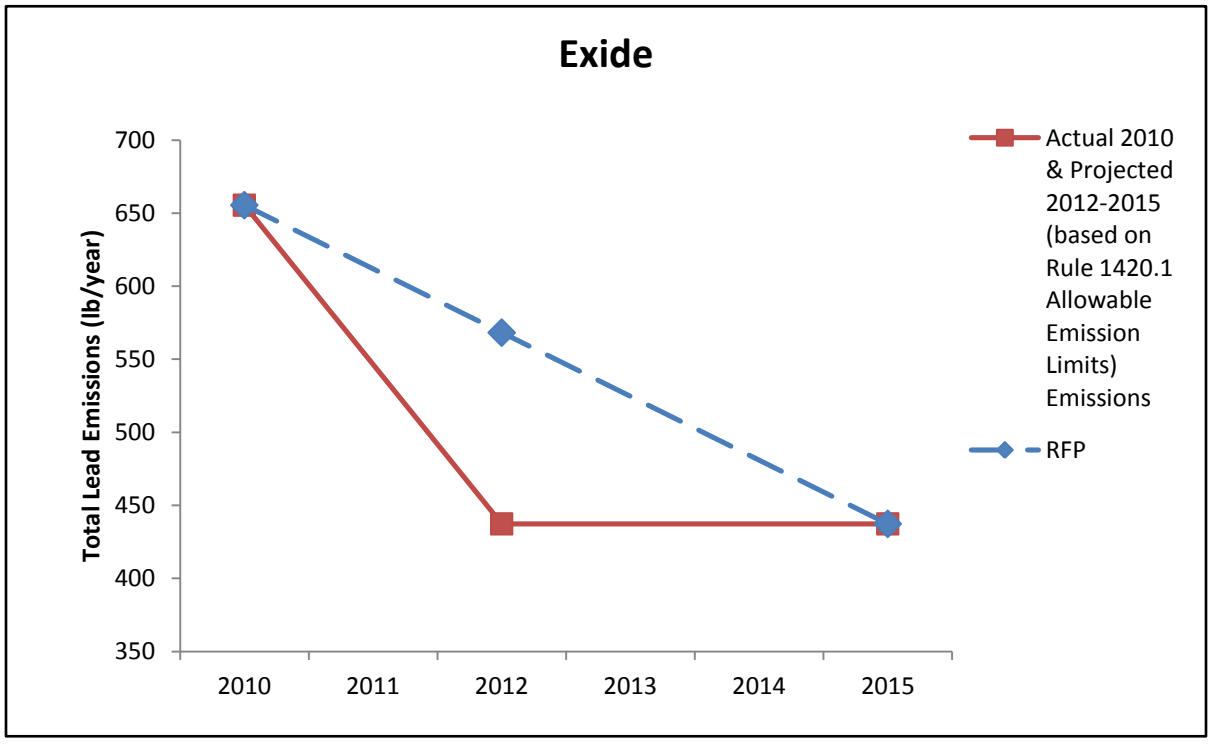
REASONABLE FURTHER PROGRESS (RFP)

The CAA requires SIPs for most nonattainment areas to demonstrate RFP toward attainment through emission reductions phased in from the time of the SIP submission out to the attainment date. The revised lead NAAQS provides further detail on how RFP is to be addressed in lead SIP submittals (73 FR 67038). Per CAA section 171, RFP is defined as "such annual incremental reductions in emissions of lead as are required by this part or may reasonably be required by the Administrator for the purposes of ensuring attainment of the lead NAAQS by December 31, 2015". To determine RFP for lead, at a minimum, controls must be implemented expeditiously and an accurate estimate of emissions reductions that will be achieved by control measures should be quantified.

For Exide, in 2010, the actual total emissions were 655.54 lbs/yr. Since Rule 1420.1 is already adopted and all provisions in the rule leading to emissions reduction are already in effect, the emissions from Exide for 2012 are anticipated to be 437.41 lbs/yr, which is the total allowable emissions limit established in Rule 1420.1. The amount represents minimium emission reductions necessary for Exide to ensure attainment, and show compliance with Rule 1420.1 requirements. Since the compliance deadline for meeting Rule 1420.1 ambient limits is January 1, 2012, Exide's emissions after 2012 should either decrease or stay the same. Therefore, as shown in Figure 6-2, RFP for Exide is demonstrated through the early achievement of the required emissions reductions mandated under Rule 1420.1.

FIGURE 6-2

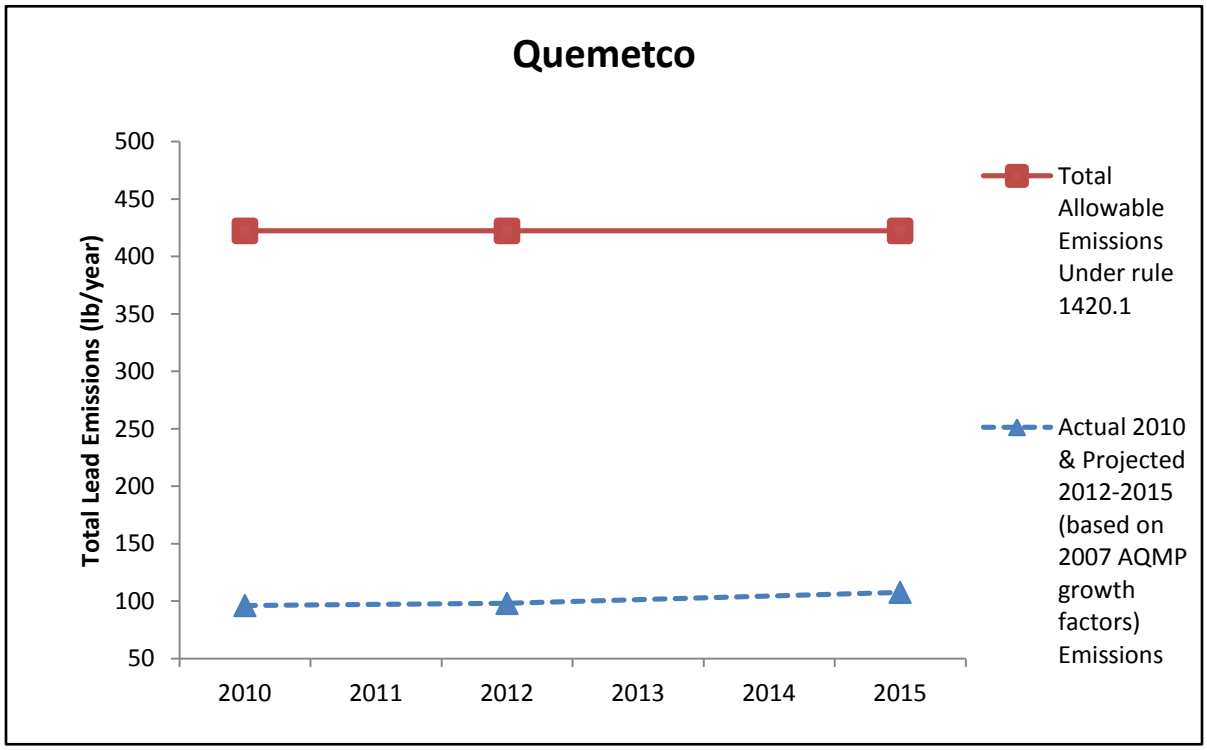
Demonstration of RFP for Exide



For the Quemetco facility, in 2010, the actual total emissions were 96.21 lbs/yr, which is well below the allowable emission limit of 422.32 lbs/yr established in Rule 1420.1. Since Quemetco has already taken major steps in reducing lead emissions, as shown by their 2010 emissions, it is not anticipated that their emissions will increase to the total allowable limit. In order to estimate Quemetco's actual future emissions for RFP demonstration, the emission growth factor contained in the 2007 AQMP was applied to the actual baseline emissions in 2010, and as a result, 2012 and 2015 lead emissions are estimated to be 98.06 lbs/yr and 107.73 lbs/yr, respectively. These total emissions continue to be much less than the 422.32 lbs/yr allowable emission limit. Therefore, as shown in Figure 6-3, RFP has been met since 2010.

FIGURE 6-3

Demonstration of RFP for Quemetco



CAA Section 171 also states that RFP for lead nonattainment areas should be met by "adherence to an ambitious compliance schedule" which is expected to periodically yield significant emission reductions, and as appropriate, linear progress. The EPA recommends that SIPs for lead nonattainment areas provide a detailed schedule for compliance of RACM (including RACT) in the affected areas and accurately indicate the corresponding annual emission reductions to be achieved.

The "ambitious compliance schedule" requirement for RFP is already met since adopted Rule 1420.1 contains compliance deadlines of July 1, 2011 for implementation of all requisite control measures and emissions limits, and January 1, 2012 for the ambient monitoring limit of 0.15 µg/m^3. Rule 1420.1 complies fully with RACM, and since Rule 1420.1 is already adopted, and all provisions in the rule leading to emissions reductions are already in effect, there is no need to further indicate annual incremental reductions or linear progress for RFP purposes. All emission reductions have already been achieved. The facilities are already subject to emission limits and ambient monitoring requirements that will ensure compliance with the NAAQS.

The CAA also requires early implementation of less technology intensive control measures (e.g. controlling fugitive dust emissions at the stationary source, as well as required controls on area sources), and phased in implementation of more technology intensive control

measures, such as those involving the installation of new hardware. Rule 1420.1 outlines requirements for total enclosures of all areas which process, handle and store lead-containing materials for the control of fugitive emissions, in addition to add-on controls such as the usage of filters or bags achieving 99.97% control efficiency on 0.3 micron particles, and secondary lead controls on dryers. Rule 1420.1 also includes additional provisions requiring detailed housekeeping, and periodic emissions testing of air pollution control devices. Failure to comply with these requirements will result in violations and associated further actions to bring the facility into compliance.

REASONABLY AVAILABLE CONTROL MEASURES (RACM) AND REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT) REQUIREMENTS

The federal Clean Air Act, Section 172(c)(1) and the new lead NAAQS regulation (73 FR 66964), requires lead nonattainment area SIPs contain all reasonably available control measures (RACM), including reasonably available control technology (RACT). For each nonattainment area required to submit an attainment demonstration, Section 172(c)(1) and (c)(2) of the CAA requires the area to demonstrate that it has adopted all control measures necessary to show that it will attain the revised lead standard as expeditiously as practicable. In order to comply with this provision, the AQMD has identified and evaluated all measures it has implemented or plans to implement in the future and compare them with measures implemented by other agencies within and outside of the state. Once the process of determining RACM for an area is completed, the individual measures should then be converted into a legally enforceable vehicle (e.g. a regulation or permit program), as it was done for Rule 1420.1.

RACM should address sources of ambient lead concentration, but primarily limited to stationary sources emitting more than 0.5 tons per year (73 FR 67037). Based on monitoring data, the AQMD staff has identified large lead-acid battery recycling facilities as the only stationary source emitters of lead in the Los Angeles County, that cause or has the potential to cause exceedances of the new lead NAAQS. As a result, On November 5, 2010, the AQMD adopted Rule 1420.1 – Emissions Standard for Lead From Large Lead-Acid Battery Recycling Facilities. The purpose of the rule is to protect public health by reducing exposure and emissions of lead from large lead-acid battery recycling facilities, and to address the new NAAQS for lead to ensure the Los Angeles County can achieve the revised lead standards.

RACM should identify potential control measures for sources of lead in the nonattainment area. The control measures should be evaluated for reasonableness, considering their technological feasibility and the cost of control within the nonattainment area. Rule 1420.1 includes extensive and comprehensive provisions for the control of lead point source and fugitive emissions.

In addition, EPA document titled "Implementation of the 2008 Lead National Ambient Air Quality Standards (NAAQS) - Guide to Developing Reasonably Available Control Measures (RACM) for Controlling Lead Emissions," dated March 2012, contains an analysis of lead emission control measures for the purpose of determining what controls may constitute

reasonably available control measures (RACM), including reasonably available control technologies (RACT) pursuant to Section 172(c)(1) of the Clean Air Act. The document identifies control measures for lead emissions from sources in the Secondary Lead Smelting, Lead Acid Battery Manufacturing, Iron and Steel Mills, and Iron and Steel Foundries source categories. For each identified control measure, the document contains an assessment of how likely the control measure is to constitute RACM based on criteria outlined in the report. There are three types of emissions from secondary lead smelting facilities: process emissions, process fugitive emissions and fugitive dust emissions. For all three types of emissions, the document specifically references the control measures included in AQMD Rule 1420.1 as RACM in their analysis.

The EPA's historic definition of RACT is the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. RACT applies to the "existing sources" of lead in an area emitting 0.5 tons per year or more, including stack emissions, industrial process fugitive emissions, and industrial fugitive dust emission. The CAA requires the EPA to revise RACT, update existing Control Technique Guidelines (CTG) documents, or develop new documents, on a frequent basis to provide states and local agencies with most current technical information and assist them in determining RACT. AQMD staff compared the current requirements in the AQMD's rules pertaining to lead emissions with the requirements in the revised CTGs as part of the Rule 1420.1 development process. Rule 1420.1 meets or exceeds the emissions controls provided in the CTGs.

To address technological and economic feasibility, a socioeconomic assessment was conducted to analyze the costs associated with compliance under Rule 1420.1 as part of the rule development process. In addition, pursuant to California Environmental Quality Act (CEQA) Guidelines §15252 and AQMD Rule 110, the AQMD prepared an Environmental Assessment for Rule 1420.1.[3] The socioeconomic assessment for Rule 1420.1 is provided in Appendix II.

The AQMD staff has concluded that Rule 1420.1 fulfills the RACM/RACT requirements for the revised lead NAAQS. In general, the AQMD's current rules and regulations are equivalent to or more stringent than those developed by other air districts. Table 6-2 provides a comparative analysis of Rule 1420.1 and Rule 1420 with the monitoring requirements of the new lead NAAQS regulation and NESHAP requirements for secondary lead smelters. Moreover, AQMD proposes to revise Rule 1420 in the 4th quarter of 2012, which will ensure that sources of lead which are not subject to Rule 1420.1 will never exceed the 2008 NAAQS for lead. No such sources currently exceed the 2008 NAAQS for lead.

[3] From AQMD's website, available at: http://www.aqmd.gov/ceqa/aqmd.html

TABLE 6-2

Comparison of AQMD Rule 1420.1 with AQMD Rule 1420, the 2008 Lead NAAQS, and the NESHAP for Secondary Lead Smelters

Rule Element	AQMD Rule 1420.1	AQMD Rule 1420	2008 Lead NAAQS	NESHAP from Secondary Lead Smelting
Applicability	Lead-acid battery recycling facilities that have processed more than 50,000 lead-tons/year in the past 5 years or in any future year	Facilities that use or process lead-containing materials	All lead sources	Secondary lead smelters
Ambient Air Quality Standard	On and after January 1, 2012, meet 0.15 µg/m^3 averaged over 30 consecutive days	1.5 µg/m^3 averaged over 30 days	0.15 µg/m^3: - 3-month average of monthly averages - Demonstrated over a 3-year period.	None
Total Enclosures	Total enclosures for main areas where processing, handling and storage of lead-containing materials occur	None[4]	None[5]	Total or partial enclosures for: - Smelting furnace and dryer charging hoppers, chutes, and skip hoists; - Smelting furnace lead taps, and molds during tapping; - Refining kettles; - Dryer transition pieces; and - Agglomerating furnace product taps
Emission Standard and Requirements for Lead Control Devices	- Total facility mass emission rate of 0.045 lbs/hr of lead from all lead point sources; maximum emission rate of 0.010 lb/hr of lead for any individual lead point source - Use of filters or bags that are rated	99% control efficiency for particulate matter; 98% control efficiency for lead	None	Concentration of 2.0 mg/dscm

[4] Total enclosures have been required through Compliance Plans and legal actions.
[5] Effective date for the NAAQS is five years after final attainment designation.

Rule Element	AQMD Rule 1420.1	AQMD Rule 1420	2008 Lead NAAQS	NESHAP from Secondary Lead Smelting
	by the manufacturer to achieve 99.97 percent control efficiency on 0.3 micron particles or made of PTFE membrane material - Secondary lead controls on dryer			
Compliance Plan	Only required if a facility exceeds 0.12 µg/m^3; 30 consecutive day avg.; Identifies additional lead control measures beyond the rule; Begin implementation if facility exceeds 0.15 µg/m^3; 30 consecutive day avg.	Specifies general facility information[6]	None	None
Ambient Air Monitoring Requirements	- Minimum of four monitors at facility locations approved by the Executive Officer - Samples collected at least once every three days - Results reported monthly - Daily sampling if 0.15 µg/m^3 is exceeded after January 1, 2012	- Minimum of two monitors at facility locations approved by the Executive Officer - Samples collected every six days - Results reported quarterly	For states, a minimum of: - One source-oriented monitor at all facilities emitting 0.5 tons of lead/year; and - One non-source-oriented monitor in urban areas with a population of at least 500,000 people - Samples collected every six days	None
Housekeeping Requirements	Prescribed requirements for cleaning frequencies of specific areas; maintenance activity; building integrity inspections; storage and transport of lead-containing materials; onsite mobile	Requirements for storage of dust-forming material; weekly cleaning of surfaces subject to vehicular or foot traffic; and storage, disposal, recovery, and recycling of lead or lead-containing	None	Periodic wash down of plant roadways (lower frequency than Rule 1420.1); wet suppression of battery breaking area storage piles; vehicle wet washing of vehicles exiting the materials

[6] Additional facility requirements have been added through revised Compliance Plans.

Rule Element	AQMD Rule 1420.1	AQMD Rule 1420	2008 Lead NAAQS	NESHAP from Secondary Lead Smelting
	sweeping; and surface impoundment cleanings	wastes generated from housekeeping activities[7]		handling and storage areas
Reporting Requirements	- Ambient air lead and wind monitoring; - Shutdown, turnaround, and maintenance activity reports; - Public notifications for specific shutdown and maintenance activity; - Initial Facility Status Reports - Ongoing Facility Status Reports	Ambient air lead and wind monitoring for any lead-processing facility that is required or elects to do ambient air monitoring	For states: - SIP submittal; - Emission reports; and - Ambient air quality data	- Lead control alarm/failure reports including fugitive dust control measures performed during failures

[7] Additional housekeeping measures have been required through revised Compliance Plans and legal actions.

APPENDIX I

LEAD AIR QUALITY IN LOS ANGELES COUNTY

The Appendix I includes:

- Monitoring data from fence-line sites
  - Exide daily and 30 day rolling averages
  - Quemetco daily and 30 day rolling averages
- Monitoring data from network sites
  - One- and three- month averages
  - Daily average data - AQS
- Source-oriented sites
  - One- and three- month averages
  - Exide – Daily averages
  - Quemetco – Daily averages
  - Trojan – Daily averages
  - Van Nuys Airport – Daily averages

APPENDIX II

RULES

Rules can be found on our website at:

Rule 1420 - https://www.aqmd.gov/rules/reg/reg14/r1420.pdf
Rule 1420.1 - https://www.aqmd.gov/rules/reg/reg14/r1420-1.pdf

APPENDIX III

MODELING AND ATTAINMENT DEMONSTRATION

Exide – AERMOD Source Parameters for 2015
(Total Emissions – Stack and Fugitive Emissions)

Source ID	Source Description	UTM Coordinates		Emission Rate (g/s)	Release Ht (m)	Temp (K)	Velocity (m/s)	Diameter (m)
		X (m)	Y (m)					
S001	Raw Materials Processing Scrubber	389796	3763324	***1.728E-04***	19.360	296.48	8.702	1.09
S002	Material Handling Baghouse	389814	3763277	***5.551E-04***	34.146	295.93	12.995	2.13
S003	Soft Lead Baghouse	389841	3763343	***4.108E-04***	34.146	309.82	13.345	2.13
S004	Hard Lead Baghouse	389821	3763295	***4.923E-04***	34.146	310.37	15.860	2.13
S005	Feed Dryer Baghouse	389857	3763308	***1.260E-03***	***36.600***	375.37	10.927	0.91
S006	Neptune Scrubber	389843	3763316	***8.447E-05***	34.146	332.59	11.151	1.16
S007	North Torit Baghouse	389885	3763337	***6.806E-04***	***36.600***	312.04	13.340	2.101
S008	South Torit Baghouse	389883	3763334	***1.738E-03***	***36.600***	298.15	14.712	2.101
S017	Raw Materials Processing Fugitive	389820	3763358	3.072E-04	7.622	N/A	N/A	46.0
S018	MAC Baghouse	389832	3763288	***2.761E-04***	***36.600***	296.48	19.187	1.799
L001	Roadway Fugitives	***106 vol sources***		***2.966E-06***	1.000	N/A	N/A	6.0

Note:

1) The items which have been changed from the 2010 modeling (shown in previous table) are in ***bold and italics***.
2) S005, S007, S008, S018 stack heights were raised due to the construction of the baghouse row enclosure.
3) The number and location of the volume sources for the roadways also changed due to the new roadway configuration.
4) An 80% reduction was applied to the roadway fugitives to account for the good housekeeping measures required by Rule 1420.1.
5) The stack emission rates were calculated using the Rule 1420.1 facility total emission limit of 0.045 lb/hr distributed among the stacks based on the ratio of the measured emissions, ensuring that no individual stack exceeded the 0.01 lb/hr per stack limit.
6) For 2015, in the Stacks only scenario, the point source parameters modeled were the same as listed in this table, but the Rule 1420.1 total facility point source limit of 0.045 lb/hr was evenly distributed throughout the stacks and each stack was assigned an emission rate of 6.300E-04 g/s.

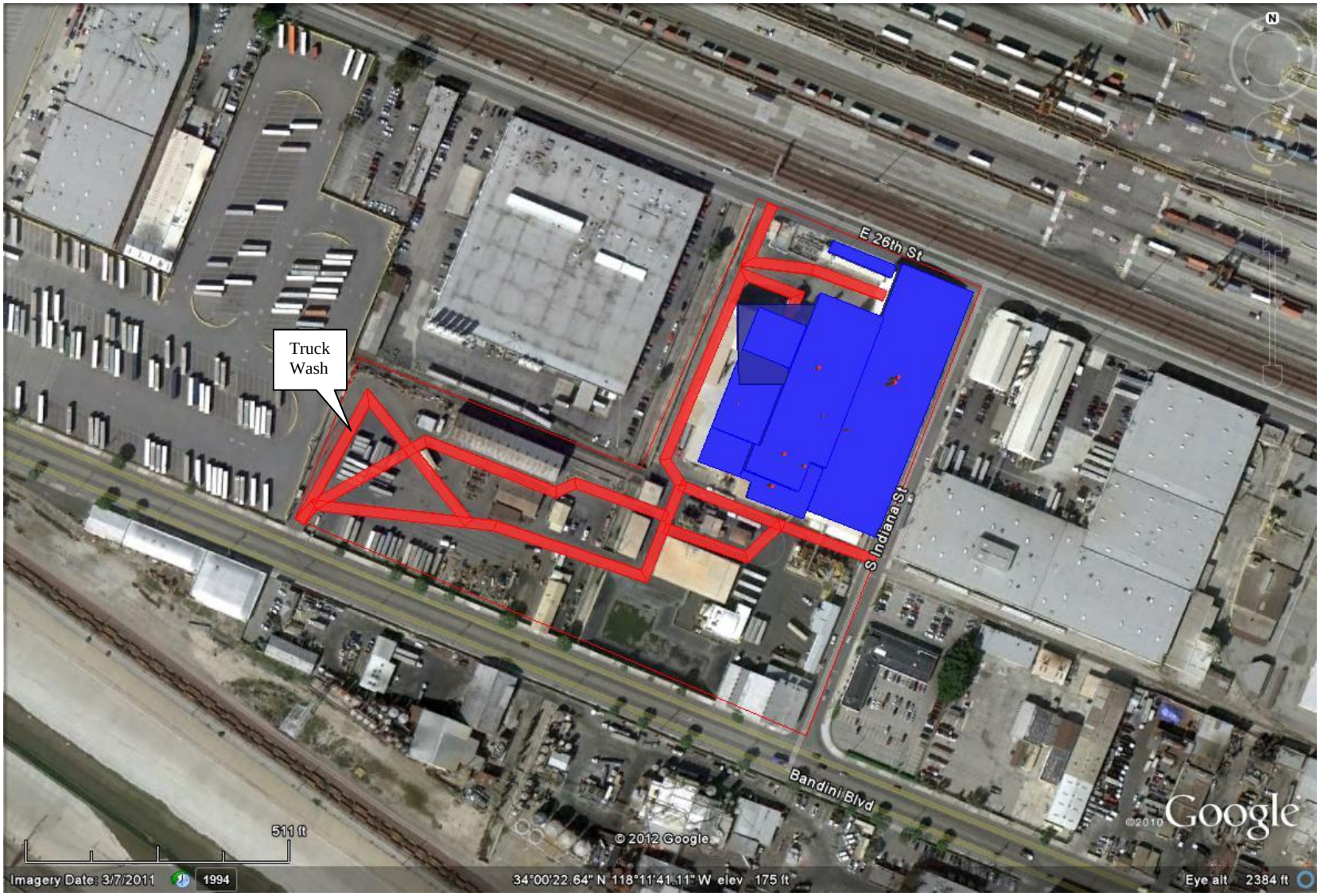
Quemetco – AERMOD Source Parameters for 2015
(Total Emissions – Stack and Fugitive Emissions)

Source ID	Source Description	UTM Coordinates		Emission Rate (g/s)	Release Ht (m)	Temp (K)	Velocity (m/s)	Diameter (m)
		X (m)	Y (m)					
S002	WESP	409269.08	3765291.357	***5.841E-04***	21.336	310.928	14.19850	2.034
S004	Busch FA	409168.74	3765360.937	***4.181E-04***	10.100	311.483	19.11614	1.180
S005	Busch FB	409172.69	3765357.767	***5.021E-04***	10.100	312.039	18.77568	1.180
S006	Busch FC	409176.63	3765353.927	***8.400E-04***	10.100	314.817	13.05550	1.180
S007	Busch FD	409180.57	3765350.427	***4.210E-04***	10.103	318.706	8.75294	1.180
S008	Busch DBE	409280.86	3765382.797	***3.162E-04***	10.100	299.261	16.29674	1.180
S009	Busch DCF	409284.27	3765386.947	***6.855E-04***	10.103	309.261	17.06880	1.180
S010	Busch DAG	409287.68	3765391.107	***1.260E-03***	10.103	307.594	15.92062	1.180
S011	Busch BEH	409291.10	3765395.097	***2.650E-04***	10.103	309.817	16.55064	1.180
S012	Busch BW	409294.53	3765399.267	***3.780E-04***	10.103	314.261	15.33144	1.180
S017	Battery Wrecker Fugitive	409260.27	3765352.270	1.999E-04	7.622	N/A	N/A	46.0
L001	Roadway Fugitives	***24 volume sources***		***8.523E-06***	1.000	N/A	N/A	6.0

Note:

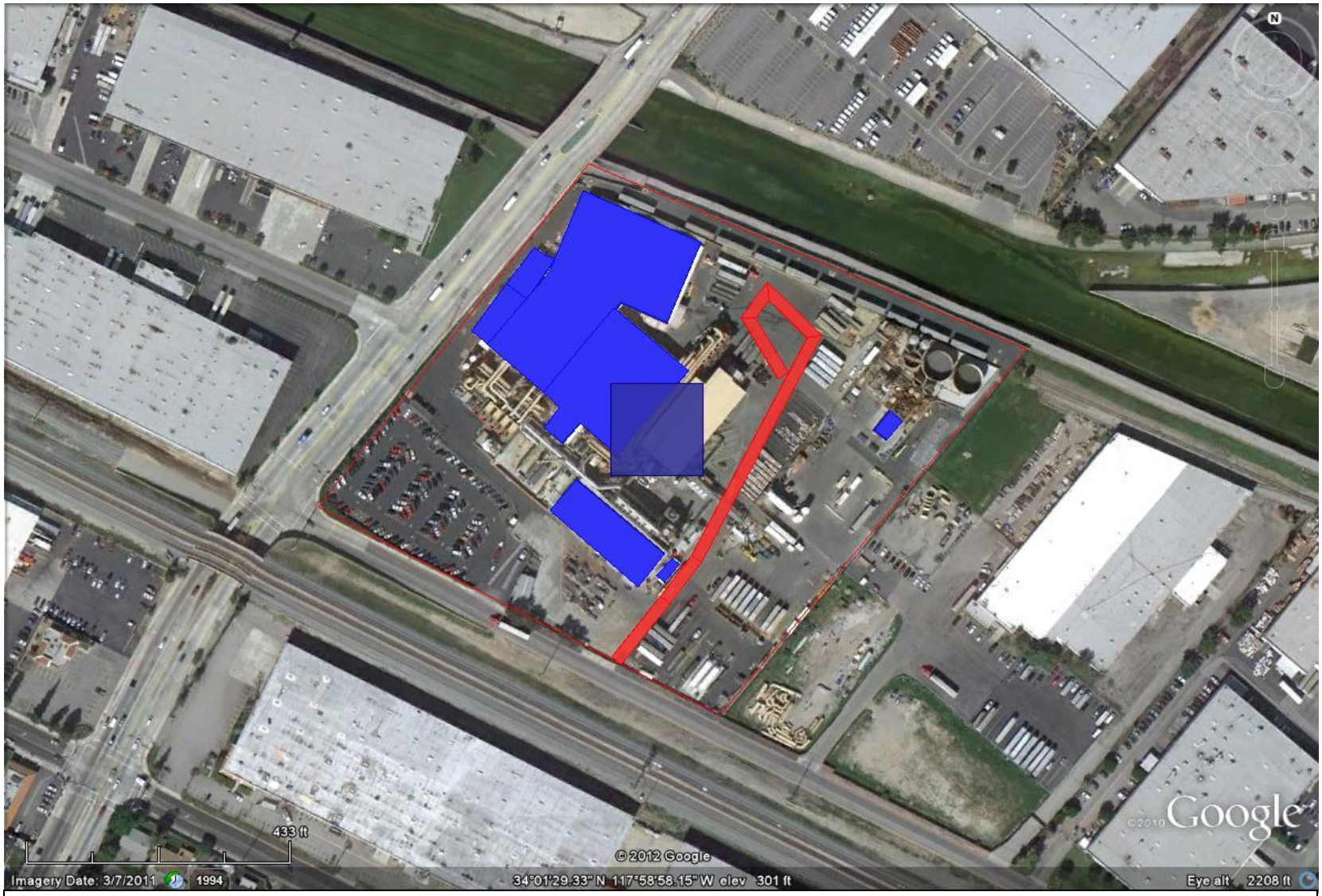
1) The items which have been changed from the 2010 modeling (shown in previous table) are in ***bold and italics***.
2) The number and location of the volume sources for the roadways also changed due to the new roadway configuration.
3) An 80% reduction was applied to the roadway fugitives to account for the good housekeeping measures required by Rule 1420.1.
4) The stack emission rates were calculated using the Rule 1420.1 facility total emission limit of 0.045 lb/hr distributed among the stacks based on the ratio of the measured emissions, ensuring that no individual stack exceeded the 0.01 lb/hr per stack limit.
5) For 2015, in the Stacks only scenario, the point source parameters modeled were the same as listed in this table, but the Rule 1420.1 total facility point source limit of 0.045 lb/hr was evenly distributed throughout the stacks and each stack was assigned an emission rate of 5.670E-04 g/s.

Exide – Location of Modeled Sources – 2015 Emissions



The buildings are shown as bright blue polygons; This configuration includes the new baghouse row which was completed in March 2012.
The line sources (made up of multiple volume sources) is shown as a red line source; This configuration reflects the addition of the truck wash area in the western portion of the site where all trucks with lead associated materials will have to use prior to leaving the facility, and the addition of 2 gates.
The point sources are shown as red dots ; The volume source (raw materials processing fugitives) is shown as a dark blue square

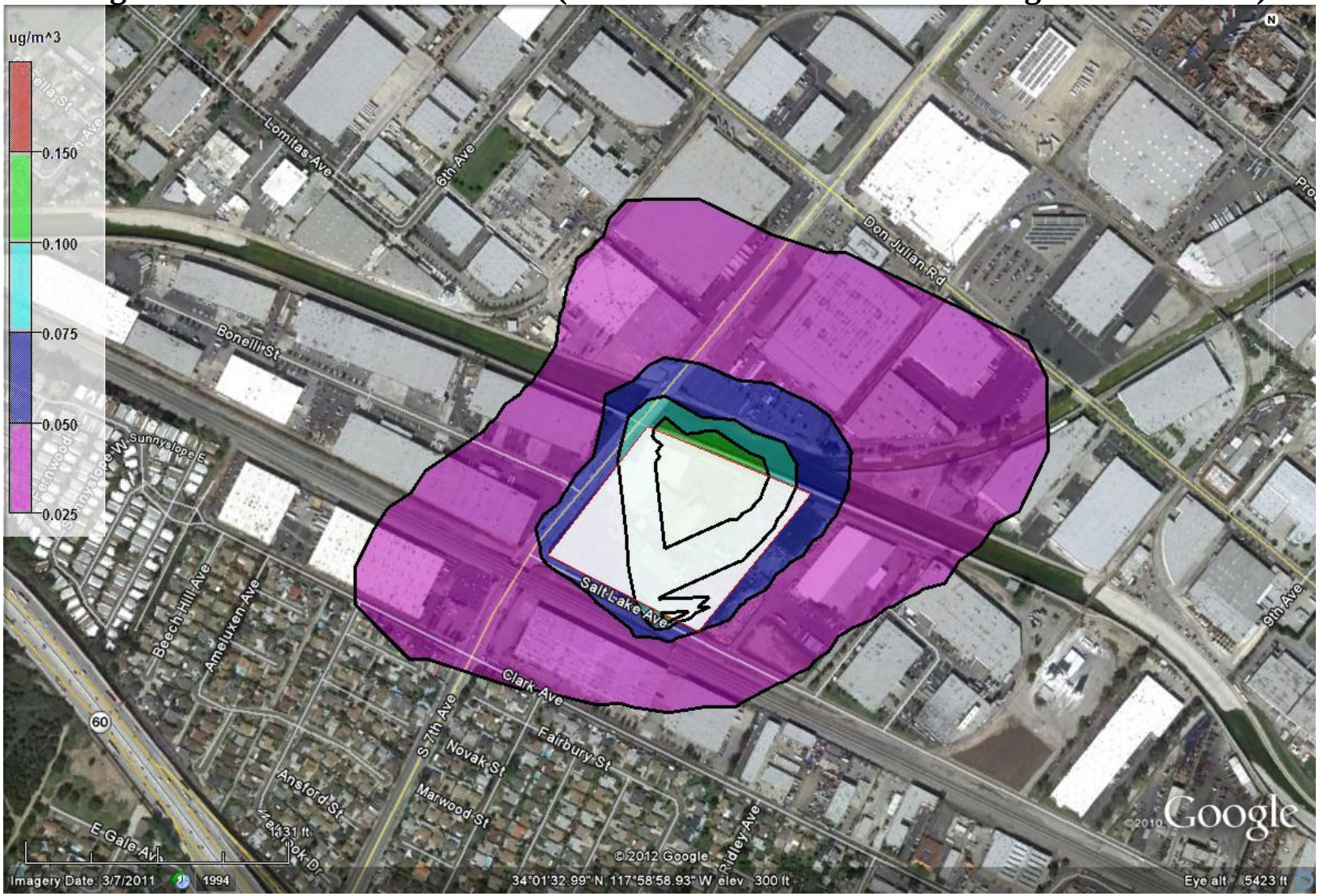
Quemetco – Location of Modeled Sources – 2015 Emissions



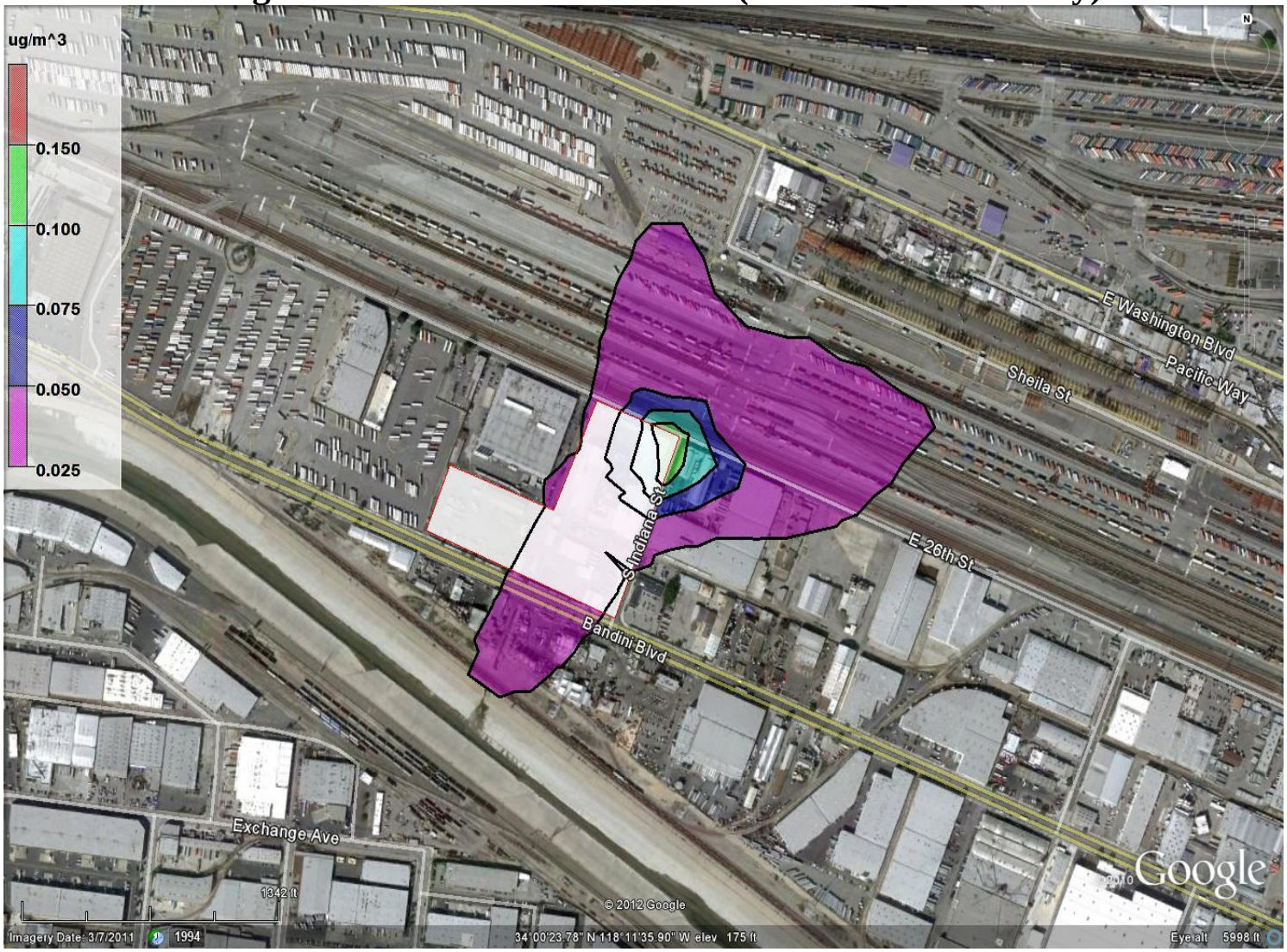
The buildings are shown as bright blue polygons.
The line sources (made up of multiple volume sources) is shown as a red line source; This configuration reflects the relocation of the main gate in order to move the on-site truck movement from areas where people are frequently walking , which will occur in 2012.
The point sources are shown as red dots ; The volume source (battery wrecker fugitives) is shown as a dark blue square

Exide – 2015 Lead Concentrations (ug/m^3)
Using Rule 1420.1 Emission Limits (Total Emissions – Stack and Fugitive Emissions)

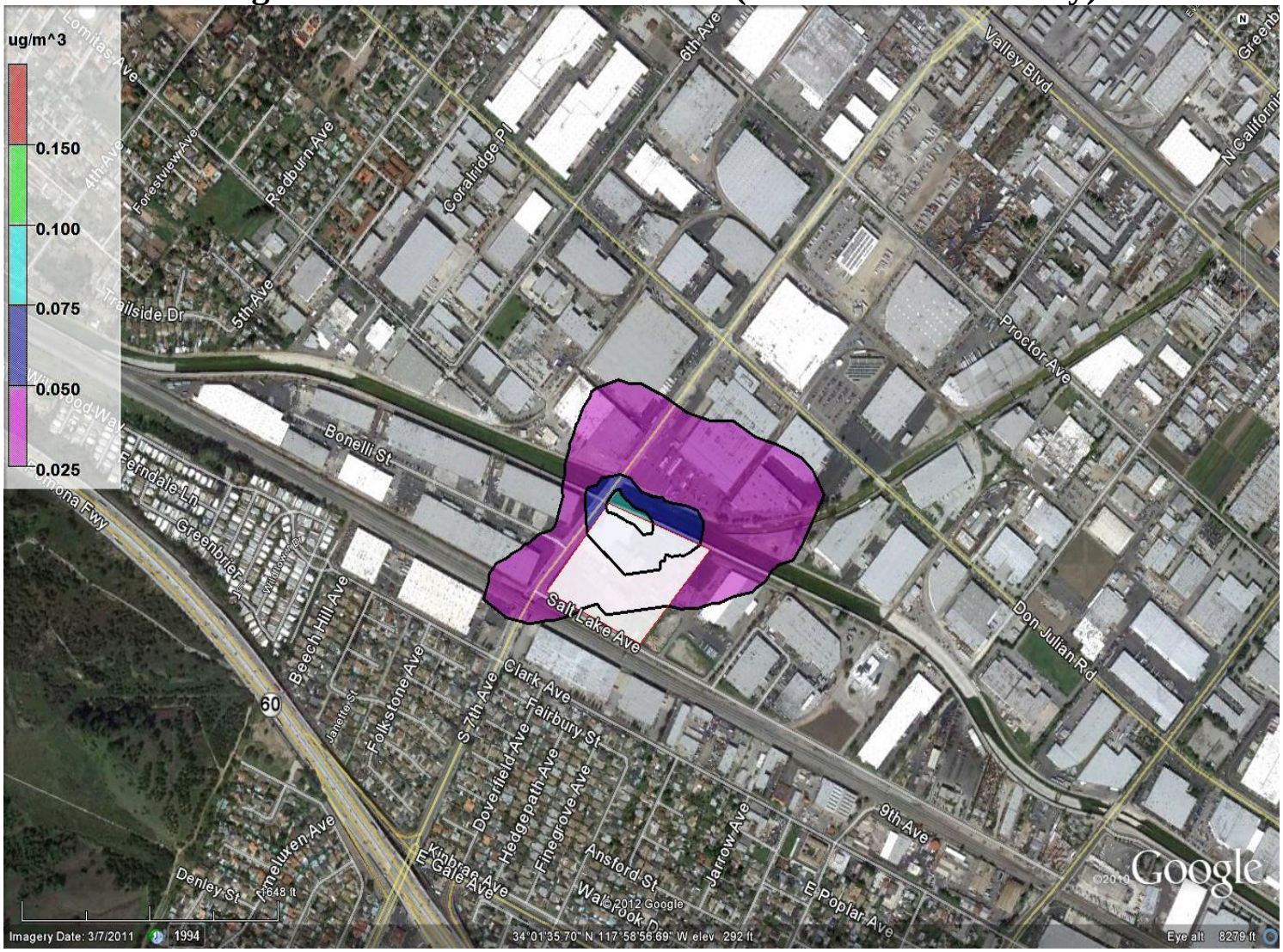
Quemetco – 2015 Lead Concentrations (ug/m^3)
Using Rule 1420.1 Emission Limits (Total Emissions – Stack and Fugitive Emissions)



Exide – 2015 Lead Concentrations (ug/m^3)
Using Rule 1420.1 Emission Limits (Stack Emissions Only)



Quemetco – 2015 Lead Concentrations (ug/m^3)
Using Rule 1420.1 Emission Limits (Stack Emissions Only)



APPENDIX IV

SOCIOECONOMIC REPORT FOR RULE 1420.1

Socioeconomic report is available at:
http://www.aqmd.gov/aqmp/Lead_SIP/homepage.htm

APPENDIX V

RESPONSE TO COMMENTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MAR 1 4 2012

Elaine Chang, Dr. P.H.
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Dear ~~Dr. Chang,~~ Elaine

Thank you for providing the Environmental Protection Agency with the opportunity to review the "*Draft - 2012 Lead State Implementation Plan Los Angeles County*" (*2012 Draft Lead SIP*). Our concerns about the SIP as currently drafted relate to the Clean Air Act (CAA) requirements for attainment modeling, reasonable further progress (RFP), and contingency measures. We recommend that revisions to the SIP be made prior to submittal to EPA for action.

The modeled attainment demonstration needs to address fugitive emissions. We understand that fugitive emissions are difficult to estimate. However, the *2012 Draft Lead SIP* acknowledges their relative importance; see page 5-4 of the *2012 Draft Lead SIP*, "As previously stated, the modeling results above do not include the influence of fugitive emissions, although fugitive emissions are believed to be a significant source of ambient lead in the vicinity of these two facilities." Please also provide adequate documentation for the modeling for our review, including an estimate of fugitive emissions and how the estimate was calculated.

Comment 1

Comment 2

Per CAA section 171, RFP is defined as "such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purposes of ensuring attainment of the applicable national ambient air quality standard by the applicable date." To demonstrate RFP for lead, at a minimum, controls must be implemented expeditiously and an accurate estimate of emissions reductions that will be achieved by control measures should be quantified.[1] Our lead national ambient air quality standards provide flexibility concerning the timing of reductions for RFP. (see 73 FR 66964, November 12, 2008).

Regarding attainment plan contingency measures, CAA Section 172(c)(9) states, "Such plan shall provide for the implementation of *specific measures* to be undertaken if the area fails to make

Comment 3

[1] See *Memorandum,* Scott Mathias, Interim Director, US EPA Office of Air Quality Planning and Standards, Air Quality Policy Division, to Regional Air Division Directors, Regions I-X, "2008 Lead (Pb) National Ambient Air Quality Standards (NAAQS) Implementation Questions and Answers," July 8, 2011 ("2011 Lead Q&A"), p. 2.

reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date applicable under this part. Such measures shall be included in the plan revision as contingency measures *to take effect in any such case without further action by the State or the Administrator*." [Emphasis added] The EPA interprets this provision to allow states to meet this requirement with control measures that have already been implemented but are not needed for attainment[2], and to allow for "minimal action" to be necessary prior to implementation of the measures (73 FR 66964, at 67039). Finally, the attainment plan should quantify the amount of reductions yielded by implementation of the contingency measures. For lead SIPs, EPA believes it is reasonable for contingency measures to reduce emissions by 20 percent of the total amount required for attainment. Under certain circumstances, it may be possible to calculate this amount by reference to reductions in ambient air concentrations. EPA would need to evaluate the approvability of this approach on a case-by-case basis.[3] We will need further clarification on how South Coast Rule 1420.1 and its compliance plan section fulfill the requirements of a contingency measure.

We appreciate your hard work on the development of this SIP and are available to discuss these issues and any other questions you may have. Please have your staff contact Wienke Tax (415)-947-4192 on planning issues, or Carol Bohnenkamp at (415) 947-4130 for modeling issues. I can be reached at 415-972-3183.

Sincerely,

Elizabeth Adams
for Deputy Director, Air Division

Cc: Lynn Terry, California Air Resources Board
Karen Magliano, California Air Resources Board

[2] See "Early Implementation of Contingency Measures for Ozone and Carbon Monoxide (CO) Nonattainment Areas," G.T. Helms, August 13, 1993, available at http://www.epa.gov/ttn/oarpg/t1pgm.html.
[3] 2011 Lead Q&A, p. 3.

Comment 1: We understand that fugitive emissions are difficult to estimate. However, the modeled attainment demonstration needs to address fugitive emissions.

Response: To address this comment, the modeling in the Revised Draft 2012 Lead SIP document was revised to include the fugitive lead emissions for Exide Technologies and Quemetco Inc., in the Los Angeles County. Given the fact that fugitive emissions cannot be readily captured or directly measured, and they are challenging to estimate, the methodology in the EPA document titled as: ""Development of the RTR Emissions Dataset for the Secondary Lead Smelting Source Category", used for development of Secondary Lead Smelting NESHAP was used by AQMD staff to estimate fugitive emissions (for more details, please refer to Chapter 3, Stationary Sources, Pg 3-3). With the inclusion of the fugitive emissions, modeling for both facilities continues to demonstrate attainment with the NAAQS for future years.

Comment 2: Please provide adequate documentation for the modeling for EPA review, including an estimate of fugitive emissions and how the estimate was calculated.

Response: To address this comment, the modeling approach in Chapter 5 of the Revised Draft 2012 Lead SIP document was revised to provide further documentation for the modeling and to address fugitive emissions.

Comment 3: Clean Air Act Section 172(c)(9) states that each SIP shall provide for the implementation of specific contingency measures to be taken if the area fails to make reasonable further progress, or to attain the NAAQS by the attainment date. Please provide further clarification on how AQMD Rule 1420.1 and its compliance plan section fulfills the requirements of a contingency measure.

Response: To provide further clarification on contingency measures and how AQMD Rule 1420.1 and its compliance plan provision fulfills this requirement, more details were provided. In addition, facility specific contingency measures for Exide Technologies and Quemetco Inc. were included via reference to specific elements of approved Compliance Plan and permit conditions. As a result, the Contingency Measures chapter (Chapter 6, pages 6-3 to 6-14) in the Revised Draft 2012 Lead SIP document was expanded. In addition, language was added to clarify how the reasonable further progress requirements are met (Chapter 6, pages 6-15 to 6-18).

Quemetco, Inc.

March 14, 2012

Barry Wallerstein, D.Env.
Executive Officer
South Coast Air Quality Management District
21865 Copley Avenue
Diamond Bar, CA 91765

Dear Dr. Wallerstein:

The purpose of this letter is to comment on the Draft 2012 Lead State Implementation Plan—Los Angeles County ("Draft Lead SIP"). Quemetco, Inc. ("Quemetco") operates a lead recycling facility in the City of Industry, California and has implemented effective lead emission controls at the facility. As one of the two companies in Los Angeles County involved in lead recycling (and directly regulated by the Draft Lead SIP), Quemetco has an appreciation of the nature of lead recycling and its relationship to lead emissions, and is well positioned to comment on the Draft Lead SIP.

The Draft Lead SIP, prepared to ensure that Los Angeles County air complies with the recently strengthened National Ambient Air Quality Standard ("NAAQS") for lead, provides the South Coast Air Quality Management District ("AQMD") with the opportunity to ensure that lead levels in Los Angeles County are effectively reduced to protect health and welfare.

As discussed in more detail below, the Draft Lead SIP does not contain adequate strategies and measures to ensure protection of human health and the environment from lead pollution. In particular, the Draft Lead SIP fails to address the Clean Air Act mandate to include reasonably available control measures ("RACM") and reasonably available control technologies ("RACT") in the Lead SIP. As Quemetco has demonstrated at its City of Industry, California lead recycling facility, Wet Electrostatic Precipitator ("WESP") technology is both technologically and economically feasible and substantially reduces lead levels, thereby protecting human health and the environment.

I. The Health Effects of Lead

The Draft Lead SIP recognizes the significant health risks associated with lead. As summarized in Chapter 1:

> Lead is generally emitted in the form of particles, which can end up being deposited in the human lung as well as in water, soil, and dust. Human exposure to lead occurs in a variety of ways with common routes being that of inhalation and ingestion. Once in the body, lead is quickly absorbed into the bloodstream and can result in a broad range of adverse health effects. The most widely used indicator of lead exposure in many studies is the amount of lead measured in

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Telephone—(626) 330-2294 / Fax— (626) 330-2502

> whole blood because of the direct relationship between blood lead (PbB) levels and health effects. Clinical effects resulting from high-level lead exposure include nervous and reproductive system disorders, neurological and physical developmental effects, cognitive and behavioral changes, and hypertension. Young children are especially susceptible to the effects of environmental lead because they are more vulnerable to certain biological effects of lead including learning disabilities, deficits in IQ, and behavioral problems. . . .

(Draft Lead SIP, p. 1-6.)

When adopting the 2008 lead NAAQS, EPA extensively discussed the health effects of lead, particularly on children. EPA noted that lead accumulates in the body, and that lead accumulated in bones during childhood can be exchanged with blood and soft tissues throughout an individual's life. (73 Fed.Reg. 66972.) EPA summarized evidence supporting a relationship between lead pollution in air and lead levels in blood. (*Id.* at 6697.) EPA observed that lead has been demonstrated to exert a broad array of deleterious effects on multiple organ systems via widely diverse mechanisms of action. (*Id.* at 66975.) Of these effects, "there is a general consensus that the developing nervous system in children is among the, if not the, most sensitive." (Id. at 66976.) EPA noted that lead levels in blood vary among children in different socioeconomic categories, suggesting that exposure in less affluent neighborhoods may be higher than for the general population. (*Id.* at 66973.) Finally, EPA reported that data demonstrate that no "safe" threshold for lead in blood has been identified. (*Id.* at 66972.) In summary, it is clear that lead presents a significant health risk, particular for children; that children in lower income areas—such as the urban areas of Los Angeles County—often have the highest levels of lead in blood; and that no safe level exists for lead in blood.

Given the above, it is imperative that AQMD's Lead SIP implement all reasonable measures and technologies to appropriately protect human health and the environment, as required by the Clean Air Act.

Comment 1

II. Designation of Los Angeles County as Nonattainment for Lead National Ambient Air Quality Standard

EPA amended the NAAQS for lead in 2008, reducing the standard from 1.5 micrograms per cubic meter to 0.15 micrograms per cubic meter. (Draft Lead SIP, p. 1-1.) On December 31, 2010, EPA designated Los Angeles County as nonattainment for the 2008 lead NAAQS. (Draft Lead SIP, p. ES-1.) As the regional air quality agency responsible for air quality planning and regulation in Los Angeles County, AQMD must develop a State Implementation Plan ("SIP") to "outline the strategies, planning and pollution control activities needed to demonstrate attainment of the lead NAAQS as expeditiously as practicable, but no later than December 31, 2015." (Draft Lead SIP, p. ES-1.) The SIP must be submitted to EPA within 18 months of the nonattainment designation; in this case, by July 1, 2012. (*Id.*)

III. The Draft Lead SIP Documents the Lead Emissions from the Exide Facility are Well Above the 2008 Lead NAAQS.

Comment 2

The Draft Lead SIP states that facilities in the lead-acid battery recycling industry are the highest emitters of lead in Los Angeles County. The lead attainment strategy, described in Chapter 4 of the Draft Lead SIP, "is exclusively focused on directly-emitted lead from stationary sources." (Draft Lead SIP, p. 4-2.) The two facilities directly regulated by the lead SIP are the Quemetco facility in City of Industry, California and the Exide facility in Vernon, California.

The Draft Lead SIP explains that the designation of nonattainment by EPA was based on source-oriented monitors, rather than relying solely on AQMD's regional network of monitors. This properly reflects the fact that lead emissions must be addressed at a local level and not considered from a regional standpoint.

The Draft Lead SIP provides data concerning the lead emissions from the Quemetco and Exide facilities. Figure 2.8 shows that lead emissions from the Quemetco facility have been consistently below the 2008 lead NAAQS standard since July 2011. (Draft Lead SIP, p. 2-16.) In contrast, Figure 2-6 documents that the Exide facility has exceeded the 2008 lead NAAQS standard for all but one month during the monitoring period. (Draft Lead SIP, p. 2-13.) This actual data clearly indicates that the Exide facility does not, at least as of January 2012, contain sufficient emission control measures to ensure that lead emissions do not result in health impacts on the local affected population.

The modeling relied on in the Draft Lead SIP indicates that lead emissions from the Exide facility will decline to approximately 0.115 micrograms per cubic meter for "future year emissions." The same modeling indicates that emissions from the Exide facility **in 2010** were approximately 0.141 micrograms per cubic meter. (Draft Lead SIP, p. 5-3.) However, this modeled level is directly contradicted by the data presented in Figure 2-6 (which appear to show lead emissions well above 1 microgram per cubic meter during this period). (Draft Lead SIP, p. 2-13.)

In short, the Draft Lead SIP documents that the Exide facility may not meet the 2008 lead NAAQS and that additional measures must be considered.

Comment 2

IV. The Lead Control Strategy Must Evaluate Reasonably Available Control Measures and Reasonably Available Control Technologies

When adopting the 2008 NAAQS for lead, EPA discussed the Clean Air Act requirement that a lead SIP must properly address RACM and RACT. (73 Fed.Reg. 67035.) EPA explained that "the first step in addressing RACM for lead is identifying potential control measures for sources of lead in the nonattainment area." (*Id.*) EPA added that, "[i]f a state is aware of facts, or receives substantive public comments, that demonstrate through appropriate documentation, that additional control measures may be reasonably available in a specific area, the measures should be added to the list of available measures for consideration in that particular area." (*Id.* at 67036.) The control measures should be evaluated for reasonableness, considering their technological feasibility and the cost of control in the area for which the SIP applies. (*Id.*) If an available control measure is rejected, a reasoned justification should be prepared. (*Id.*)

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With regard to economic feasibility, EPA stated that, "[a]bsent other indications, EPA as a general matter expects that it is reasonable for similar sources to bear similar costs of emissions reductions." (*Id.*) Further, "[e]conomic feasibility for RACT purposes is largely determined by evidence that other sources in a particular source category have in fact applied the control technology or process change in question." (*Id.*)

The Draft Lead SIP does not adequately address RACM or RACT. The Draft Lead SIP states that AQMD "has identified and evaluated all measures it has implemented or plans to implement in the future and compared them with measures implemented by other agencies within and outside the state." (Draft Lead SIP, p. 6-5.) The Draft Lead SIP, however, does not identify any of these measures. Further, with regard to RACM, the Draft Lead SIP states that "Rule 1420.1 includes extensive and comprehensive provisions for the control of lead point sources and fugitive emissions." (Draft Lead SIP, p. 6-6.) However, Rule 1420.1 does not identify any specific control measures or set forth the type of analysis necessary to properly address RACM and RACT requirements under the Clean Air Act.

Given the significant health risks from lead pollution, and the importance of developing a lead SIP to fully address these risks, AQMD's Lead SIP must be revised to include a discussion of RACM and RACT that complies with Clean Air Act requirements.

Comment 3

V. Wet Electrostatic Precipitator is a Reasonably Available Control Measure to Address Lead Emissions from Lead Recycling Facilities in Los Angeles County

Comment 1

As discussed above, RACM includes potential control measures for sources of lead emissions in the nonattainment area. Under this criteria, AQMD must include in the discussion of RACM the WESP technology. Quemetco has implemented WESP at its City of Industry, California facility, and the results demonstrate that WESP technology can substantially reduce lead emissions. In fact, application of WESP has reduced lead concentrations in stationary source emissions at Quemetco's Industry, California facility to less than 0.003 pounds per hour ("lbs/hr"). This emission level is substantially below the level of 0.045 lbs/hr required by AQMD's Rule 1420.1. (AQMD Rule 1420.1(f)(2)). The WESP technology has been continuously operational since October, 2008 (greater than three years) and has undergone several rounds of testing. These tests, and their emission reports, have been reviewed and approved by AQMD.

With regard to whether WESP would qualify as RACT for other sources in Los Angeles County, Quemetco's implementation of WESP at its City of Industry, California facility, and the results of testing approved by AQMD, demonstrate that this technology is both technologically and economically feasible. Additionally, this technology is now considered "off-the-shelf" ready and available for other similar facilities. (See, "Integrated Scrubber & Wet Electrostatic Precipitator Reduces HAPs Emissions at Secondary Lead Smelter Facility," by Andrew C. Bartocci [the document is available electronically at: http://www.envitechinc.com/Portals/62003/docs/it309_leadsmelterwesp.pdf].) As noted above, economic feasibility for RACT purposes is largely determined by evidence that other sources in a particular source category have in fact applied the control technology or process change in question.

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In short, the Draft Lead SIP does not include a legally adequate analysis of RACM or RACT. The Draft Lead SIP must therefore be revised to evaluate RACM and RACT. In preparing this evaluation, AQMD must include WESP as a reasonably available control measure and perform an analysis of whether it qualifies as RACT.

Comment 1

VI. Conclusion

Quemetco appreciates AQMD's consideration of these comments. To the extent that AQMD needs additional information from Quemetco in order to perform the RACM and RACT evaluation, Quemetco will make every reasonable effort to provide such information. Quemetco requests that AQMD contact me at (626) 937-3212 with regard to any information that may be needed.

Sincerely,

Scott Bevas
Vice President of California Operations
Quemetco, Inc.

cc: California Air Resources Board

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Comment 1: It is imperative that AQMD's lead SIP implement all reasonable measures and technologies to appropriately protect human health and the environment, as required by the Clean Air Act. In addition, the AQMD must include Wet Electrostatic Precipitator (WESP) as a Reasonably Available Control Measures (RACM) and perform an analysis of whether it qualifies as Reasonably Available Control Technologies (RACT) for lead recycling facilities in Los Angeles County.

Response: Staff performed a feasibility analysis of all reasonable measure and technologies as part of Rule 1420.1 rule development. In addition, staff looked at the Wet Electrostatic Precipitator (WESP) since already installed by Quemetco and concluded that addition of WESP as a secondary control was not considered cost effective at this time. However, employing a control measure identified in Rule 1420.1, requiring 99.97% control efficiency for 0.3 micron particles would yield similar results. This analysis has been confirmed by the EPA document titled "Implementation of the 2008 Lead National Ambient Air Quality Standards (NAAQS) - Guide to Developing Reasonably Available Control Measures (RACM) for Controlling Lead Emissions," dated March 2012. The document states that "installing an add-on control technology, such as, WESP, downstream of the primary control would double the control technology costs. Moreover, because fabric filters can achieve efficiencies of greater than 99%, the amount of further lead emissions captured is relatively low compared to the amount captured with a fabric filter controlling uncontrolled emissions.

Comment 2: The Draft Lead SIP documents that the lead emissions from the Exide facility are well above the 2008 lead NAAQS, and therefore, the Exide facility may not meet the 2008 lead NAAQS and that additional measures must be considered.

Response: The revised modeling for attainment demonstration for Exide in the Revised Draft 2012 Lead SIP document that includes the fugitive and stack lead emissions demonstrates attainment with the NAAQS prior to 2015. Monitoring demonstrates that Exide met the Rule 1420.1 standard prior to January 2012. Furthermore, the existing Rule 1420.1 and the 2012 Lead SIP contingency measures would trigger additional controls if warranted.

Comment 3: Given the significant health risks from lead pollution, and the importance of developing a lead SIP to fully address these risks, AQMD's lead SIP must be revised to include a discussion of Reasonably Available Control Measures (RACM) and Reasonably Available Control Technologies (RACT) that complies with Clean Air Act requirements.

Response: A recent EPA document titled "Implementation of the 2008 Lead National Ambient Air Quality Standards (NAAQS) - Guide to Developing Reasonably Available Control Measures (RACM) for Controlling Lead Emissions," dated March 2012, contains detailed analysis of lead emission control measures for the purpose of determining what controls may constitute RACM, including RACT, pursuant to Section 172(c)(1) of the Clean Air Act. The document identifies control measures for lead emissions from sources in the Secondary Lead Smelting, Lead Acid Battery Manufacturing, Iron and Steel Mills, and Iron and Steel Foundries source categories. For each identified control measure, the document contains an assessment of how likely the control measure is to constitute RACM based on criteria outlined in the report. There are three types of emissions from secondary lead smelting facilities: process emissions, process fugitive emissions

and fugitive dust emissions. For all three types of emissions, the document specifically references the control measures included in the adopted AQMD Rule 1420.1 as RACM, including RACT in their analysis. Therefore, the provisions of RACM and RACT have been fully addressed in Chapter 6 of the Revised Draft 2012 Lead SIP.

From: abinc@aol.com [mailto:abinc@aol.com]
Sent: Wednesday, February 15, 2012 10:47 PM
To: James Koizumi
Subject: 2012 lead implementation plan

I'm on the mailing list for AQMD announcements. I received one regarding the lead rule for battery recyclers. While it is not clear to me that any rule changes, implementation, etc., were needed since no air quality concerns were noted from this source, apparently the LA basin continues to be an area of concern about lead as an air quality issue. I have found nothing to indicate that the District considers asphalt recycling activities as a source of lead. About 13 years ago I was called to investigate an asphalt recycling facility operated for the benefit of City of Los Angeles. The facility was in or on the border of the City of San Fernando (Bradley Avenue). I found (very) high levels of lead dust in the neighborhood. As the distance from the recycling facility increased (downwind, prevailing wind direction), the concentration of lead diminished. Closer study indicated that the lead was released during grinding of asphalt during reclamation. The lead in the asphalt could have originated from leaded fuels used in the prior decades. In all likelihood, the concentration of lead in these materials is continuing to diminish as time goes by and the old pavements are replaced by newer, and of course, since leaded fuels are not used anymore. I bring this to your attention because it seems odd to me that LA basin can continue to be an EPA "non-attainment area" when there are few lead-acid battery recyclers to begin with, and those that are appear to be in compliance with the 0.15 microgram/cu. meter standard. In any event, these locations would be point sources and, with lead being as dense as it is, unlikely to be wafted long enough distances to be of area-wide concern. Is it possible that EPA and SCAQMD are targeting the wrong set of sources? I know that at the plant I mentioned above, the dust problem diminished to virtually unnoticeable levels when the asphalt stacks and processing areas were enclosed. For that matter, when was the data gathered which led to the EPA rule? Is it possible that the data is now so outdated that the rule itself is obsolete?

Jay L. Stern

Comment 1

Comment 1: When was the data identifying the Los Angeles County as "nonattainment" gathered? Is it possible that the data is now so outdated that the rule itself is obsolete?

Response: On December 31, 2010, the EPA designated the Los Angeles County portion of the Basin, excluding San Clemente and Santa Catalina Islands (Southern Los Angeles County), as nonattainment for the 2008 Lead NAAQS based on monitored air quality data from 2007-2009, indicating a violation of the NAAQS, pursuant to section 107 (d)(1) of the CAA. This nonattainment status is due to lead emissions from two large battery recycling facilities, Exide Technologies (located in the City of Vernon) and Quemetco Inc. (City of Industry). On November 5, 2010, AQMD adopted Rule 1420.1 to establish additional requirements for large lead-acid battery recycling facilities, to protect public health, and to ensure attainment of the new 2008 NAAQS for lead. The preliminary 2011 monitoring results show considerable improvement, but still some violations of the NAAQS. The only site above the new 2008 NAAQS for lead is the Rehrig site at Exide Technologies which has also shown compliance as of December 2011. For more specific details regarding air quality near these sources, please refer to Chapter 2, Lead Air Quality in Los Angeles.

From: Sweigert, Gayle@ARB [mailto:gsweiger@arb.ca.gov]
Sent: Tuesday, April 03, 2012 10:08 AM
To: Victoria Moaveni
Cc: arb.ca.gov, mnystrom
Subject: Comment on Draft Lead SIP

Page 1-12 of the Draft SIP states that there has been no change to the State lead air quality standard (which is true) and therefore no recent changes to the State designation for the lead have been made. The lead designation for the South Coast (Los Angeles County portion only) changed from attainment to nonattainment in 2010. The State designation value was 2.9 ub/m3 and data for this designation was based on data for the period 2006 to 2008. Below, please find the link to the ARB webpage where you can access the Final Regulation Order: Designation Changes, which denotes the nonattainment designation, which became effective September 25, 2010.
http://www.arb.ca.gov/regact/2010/area10/area10.htm

Comment 1

Comment 1: Page 1-12 of the Draft SIP states that there has been no change to the State lead air quality standard (which is true) and therefore, no recent changes to the State designation of the lead have been made. However, the lead designation for the AQMD Basin (Los Angeles County portion) changed from attainment to nonattainment, effective on September 25, 2010, based on data for the period of 2006 to 2008.

Response: This comment is correct and the Final Draft Lead SIP has been revised to address this comment (page 1-12).

ATTACHMENT C

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for Proposed Rule 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities

October 2010

SCAQMD No. 100331JK
SCH No. 2010041086

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Rule (PR) 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities. The Draft EA was released for a 30-day public review and comment period from April 27, 2010 to May 26, 2010. No comment letters were received on the Draft EA during the public comment period. Two comment letters were received after the public comment period and are included with response to comments in Appendix C.

Changes to PR 1420.1

Subsequent to the release of the Draft EA for public review, PR 1420.1 several requirements were added, deleted or modified. The following briefly summarizes proposed modifications to PR 1420.1. A more detailed description of the proposed modifications to PR 1420.1 can be found in Chapter 1 of this Final EA.

- Addition of total facility lead point source emission rate limitation and maximum individual lead point source emission rate (pound per hour)
- Removal of 99 percent control efficiency compliance option for lead control devices
- Addition of a requirement to use of specific filters/bags in lead control devices
- Addition of a requirement to add secondary lead controls on dryers
- Removal of vehicle wet wash area requirement
- Change in schedule of roof cleaning requirement with the new compliance option of vacuuming surfaces or wet washing
- Public notifications for:
    - Unplanned and planned shutdowns/turnarounds of specific equipment
    - Specific types of maintenance activity

The proposed modifications were analyzed and SCAQMD staff concluded that recirculation was not necessary per CEQA Guidelines §15073.5, because the modifications were determined not to be a substantial revision (i.e., a new, avoidable significant effect that requires mitigation measures or project revisions to reduce the effect to insignificance or that project effects cannot be reduced to insignificant and new measures or project revisions are required). Recirculation is not required, because mitigation is not required; the modifications were not a response to written or verbal comments on the proposed effects identified in the Draft EA; modifications were not required by CEQA, and do not create new significant environmental effects, and it is not necessary to mitigate an avoidable significant effect; and new information added to the proposed project makes insignificant modifications to the Draft EA.

To facilitate identification, modifications to the document are included as <u>underlined text</u> and text removed from the document is indicated by ~~strikethrough~~. This document constitutes the Final EA for PR 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities.

TABLE OF CONTENTS

CHAPTER 1 - PROJECT DESCRIPTION

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1

PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Objective

Project Background

Project Description

Control Strategies

Baseline Considerations

INTRODUCTION

The South Coast Air Quality Management District (AQMD) is responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin). By state law, the SCAQMD is required to adopt an Air Quality Management Plan (AQMP) demonstrating compliance with all federal regulations and standards such as National Ambient Air Quality Standards (NAAQS) for the Basin [H&S Code Section 40460 (a)]. On October 15, 2008, the U.S. Environmental Protection Agency (EPA) amended both the primary and secondary NAAQS for lead from a level of 1.5 micrograms per cubic meter to 0.15 micrograms per cubic meter averaged over a rolling three-month period, along with changes to monitoring and reporting requirements.

The purpose of Proposed Rule 1420.1 (PR 1420.1) is to propose a new rule for large lead-acid battery recycling facilities which are the highest stationary source emitters of lead in the Basin. In addition, PR 1420.1 is designed to address the amended NAAQS for lead to ensure the Basin can achieve the revised standard. Other lead-emitting sources will be addressed in a future amendment to District Rule 1420 – Emission Standards for Lead.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PR 1420.1 is a discretionary action, which has the potential for resulting in direct or indirect change to the environment and, therefore, is considered a "project" as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this Final Environmental Assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report or negative declaration once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110. Pursuant to Rule 110, SCAQMD has prepared this Draft EA.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Draft EA to address the potential adverse environmental impacts associated with the proposed project. The Draft EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's review of the proposed project shows that the proposed project would not have a significant adverse effect on the environment. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts. Therefore, pursuant to CEQA Guidelines §15252, no alternatives or mitigation measures are required to be included in this Draft EA. ~~Comments received on the Draft EA during the 30-day public review period will be addressed and included in the Final EA.~~ The Draft EA was released for a 30-day public review and comment period from April 27, 2010 to May 26, 2010. No comment letters were received on the Draft EA during the comment period. Two comment letters were received after the public comment period and are included with response to comments in Appendix C.

PROJECT LOCATION

PR 1420.1 would affect two large lead-acid battery recycling facilities located in the SCAQMD's jurisdiction. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of the Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

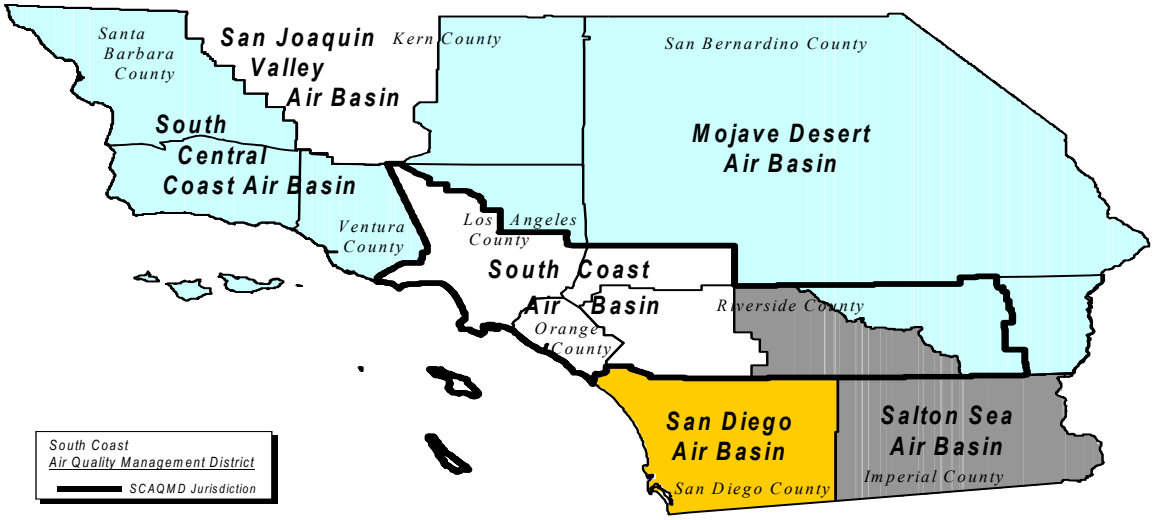

Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVE

PR 1420.1 would protect public health by reducing lead emissions produced by large lead-acid battery recycling facilities. Requirements under PR 1420.1 are designed to ensure the Basin can achieve the 2008 NAAQS for lead. PR 1420.1 would accomplish this by requiring total enclosures for any process associated with the preparation, recovery, refining and storage of lead-containing material and requiring pollution control devices on the enclosures and lead emission point sources. PR 1420.1 also includes housekeeping requirements, monitoring, reporting and recordkeeping.

PROJECT BACKGROUND

PR 1420.1 addresses exposure to lead emissions from lead-acid battery recycling facilities. The purpose of the proposed rule is to protect public health and ensure attainment with the amended lead NAAQS. As required by the federal Clean Air Act, the U.S. EPA periodically reviews the standard to determine if changes are warranted. Based on review of health studies, the U.S. EPA has determined that the standard of 1.5 micrograms per cubic meter set in 1978 was not sufficient to protect public health and welfare with an adequate margin of safety. The standard has been lowered to 0.15 micrograms per cubic meter based on studies that demonstrate health effects at much lower levels of lead than previously believed. Selection of the new standard provides increased protection for children and other at-risk populations against an array of health effects, most notably including neurological effects in children, including neurocognitive and neurobehavioral effects.

Large lead-acid battery recycling facilities have been determined by SCAQMD staff to be the highest stationary source emitters of lead in the Basin. Staff's analysis has also shown lead-acid battery recycling facilities to be the only known source category that currently demonstrates ambient air lead concentration measurements that would cause non-attainment with the new lead NAAQS. PR 1420.1 is in addition to Rule 1420 – Emission Standards for Lead which addresses lead emissions from any stationary source that uses or processes lead-containing material. Although Rule 1420 also applies to lead-acid battery recycling facilities, it does not contain specific control measures for this source category to minimize lead emission exposure such that ambient air lead concentrations will comply with the new lead NAAQS. Other lead-emitting sources in the Basin will be further analyzed and addressed in a future amendment to Rule 1420.

Health Effects of Lead

Human exposure to lead occurs in a variety of ways with common routes being that of inhalation and ingestion. Ingestion of lead-containing paint chips and soil with deposited atmospheric lead is a source of concern for exposure for children. The most widely used indicator of lead exposure in many studies is the amount of lead measured in whole blood because of the direct relationship with blood lead (PbB) levels and health effects. Clinical effects resulting from high-level lead exposure include nervous and reproductive system disorders, neurological and physical developmental effects, cognitive and behavioral changes, and hypertension. Young children are especially susceptible to the effects of environmental lead because they appear to be more vulnerable to certain biological effects of lead including learning disabilities, deficits in IQ, and behavioral problems.[1] Health & Safety Code Section 39669.5, "Special Provisions for Infants and Children," required the California Air Resources Board (CARB) to identify up to five TACs that may cause infants and children to be especially susceptible to illness. The "Prioritization of Toxic Air Contaminants under the Children's Environmental Health Protection Act" document released in 2001 by the Office of Environmental Health Hazard Assessment (OEHHA) lists lead as one of the original five toxic air contaminants.

Lead is classified as a probable human carcinogen by both the International Agency for Research on Cancer and the U.S. EPA. OEHHA classified lead as a carcinogenic toxic air contaminant (TAC) and it was added to the SCAQMD Rule 1401 list of TACs in 1992. SCAQMD's "Risk Assessment Procedures for Rules 1401 and 212" Tier 1 screening value for lead indicates that a lifetime exposure (70 years for residential receptors, 40 years for worker receptors) to 0.628

[1] Environmental Protection Agency, "Lead in Air," (*http://www.epa.gov/air/lead/health.html*), June 12, 2009.

pounds of lead a year at 25 meters could potentially cause one additional case of cancer out of a million cases.

Under the federal Clean Air Act, lead is classified as a "criteria pollutant." Lead has observed health effects at ambient concentrations. The EPA has thoroughly reviewed the lead exposure and health effects research, and has prepared substantial documentation in the form of a Criteria Document to support the selection of the 2008 NAAQS for lead. The Criteria Document used for the development of the 2008 NAAQS for lead states that studies and evidence strongly substantiate that PbB concentrations in the range of 5-10 micrograms per deciliter of blood, or possibly lower, could likely result in neurocognitive effects in children. The report further states that "there is no level of lead exposure that can yet be identified with confidence, as clearly not being associated with some risk of deleterious health effects."[2]

Based on studies conducted by the Clean Air Scientific Advisory Committee (CASAC), it was concluded that a "population loss of one to two intelligence quotient (IQ) points" resulting from exposure to ambient air lead concentrations "is highly significant from a public health perspective." EPA has determined that a primary and secondary standard of 0.15 microgram per cubic meter is requisite to provide an adequate margin of safety that would ensure the protection of public health and the environment regarding the aforementioned population IQ loss.[3]

Regulatory History

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

- In November 1970, CARB set the state ambient air quality standard for lead at 1.5 microgram per cubic meter averaged over 30 days.
- In October 1978, the U.S. EPA adopted the NAAQS for lead requiring attainment with a lead ambient concentration of 1.5 microgram per cubic meter averaged over a calendar quarter.
- In 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.
- In 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.
- In June 1997, the EPA adopted the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) from Secondary Lead Smelting. The federal regulation required lead emission concentration limits for lead control devices, control of process fugitive emissions, monitoring, recordkeeping, and reporting.
- On October 15, 2008, the EPA signed into regulation an amended NAAQS for lead of 0.15 microgram per cubic meter[3].

The new lead NAAQS requires full attainment by each state no later than five years after final designations for attainment status are made. Demonstration of attainment is to be based on measurements using a rolling 3-month averaging form to be evaluated over a three-year period. Measurements are to be determined by EPA-required monitoring networks within each state

[2] Environmental Protection Agency, Office of Research and Development, "Air Quality Criteria Document for Lead, Volumes I-II," October 2006.

[3] Environmental Protection Agency, "National Ambient Air Quality Standards for Lead; Final Rule," 40 CFR Parts 50, 51, 53, and 58, November 2008.

which consist of both source-oriented and non-source-oriented monitors. The SCAQMD has already established the required monitoring network for both source and non-source-oriented lead monitors.

Affected Industries

The SCAQMD staff analyzed multiple data sources, including SCAQMD's Annual Emissions Reporting program for years ~~2004~~ 2005 through 2007, permitting data, and compliance data to initially identify the universe of lead-emitting sources. Approximately 600 lead sources were identified and analyzed. Almost all facilities located within the Basin emit less than 0.15 ton of lead per year, an amount far below the 1.0 ton per year threshold warranting source-oriented monitoring at these facilities. Lead-acid battery recycling facilities have the highest lead emissions of all permitted stationary sources. The two lead acid-battery recycling facilities are Exide, Inc. in Vernon and Quemetco in the City of Industry. Exide has an average of more than 1.5 tons of lead emissions per year, with its highest annual emissions at 1.99 tons. Quemetco has the second highest average lead emissions of 0.28 ton per year with a high of 0.32 ton per year. This data was cross referenced with ambient air lead concentration data obtained from the SCAQMD's ambient air monitoring network. Analysis indicated that lead-acid battery recycling facilities are the only industry category that demonstrated consistent readings exceeding the new lead NAAQS.

The lead attainment assessment conducted by the state of California led to the same determination, and in October 2009, CARB submitted recommendations to the EPA of non-attainment status for the portions of Los Angeles County that are located within the Basin. Final designation of attainment status by the EPA may be made as early as 2010, which would require the Basin to be in attainment with the new NAAQS no later than five years later, or 2015. A State Implementation Plan (SIP), outlining the strategy to demonstrate attainment with the lead NAAQS, must also be submitted by the SCAQMD within 18 months of the final designation date.

Process Description and Lead Emission Points

Lead-acid battery recycling facilities are secondary lead smelting operations 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. Below is a general description of the process including potential lead emission points:

I. **Phase I – Raw Materials Processing**: Lead-bearing materials recovered from lead-acid batteries are prepared and processed prior to being charged (loaded) to a smelting furnace. Lead dust emissions may result during the crushing of lead-acid batteries and from the handling and transporting of lead-bearing materials.

   a. **Receiving and Storage:** Spent lead-acid batteries are usually received on pallets that are either stored or sent directly to conveyors for immediate crushing.

   b. **Battery Breaking/Crushing:** The spent lead-acid batteries are unloaded from conveyors and loaded into a hammer mill system where they are crushed whole. The crushed material is then placed into a series of tanks filled with water in order to clean materials of the acids. Through gravity separation, the crushed material sinks to the

bottom of the tanks and goes through a series of screens to further isolate lead-bearing materials. The materials are then typically stored in open or partially covered piles if not required for immediate charge preparation.

c. **Charge Preparation/Rotary Kiln Drying/Sweating**: Recovered lead-bearing materials are prepared by blending them with stored lead scrap and reagents prior to being charged to a furnace. The metallic scrap materials are placed in rotary kiln dryers to remove moisture prior to charging to a furnace in order to reduce furnace upsets (puffs and explosions). The materials are then sweated (subjected to temperatures above the melting temperature of lead, but below that of the other metals) to separate lead from other metals with higher melting points.

II. **Phase II – Smelting:** Smelting is the production of crude lead by melting and separating the lead from metallic and non-metallic contaminants and by reducing oxides to elemental lead. Smelting is carried out in blast, reverberatory, and furnaces. These furnaces emit high levels of lead fumes during the charging and tapping processes.

a. **Blast furnaces**: Typically, "hard" lead, or antimonial lead (containing approximately ten percent antimony) is produced in blast furnaces. Scrap metal, re-run slag, scrap iron, coke, recycled dross, flue dust, and limestone are used as charge materials to the furnace. Process heat is produced by the reaction of the charged coke with blast air that is blown into the furnace.

b. **Reverberatory furnaces**: Semi-soft lead (containing approximately three to four percent antimony) is produced in reverberatory furnaces. Lead scrap, metallic battery parts, oxides, dross, and other residues are used as charge materials to the furnace. The charge materials are heated directly using natural gas, oil, or coal.

III. **Phase III – Refining and Casting:** Refining and casting the crude lead from the smelting process can consist of softening, alloying, and oxidation, depending on the degree of purity or alloy type desired. Crude lead produced during smelting operations is remelted and refined by the addition of reagents, such as sulfur and caustic soda. The purified lead is then cast into molds or ingots. Refining furnaces and kettles are typically gas or oil-fired and maintained at operating temperatures between 600-1300º Fahrenheit. Lead fumes may be emitted when molten lead is transferred to refining kettles and lead particulates may become airborne off refining kettle surfaces due to updrafts created by thermal rise.

a. **Alloying furnaces:** Alloying furnaces are kettle furnaces used to simply melt and mix ingots of lead and alloy materials, such as antimony, tin, arsenic, copper, and nickel.

b. **Refining furnaces**: Refining furnaces are used to either remove copper and antimony for soft lead production, or to remove arsenic, copper, and nickel for hard lead production. Sulfur may be added to the molten lead to remove copper. The resultant copper sulfide is skimmed off as dross and may be processed in a blast furnace to recover residual lead. Aluminum chloride is used to remove copper, antimony, and nickel.

c. **Oxidizing furnaces:** Either kettle or reverberatory units are used to oxidize lead and to entrain the product lead oxides in the combustion air stream for subsequent recovery in high-efficiency baghouses.

PROJECT DESCRIPTION

The following is a summary of the proposed Rule 1420.1. A copy of PR 1420.1 can be found in Appendix A.

Purpose (Subdivision (a))

The purpose of the proposed rule is to protect public health by reducing exposure and emissions of lead from large lead-acid battery recycling facilities, and to help ensure the attainment of the National Ambient Air Quality Standard for Lead.

Applicability (Subdivision (b))

The proposed rule applies to all persons who own or operate a large lead-acid battery recycling facility that processes more than 50,000 tons of lead a year. Annual process amounts would be based on the greatest amount processed in any one of the five calendar years prior to the date of rule adoption, ~~and~~ or annually thereafter. Applicability would be based on facility lead processing records required under Subdivision (m ~~i~~) Recordkeeping of this proposed rule and Rule 1420 – Emissions Standards for Lead. Compliance with the proposed rule would be required in addition to other applicable rules such as Rule 1420.

Definitions (Subdivision (c))

Definitions for agglomerating furnace, ambient air, battery breaking area, ~~demand response program,~~ dryer, dryer transition piece, duct section, emission collection system, fugitive lead-dust, furnace and refining/casting area, ~~interruptible service contract,~~ ~~large~~ lead-acid battery recycling facility, lead, lead control device, lead point source, leeward wall, maintenance activity, materials storage and handling area, measurable precipitation, partial enclosure, ~~person,~~ process, ~~property line~~ renovation, sensitive receptor, slag, smelting, smelting furnace, total enclosure, and windward wall ~~turnaround/maintenance activity~~ are included in PR 1420.1.

General Requirements (Subdivision (d))

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

- Prior to January 1, 2012, PR 1420.1 would prohibit the discharge of emissions into the atmosphere, which contribute to ambient air concentrations of lead that exceed 1.5 micrograms per cubic meter ($\mu g/m^3$) pursuant to SCAQMD Rule 1420.
- On and after January 1, 2012, PR 1420.1 would prohibit the discharge of emissions into the atmosphere, which contribute to ambient air concentrations of lead that exceed 0.15 $\mu g/m^3$ averaged over any 30 consecutive days. The ambient air concentrations of lead would be required to be determined by monitors pursuant to the Ambient Air Monitoring and Sampling Requirements Subdivision (j) or at any SCAQMD-installed monitor.

- No later than July 1, 2011, owner/operators would be required to install, maintain, and operate total enclosures pursuant to the Total Enclosures Subdivision (e) and lead point source emission control devices pursuant to the Lead Point Source Emissions Controls Subdivision (f). The owner or operator of a large lead-acid battery recycling facility would be required to comply with the following:
    - Submit complete permit applications for all construction and necessary equipment within 30 days of the date of adoption of the proposed rule.
    - Complete all construction within 180 days of receiving Permit to Construct approvals from the Executive Officer, or by July 1, 2011, whichever is earlier.
    - 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 would be required to be submitted to the Executive Officer no less than 30 days before the compliance deadline date.
- On and after July 1, 2011 submit a Compliance Plan pursuant to the Compliance Plan Subdivision (g) if emissions are discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 0.12 micrograms per cubic meters averaged over any 30 consecutive days determined by monitors pursuant to the Ambient Air Monitoring and Sampling Requirements Subdivision (j) or at any SCAQMD-installed monitor.

Total Enclosures (Subdivison (e))

Enclosure Areas

~~By January 1, 2011, the~~ The owner or operator of a large lead-acid battery recycling facility would be required to totally enclose the following areas in groups or individually: battery breaking areas~~;~~, material storage and handling areas, excluding areas where unbroken lead-acid batteries and finished lead products are stored~~;~~, dryer and dryer areas including transition pieces, charging hoppers, chutes, and skip hoists conveying any lead-containing material~~;~~, smelting furnaces and smelting furnace areas charging any lead-containing material~~;~~, agglomerating furnaces and agglomerating furnaces areas charging any lead-containing material~~;~~, refining and casting areas.

The owner or operator of a large lead-acid battery recycling facility would be required to vent each ~~Each~~ total enclosure ~~would be required to vent~~ to an emission collection system that ducts the entire gas stream to a lead control device pursuant to Subdivision (f) Lead Point Source Emissions Controls ~~that meets a lead or particulate reduction of 99 percent or more. Control efficiencies would be determined by a source test conducted in accordance with the test methods provided in Subdivision (h) Source Tests. Lead or particulate emission reduction would be calculated as prescribed in the proposed rule~~.

~~Each emission collection system and lead control device would be required, at minimum, to be maintained and operated in accordance with the manufacturer's specifications.~~

Total Enclosure Ventilation

Each total enclosure would be required to be maintained at a negative pressure of at least 0.02 millimeters of mercury (0.011 inches of water) and an in-draft velocity of at least 300 feet per minute at any opening such as vents, windows, passages, doorways, bay doors, and roll-ups.

Digital Differential Pressure Monitoring Systems

~~Depending on the size of the area that is to be enclosed, at least one~~ The owner operator of a large lead-acid battery recycling facility would be required to install, operate, and maintain a differential pressure monitoring system ~~continuously measuring the negative pressure of the~~ for each total enclosure ~~would be required to be installed on the leeward wall~~. Areas with a total surface area of 10,000 square feet or more require a minimum of one building digital differential pressure monitoring system installed and maintained at each of the following walls: ~~at the wall of the total enclosure opposite~~ the leeward wall, the windward wall and at 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 ~~this~~ wall and a point on its furthest opposite exterior wall, and intersecting within plus or minus ten meters of the midpoint of a straight line between the other two monitors ~~in order to account for shifts in draft direction throughout the enclosure~~. The midpoint monitor would be prohibited from being on the same wall as either of the other two monitors in the room.

A minimum of one building digital differential pressure monitoring system would be required to be installed and maintained at the leeward wall inside of each total enclosure that has a total ground surface area of less than 10,000 feet.

Requirements for operating and maintaining differential pressure monitor are prescribed in the proposed rule.

In-draft Velocities

The in-draft velocity of the total enclosure would be required to be maintained equal or greater than 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 would be required to 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 ~~that does not have an associated differential pressure monitor. The owner or operator of the facility shall conduct a minimum of three measurements a day, occurring at least once per operating shift, at an opening of each exterior wall of the total enclosure~~.

Lead Point Source Emissions Controls (Subdivision (f))

~~By January 1, 2011, the~~ The owner or operator of a large lead-acid battery recycling facility ~~shall~~ would be required to vent emissions from each ~~all~~ lead point source ~~emissions~~ to ~~an emission collection system that ducts the entire gas stream to~~ a lead control device ~~that meets a lead or particulate reduction of 99 percent or more. Control efficiencies shall be determined by a source test conducted in accordance with the test methods provided in Subdivision (h) Source Test.~~ The total facility mass lead emissions from all lead point sources would be required not to exceed 0.045 pound of lead per hour. The maximum emissions rate for any single lead point source would be required not to exceed 0.010 pound of lead per hour. The total facility and maximum emission rates would be based on the most recent source tests conducted pursuant to Source Test Subdivison (k).

The owner or operator of a large lead-acid battery recycling facility would be required to install a secondary lead control device that controls lead emissions from the exhaust of the primary lead control device used for a dryer. The secondary lead control device would be required to be fitted with dry filter media, and the secondary lead control device would be required to be used to vent only the primary lead 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 total enclosure and lead point source emissions control device requirements of Subdivision (d) General Requirements and approved by the Executive Officer.

For any lead control device that, filter media other than filter bag(s), including, but not limited to, HEPA and cartridge-type filters, the filter(s) used would be required to be rated by the manufacturer to achieve a minimum of 99.97 percent capture efficiency for 0.3 micron particles.

For any lead control device that uses a filter bag(s), the filter bag(s) used would be required to 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.

~~Lead or particulate emissions reduction would be calculated as prescribed in the proposed rule.~~ Each emission collection system and lead control device would be, at minimum, inspected, maintained and operated in accordance with the manufacturer's specifications.

Compliance Plan (Subdivision (g))

~~On or after July 1, 2011, any facility that exceeds an early detection~~ The owner or operator of a large lead-acid battery recycling facility that discharges into the atmosphere emissions which contribute to ambient air lead concentrations that exceed ~~of~~ 0.12 microgram per cubic meter averaged over any 30 consecutive days measured ~~by facility~~ at any monitor~~s set up~~ pursuant to Subdivision (j ~~g~~) Ambient Air Monitoring and Sampling Requirements or at any SCAQMD-installed monitor would be required to: ~~located within 1,000 feet of the facility would be required to submit a Compliance Plan that identifies additional measures to ensure that the ambient air quality concentration of 0.15 microgram per cubic meter is not exceeded.~~

~~Each compliance plan submittal would be required to include:~~

- Notify the Executive Officer in writing within 72 hours of when the facility knew or should have known of exceeding an ambient air lead concentration of 0.12 microgram per cubic meter averaged over any 30 consecutive days. Notification would only be required for the first time the ambient air lead concentration of 0.12 microgram per cubic meter is exceeded;
- Submit, within 30 calendar days of exceeding an ambient air lead concentration of 0.12 microgram per cubic meter averaged over any 30 consecutive days, a complete Compliance Plan to the Executive Officer for review and approval, subject to plan fees as specified in Rule 306. The Compliance Plan, at a minimum, would be required to include the following:
  - ~~All data that led to the finding of the exceedance of the early detection concentration;~~
  - ~~A determination of all probable activities or operations that may have contributed to exceedance of 0.12 microgram per cubic meter;~~
  - A ~~comprehensive list~~ description of additional lead emission reduction measures including but not limited to ~~(~~housekeeping and maintenance activities; additional total enclosures; modifications to lead control devices; installation of multi-stage lead control devices; process changes including reducing throughput limits; and conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment measures~~ that can be implemented immediately if lead emissions discharged from the facility contribute to, process modifications, lead control devices, etc.) to be implemented to ensure ambient concentrations of lead do not exceed 0.15 microgram per cubic meter averaged over any 30 consecutive day;~~

- Locations within the facility and method(s) of implementation for each additional lead reduction measure; and
- An implementation schedule for each lead reduction measure to be implemented if lead emissions discharged from the facility contribute to ~~ensure~~ ambient concentrations of lead ~~do not~~ that exceed 0.15 microgram per cubic meter averaged over any 30 consecutive days at any monitor pursuant to Subdivision (j) Ambient Air Monitoring and Sampling Requirements or at any SCAQMD-installed monitor. The scheduled would be required to include a list of the lead emission reduction measures that can be implemented immediately prior to plan approval.

Requirements for submittal, approval, disapproval and resubmittal of the Compliance Plan are detailed in the proposed rule.

~~All lead reduction measures identified to ensure ambient concentrations of lead do not exceed 0.15 microgram per cubic meter averaged over any 30 consecutive days, shall be implemented based on the schedule of the approved Compliance Plan.~~ The owner or operator would be required to implement measures based on the schedule in the approved Compliance Plan if lead emissions discharged from the facility contribute to ambient concentrations of lead that exceed 0.15 microgram per cubic meter averaged over any 30 consecutive days at any monitor pursuant to Subdivision (j) Ambient Air Monitoring and Sampling Requirements or at any SCAQMD-installed monitor. The owner or operator may make a request to the Executive Officer to modify or update the Compliance Plan.

~~Ambient Air Quality Concentration~~ (moved to Subdivision (d))

~~Beginning January 1, 2012, large lead-acid battery recycling facilities subject to PR 1420.1 would not be allowed to discharge into the atmosphere, at or beyond the property line of the facility, emissions which cause ambient concentrations of lead to exceed 0.15 microgram per cubic meter averaged over any 30 consecutive days. The ambient concentrations of lead shall be measured pursuant to Subdivision (g) Ambient Air Monitoring and Sampling Requirements. Exceedances measured at any rule-required ambient air lead monitor, including those operated by the District located within 1,000 feet of the facility property line, are subject to compliance with the standard.~~

~~Any exceedance of the 0.15 microgram per cubic meter concentration measured at any facility monitor set up pursuant to Subdivision (g) Ambient Air Monitoring and Sampling Requirements, or at any SCAQMD-installed monitor located within 1,000 feet of the facility property line, would be recognized as resulting from emissions discharged into the atmosphere by the facility unless evidence is provided by the facility demonstrating otherwise and as approved by the Executive Officer.~~

~~New Facilities (Subdivision (e))~~ (moved to Subdivision (l))

~~Any new facility that begins construction or operations on or after rule adoption would be required not to be located in an area that is zoned for residential or mixed use. In addition, any new facility shall not be located within 1,000 feet from the boundary of a sensitive receptor, a school under construction, or any area that is zoned for residential or mixed use.~~

Housekeeping Requirements (Subdivision (h~~-f~~))

~~Housekeeping requirements are proposed to minimize fugitive lead dust emissions. All requirements will be effective upon rule adoption.~~ No later than 30 days after the date of

adoption of the proposed rule, the owner or operator of a large lead-acid battery recycling facility would be required to control fugitive lead-dust by conducting all of the following housekeeping practices:

- ~~Wash down, at least once a week, unless located within a total enclosure vented to a lead control device~~ Clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97 percent 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 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:
  - ~~Roof tops of structures that house areas that are associated with the storage, handling or processing of lead-containing materials~~ Monthly cleanings of roof tops on structures less than 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and
  - Quarterly cleanings, no more than three calendar months apart, of roof tops on structures greater than 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and
  - ~~Any~~ Weekly cleanings of all areas where lead-containing wastes generated from housekeeping activities are stored, disposed of, recovered or recycled, and
  - 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 above (roof tops and areas where wastes from housekeeping activities are stored, disposed of, recovered or recycled). Immediate cleanings of roof tops would be required to be completed within 72 hours if the facility can demonstrate that delays were due to safety or timing issues.
- 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 would be required to 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.
- Any lead-acid battery that is cracked or leaking upon receipt would be required to be sent to the battery breaking area for processing or stored pursuant to the proposed rule.
- ~~Negative air containment enclosures vented to negative air machine equipped with filters certified for 99.97 percent efficiency on 0.3 micron particles enclosing all affected areas where dust generation potential exists during turnaround/maintenance activities unless located within a total enclosure approved by the Executive Officer.~~
- ~~Replacement of any heavy gauge steel hot acid exhaust duct sections which have developed more than two corrosion leaks or required patch repairs.~~
- ~~Monthly structural integrity inspections of any structures that house, contain, or control lead emission points or fugitive lead-dust emissions. Any gaps, breaks, separations, leak points or other possible routes for emissions of lead or fugitive lead-dust to outside ambient air would be required to be permanently repaired within three calendar days of discovery. The Executive Officer may approve a request for an extension of the three-calendar day limit if made before the limit is exceeded.~~
- ~~Encapsulation (paving, asphalting, etc.) of all facility grounds as approved by the Executive Officer.~~ 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 would not be subject to encapsulation. Facility grounds requiring removal of existing pavement, concrete, asphalt or other forms of encapsulation, necessary for maintenance purposes would not require encapsulation while undergoing work, and would be required to be re-encapsulated immediately after all required work is completed. All work would be required to be conducted in accordance with maintenance activity requirements in Subdivision (i).

- Prohibition of weather caps on any stack that is a lead emissions source.
- ~~Storage of~~ 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 this Subdivison and maintenance activities of Maintenance Activity Subdivision (i), in sealed, leak-proof containers unless located within a total enclosure.
- Transport of all materials capable of generating any amount of fugitive lead-dust emissions including, but not limited to, slag and any other waste generated from housekeeping requirements of this subdivision within closed conveyor systems or in sealed, leak-proof containers, unless located within a total enclosure.
- ~~Remove~~ 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 ~~24~~ one hour~~s~~ after the water level is one inch at any point above the bottom of the pond or reservoir. ~~Surfaces~~ Removal of lead-containing material would be 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 are required to be washed down weekly ~~thereafter~~ in a manner that does not generate fugitive lead-dust until the pond or reservoir is used again for holding water.
- ~~Facility owner/operator would be required to sweep paved, concreted or asphalted facility areas subject to vehicle and foot traffic and vehicle wet wash down areas with an onsite mobile sweeper that is in compliance with SCAQMD Rule 1186. Sweeping would be required three times each day, occurring at least once per operating shift with each event not less than four hours apart. Additionally, any accidents, mishaps and/or process upsets occurring in the aforementioned areas that result in the deposition of lead-containing material or dust shall be swept immediately using an onsite mobile sweeper. Sweeping would not be required within ten meters of any ambient air monitor location when conducting sample collection in order to avoid interference. Further, sweeping would not be required during days of measurable precipitation.~~ The owner or operator of a large lead-acid battery recycling facility would be required to maintain an onsite mobile vacuum sweeper that is in compliance with SCAQMD Rule 1186, or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97 percent capture efficiency for 0.3 micron particles to conduct the following sweeping activities:
  - 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.
  - Immediately vacuum sweep any area specified to be swept above, 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.
  - Vacuum sweeping activities specified in sweeping requirements above would not be required during days of measurable precipitation.
- ~~A vehicle wet washing area would be required to maintain a vehicle wet washing area using a wet washing method approved by the Executive Officer. The system would be required to be~~

~~capable of removing dust and other accumulated material from the wheels, body, and vehicle underside to prevent the inadvertent transfer of lead contaminated material to public roadways. All vehicles traversing facility areas associated with the lead-acid battery recycling process prior to exiting the facility and onsite mobile sweepers after operation, would need to be sufficiently washed such as visual inspections of all vehicle surfaces, wheel, or tires does not indicate any accumulation of dust, particles or mud contamination. Each vehicle would need to be inspected after washing to verify compliance with washing requirements. Vehicles that do not pass would be prohibited from exiting the facility. Ground surfaces where vehicles are washed would be required to be wet washed prior to the vehicle wet washed areas becoming dry to prevent any fugitive lead-dust or residue from becoming airborne. Practices that minimize the potential for further releases of lead emission when collecting and disposing of lead contaminated water accumulated during washing processes would be required. Practices would include the minimization of the amount of water which is allowed to dry exposed to the atmosphere prior to collection for treatment.~~

Maintenance Activity (Subdivision (i))

- Beginning date of adoption, the owner or operator of a large lead-acid battery recycling facility would be required to 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 percent 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 would be required to be conducted:
  - In a partial enclosure, barring conditions posing physical constraints, limited accessibility, or safety issues;
  - Using wet suppression or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97 percent capture efficiency for 0.3 micron particles, at locations where the potential to generate fugitive lead-dust exists prior to conducting, during, and upon completion of the maintenance activity. Wet suppression or vacuuming would be required to be conducted during the maintenance activity barring safety issues;
  - While collecting 24-hour samples at monitors for every day that maintenance activity is occurring and notwithstanding Ambient Air Monitoring and Sampling Requirements Subdivison (j);
  - Would be required to be stopped immediately when instantaneous wind speeds are greater than 25 miles per hour. Maintenance work may be continued if it is necessary to prevent the release of lead emissions.
- Store or clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97 percent 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.

Ambient Air Monitoring and Sampling Requirements (Subdivision (k ~~g~~))

~~Each facility would be required to collect and analyze ambient air lead samples to determine compliance with the ambient air quality lead concentration standard of PR 1420.1.~~ Prior to January 1, 2011, ambient air monitory and sampling would be conducted pursuant to SCAQMD Rule 1420. No later than January 1, 2011, the owner or operator of a large lead-acid battery recycling facility would be required to conduct ambient air monitoring and sampling as follows:

- Collect samples from a minimum of ~~three~~ four sampling sites approved by the Executive Officer~~, located at or beyond the property line of the facility~~;
  - Locations for sampling sites would be required to be based on maximum expected ground level lead concentrations, at or beyond the property line, as determined by Executive Officer-approved air dispersion modeling calculations and emission estimates from all lead point sources and fugitive lead-dust sources, and other factors including, but not limited to, population exposure and seasonal meteorology.
  - 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 concentrations, and that are instead at locations at or beyond the property line that are representative of upwind or background concentrations.
  - 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 concentrations.
- ~~Collect samples from a minimum of one Executive Officer-approved sampling site to determine background ambient lead concentration;~~
- Collect 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;
- Submit collected samples to ~~an Executive Officer approved~~ laboratory approved under the SCAQMD Laboratory Approval Program for analysis within three calendar days of collection and calculate ambient lead concentrations for individual 24 hour samples within 15 calendar days of the end of the calendar month in which the samples were collected. ~~provide duplicate~~ Duplicate samples would be required to be made available to the ~~District~~ SCAQMD upon request by the Executive Officer; and
- ~~Calculate ambient lead concentrations for individual 24 hour samples within 15 calendar days of the end of the calendar month.~~
- Sample collection would be required to 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 ~~shall~~ would be required to 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.
- ~~Facilities would also have to continuously monitor wind speed and direction for the ambient air quality monitoring systems at all times to supplement data analysis of samples collected.~~ 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.
- ~~Only personnel approved by the Executive Officer would be allowed to conduct ambient air quality monitoring, and sampling equipment shall be operated and maintained in accordance with U.S. EPA-referenced methods.~~ Ambient air quality monitoring would be required to be conducted by persons approved by the Executive Officer and sampling equipment be required to be operated and maintained in accordance with U.S. EPA-referenced methods.
- Cleaning activities, including, but not limited to, wet washing and misting, that result in damage or biases to samples collected would be required not to be conducted within 10 meters of any sampling site required by this subdivision.

- All ambient air quality monitoring systems ~~would be~~ required by this subdivision would be required to be equipped with a backup, uninterruptible power supply ~~if the facility is enrolled into a Demand Response Program~~.
- 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 0.15 microgram per cubic meter measured pursuant to General Requirements Subdivision (d), the owner or operator would be required to:
    - Begin daily ambient air monitoring and sampling no later than three calendar days after the time the facility knew or should have known of the exceedance. Conduct daily ambient air monitoring and sampling for 60 consecutive days at each sampling site that measured an exceedance according to General Requirements Subdivision (d).
    - The 60 consecutive-day period would be restarted for any subsequent exceedance.

Source Tests (Subdivision (k ~~h~~))

- ~~Annual source tests would be required for all lead control devices in order to demonstrate compliance with the 99 percent control efficiency standard.~~ The owner or operator of a large lead-acid battery recycling facility would be required to conduct a source test of all lead control devices at least annually to demonstrate compliance with the control standards specified in the Lead Point Source Emissions Controls Subdivison (f). If the results of the most recent source test for a lead control device demonstrating compliance with the lead emission standards of Lead Point Source Emissions Controls Subdivison (f) demonstrate emissions of 0.0025 pounds of lead per hour or less, the next test for that lead control device would be required to be performed no later than 24 months after the date of the most recent test.
- The owner or operator of a large lead-acid battery recycling facility with an ~~Existing~~ existing lead control devices in operation before the adoption date of the rule would ~~require a~~ would be required to conduct a source test no later than January 1, 2011. Initial source tests for new and modified lead control devices with an initial start-up date on or after the adoption date of the rule would be required within 60 days of initial start-up.
- The Executive Officer would be required to be notified in writing one week prior to conducting any source test required by PR 1420.1.
- Prior to conducting a source test for PR 1420.1 the owner/operator of a large lead-acid battery recycling facility would be required to ~~obtain~~ submit a~~n approved~~ pre-test protocol~~, submitted~~ to the Executive Officer for approval at least 60 calendar days prior to conducting the source test. The pre-test protocol would need to include the source test criteria of the end user and all assumptions, required data, and calculated targets for testing the following: target lead control efficiency; preliminary lead analytical data; planned sampling parameters; and information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated test.
- The owner or operator of a large lead-acid battery recycling facility would be required to 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 Lead Point Source Emissions Controls Subdivison (f). Notifications would be made to 1-800-CUT-SMOG.
- ~~The proposed rule lists the following applicable test methods~~ Source tests would be required to be conducted while operating at a minimum of 80 percent of equipment maximum capacity and in accordance with any of the following applicable test methods:
    ~~o SCAQMD Methods 5.1, 5.2, and 12.1;~~

- ~~CARB Methods 12 and 436; and~~
- ~~EPA Methods 9 and 12.~~
- SCAQMD Method 12.1 - Determination of Inorganic Lead Emissions from Stationary Sources Using a Wet Impingement Train
- ARB Method 12 – Determination of Inorganic Lead Emissions from Stationary Sources
- EPA Method 12 – Determination of Inorganic Lead Emissions from Stationary Sources
- ARB Method 436 – Determination of Multiple Metal Emissions from Stationary Sources

- The average of triplicate samples according to approved test methods would be required to be used to determine compliance.
- ~~Use of~~ The operator may use an alternative or equivalent test method defined in U.S. EPA 40 CFR 60.2,~~would be allowed as long as it is~~ approved in writing by the Executive Officer, CARB, and the U.S. EPA. ~~Source tests would be required to be completed by a test laboratory approved under the SCAQMD Laboratory Approval Program.~~
- The operator would be required to 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 would be granted by the Executive Officer on a case-by-case basis based on SCAQMD protocols and procedures.
- 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~~ would be constitute a violation of the rule.
- An existing source test, for existing lead control devices, conducted on or after January 1, 2010 may be used as the initial source test specified in this subdivison ~~as long as the test~~ to demonstrate compliance with the control standard of Lead Point Source Emissions Controls Subdivison (f) upon Executive Officer approval. The source test would be required to meet, at a minimum, the following criteria:
  - The test is the most recent conducted since January 1, 2009;
  - The test demonstrated compliance with the applicable control standard of Lead Point Source Emissions Controls Subdivison (f) ~~99 percent control efficiency~~;
  - ~~Is~~ The test is representative of the method to control emissions currently in use; and
  - ~~Was~~ The test was conducted using applicable and approved test methods in this subdivison.

New Facilities (Subdivision (l))

The owner or operator of a large lead-acid battery recycling facility beginning construction or operations on or after the date of adoption of the rule would be required to:

- 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
- 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 would be measured from the property line of the new facility to the property line of the sensitive receptor.
- Submit complete permit applications for all equipment required by this rule prior to beginning construction or operations.

Recordkeeping (Subdivision (m ~~i~~))

The owner or operator of a large lead-acid battery recycling facility would be required to keep records of the following:

- ~~Records~~ Daily records indicating ~~quantities and lead content of each~~ amounts of lead-containing material processed, including, but not limited to, purchase records, usage records, results of analysis, or other SCAQMD-approved verification ~~at a facility~~ to indicate processing amounts; ~~lead content and lead would be required to be maintained by the facility.~~
- Results of all ambient air lead monitoring, meteorological monitoring, and other data specified by the Ambient Air Monitoring and Sampling Requirements Subdivision (j)
- Recordkeeping for all housekeeping activities in Subdivision (h), maintenance of Subdivision (i), and lead control device inspection and maintenance requirements of Lead Point Source Emissions Controls Subdivision (f), including the name of the person performing the activity, and the dates and times on which specific activities were completed ~~ambient air lead monitoring, meteorological monitoring, vehicle wet washing and vehicle inspection required by the rule would be required to be maintained~~.
- 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.
- All records would be required to be maintained for five years and maintained onsite for at least two years.

Reporting (Subdivision (n ~~j~~))

Ambient Air Monitoring Reports

- ~~Facilities would be required to submit reports for monthly ambient air monitoring results for lead and wind data measured at each sampling location on a monthly or more frequent basis if determined by the EO. Results of individual 24-hour samples would be required to be reported and averaged each calendar month.~~ Beginning no later than January 1, 2011, the owner or operator of a large lead-acid battery recycling facility would be required to report by the 15th 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 would be required to include the results of individual 24-hour samples and 30-day averages for each day within the reporting period.
- Any exceedance of the ambient air quality concentration specified in the General Requirements (d) ~~shall~~ would be required to be reported with a notification made to the 1-800-CUT-SMOG ~~to the Executive Officer~~ within 24 hours of receipt of completed sample analysis required by Ambient Air Monitoring and Sampling Requirements Subdivsion (j), followed by a written report to the Executive Officer no later than three calendar days after the notification. The written report would be required to include the causes of the exceedance and the specific corrective actions implemented.

Shutdown,Turnaround~~/~~, and ~~–~~Maintenance Activity Notification ~~and Unplanned Shutdown Reporting~~

The owner or operator of a large lead-acid battery recycling facility would be required to:

- Notify the Executive Officer within one hour after an unplanned shutdown of any lead control device has occurred. The notification would be required to include the associated processes or equipment vented by the shutdown lead control device. If the unplanned shutdown involves a breakdown pursuant to Rule 430, the breakdown notification report required by Rule 430 would serve in lieu of this notification to the Executive Officer.

- Notify the Executive Officer at least ten calendar days prior to a planned turnaround or shutdown of any smelting furnace, battery breaker, or lead control device that result in lead emissions. The notification would be required to specify the subject equipment and the start and end date of the turnaround or shutdown period.
- Notify the Executive Officer at least ten calendar days prior to the beginning of maintenance activity, as defined in Definitions Subdivision I, that is conducted routinely on a monthly or less frequent basis. The notification and report would be required to include, at a minimum, the following:
  - Dates, times, and locations of activities to be conducted;
  - Description of activities;
  - Name of person(s)/company conducting the activities;
  - Lead abatement procedures, including those specified in Maintenance Activity Subdivision (i), to be used to minimize fugitive lead-dust emissions; and
  - Date of expected re-startup of equipment.
- 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 would include, at a minimum, the following:
  - Dates, times, and locations of activities to be conducted;
  - Description of activities;
  - Date of expected re-start of equipment.
- Notification in this subdivision would be required to be made 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.
- Provide notification to the public required under this subdivision through a facility contact or pre-recorded notification center that is accessible 24 hours a day, seven 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.
- 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:
  - Installed within 50 feet of the main entrance of the facility and in a location that is visible to the public;
  - Measures at least 48 inches wide by 48 inches tall;
  - Displays lettering at least four inches tall with text contrasting with the sign background; and
  - Located between six and eight feet above grade from the bottom of the sign.

~~A Turnaround/Maintenance Lead Abatement Notification would be required to be submitted at least four weeks prior to the beginning of any turnaround/maintenance activity no later than January 1, 2011. Notification information would need to include a description of the activity including dates, times, persons conducting the activity, and specific locations at the facility where activities will be conducted. Lead abatement procedures that would be used to minimize lead emissions would also be required.~~

~~Unplanned shutdown of any equipment that processes lead-containing material shall be reported to the Executive Officer by calling 1-800-CUT-SMOG within one hour of shutdown. A written notification would also be required to be made to the Executive Officer no later than three calendar days after the unplanned shutdown occurred.~~

Initial Facility Status Report

No later than January 1, 2011, existing large lead-acid battery recycling facility owners/operators would be required to submit an initial facility status report. Large lead-acid battery recycling facilities beginning construction or initial operations after the date of rule adoption would be required to submit the initial compliance report upon start-up. Minimum information required in the report is specified in Appendix 1 of the rule. Below is a summary of required information:

- General facility information (name, SCAQMD Facility ID Number, address, contact number);
- The distance from the property line of the facility to the property line of the nearest commercial/industrial facility and sensitive receptor.
- Sensitive receptor and worker locations with respect to the facility if they are within one-quarter mile from the center of the facility;
- Facility building parameters;
- Description of the types of lead processes at the facility;
- For ~~all three~~ each of the last five calendar years dating back from the adoption of the rule:
  - Annual amounts and lead content of all lead-containing materials processed;
  - Maximum and average daily and monthly operating schedules;
  - Maximum and average daily and monthly lead-processing rates for all equipment and processes;
  - Maximum and average daily and annual lead emissions from all emission points and fugitive lead sources;
- Approximate date of intended source tests for all lead control devices, as required by source test requirements.
- Engineering drawings, calculations, or other methodology to demonstrate compliance with enclosure areas ~~emission standards~~; total enclosures; total enclosure ventilation~~; ambient air lead monitoring and concentrations~~; and source tests;
- Air dispersion modeling calculations using procedures approved by the Executive Officer to determine the location of sampling sites as required by ambient air monitoring and sampling requirements.
- All information necessary to demonstrate means of compliance with ambient air monitoring and sampling requirements.
- ~~Intended source test dates for all lead control devices; and~~
- The name, title, and signature of the responsible official certifying the report.
- Date of the report.

Ongoing Facility Status Report

Facilities would be required to submit a summary report to ~~update~~ the Executive Officer ~~of~~ to document the ongoing facility status ~~and changes through submittal of an Ongoing Facility Status Report~~. Ongoing Facility Status Reports would be due every year on or before February 1st for all sources and would require information covering the preceding calendar year. Minimum information required in the report is specified in Appendix 2 of the rule. Below is a summary of required information:

- General facility information (name, SCAQMD Facility ID Number, address, contact number);
- Beginning and ending dates of the calendar year for the reporting period.

- The following information would be required to be provided for each of the last 12 calendar months of the reporting period:
    - ~~Quantities~~Annual amounts of lead-containing material processed;
    - ~~Lead content of lead-containing materials processed;~~
    - Maximum and average daily and monthly lead-processing rates from all equipment and processes;
    - Maximum and average daily and annual emissions of lead from all emission points and fugitive lead-dust sources;
- ~~Description of changes in sensitive receptor locations and distances since the previous reporting period;~~ Worker and sensitive receptor distances, if they are located within one-quarter 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.
- Description of changes in monitoring, processes, or controls since the previous reporting period; and
- The name, title, and signature of the responsible official certifying accuracy of the report.
- Date of the report.

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~~ would be required to provide the same information and ~~shall~~ not to alter the overall frequency of reporting.

CONTROL STRATEGIES

Several types of controls for lead emissions are currently used at the lead-acid battery recycling facilities in the Basin. Lead emissions at lead-acid battery recycling facilities are generally categorized as point and fugitive lead emissions. Point source emissions are those emissions that are vented to a stack where the stack can be from a specific piece of equipment such as a furnace or building. Fugitive emissions are particulate matter that contain lead, is in contact with the ambient air, and can become airborne. Point source emissions that are vented through a control device, but not captured and contained can become fugitive emissions. The following discusses lead point source controls and fugitive source control strategies: ~~from lead processes discussed in the previous section are vented to one or more lead control devices listed below:~~

Lead Point Source Control Strategies

The following describes lead point source control strategies. As with any type of control device, maintenance and proper operation of the control device are important to ensure the control device can achieve its maximum control efficiency. The following provides a description of baghouses and filter controls, wet scrubbers, high efficiency particulate arrestors (HEPA), electrostatic precipitators and wet electrostatic precipitators. Use of multistage point source controls such as use of baghouse filters and HEPA filters can improve the capture efficiency and provide additional protection. Lead emissions from lead processes discussed in the previous section are vented to one or more lead control devices listed below:

Baghouses and Filters

Baghouses operate by collecting particles on a fabric or membrane filter. Typically, they consist of fabric or membrane bags of tubular or envelope shapes. As an air stream flows through the

bags, small particles are initially captured and retained on the fabric or membrane filter by one or a combination of the following collection mechanisms: impaction, direct interception, diffusion, electrostatic attraction, and gravitational settling. Once dust has accumulated on the walls of the bags, the "dust mat" acts as a sleeve to further increase particulate matter capture.

Arrays of filters are also used to collect particulate matter. They can be used after the bags in a baghouse to further reduce emissions or can be used alone as in a spray booth. Filters are often used in combination with a prefilter which is "changed out" on a regular basis allowing the bank of filter cartridges to last longer.

Baghouses are commonly used in metal melting operations. They have one of the highest control efficiencies for particulate emissions, and the captured particulate can be recycled to recover metal. Operating parameters of melting operations, such as exhaust stream temperature, gas stream velocity, and particulate chemical properties must be taken into account when designing the baghouse.

Daily maintenance and monitoring of the baghouse is necessary to ensure that it continuously meets the required standard of efficiency. Gas volume, temperature, pressure drop, and dust load are monitored continuously or intermittently. Baghouse shaking and sending pulses of air backwards through the bags is done at specific intervals, or when the bags are overloaded, to remove the captured particulate matter from the bags and drop it into a hopper below the bags.

Baghouse and filter technology combined can achieve an overall particulate matter capture efficiency certifiable up to 99.97 percent. The well designed baghouse can control 99 percent of particulate emissions. The control efficiency of lead particulates is anticipated to be slightly higher, since analytical test methods for metals are more accurate and precise than test methods for total particulates, regardless of particle size distribution. Historical test data performed for compliance with Rule 1420 has demonstrated this to be true. The lead removal efficiency is at least 98 percent for a baghouse with 99 percent efficiency for particulates.

All facilities subject to this rule would be able to use baghouses or filter systems to control particulate lead emissions from most all operations in the lead-acid battery recycling processes. Examples include lead emissions coming from the battery breaking areas and all smelting, refining, and casting operations.

Baghouses and filters are expected to be used to control lead particulate emissions at both affected facilities.

Wet Scrubbers

Wet scrubbers remove both particulate matter and gases from industrial process gas streams. In lead-acid battery recycling operations, wet scrubbers are typically used to remove residual lead particulates and sulfur oxides from the exhaust of baghouses that control emissions from rotary dryers and smelting furnaces. There are a variety of scrubber designs. However, only a limited number can remove small particulates from an exhaust stream. Wet scrubbers are capable of 98 percent collection efficiencies for particles as small as five microns in size. Two scrubbers designed to remove small particulates are the ionizing wet scrubber and the venturi scrubber.

In an ionizing wet scrubber, the gas stream first enters a chamber where a high voltage is used to ionize the gas stream. The second chamber is a wet scrubbing chamber, where the ionized

particles and gases are attracted to the surface of the chamber and the scrubbing liquid. Larger size particles are removed by water through inertial impaction.

Venturi scrubbers are used by some facilities in the district ~~District~~. In these scrubbers, the exhaust stream is passed through a constriction (the venturi) where the scrubbing liquid is sprayed in. The turbulence at and after the venturi promotes contact of particles with the scrubbing liquid droplets. High particulate matter removal efficiencies for small particles can be achieved with this type of scrubber.

One facility ~~would modify~~ has modified an existing scrubber by increasing the blower size and adding a HEPA filter to comply with PR 1420.1.

High-Efficiency Particulate Arrestors (HEPA)

Used in conjunction with a prefilter, high-efficiency particulate air filters can trap particles as small as 0.3 micrometers at an efficiency of 99.97 percent or greater. Like cartridge filters, HEPA filter elements are of pleated construction. HEPA filters are generally limited to ambient temperature (100° Fahrenheit), though special applications for higher temperatures are available. Unlike bags or cartridge filters, HEPA filters are not automatically cleaned. When a HEPA filter element becomes loaded with particulate matter, the element is changed out and disposed of as hazardous waste. Filters can be applied to controls such as baghouses to reduce lead emissions from lower temperature exhaust streams and fugitive lead-dust emissions collected within total enclosures. They can also be utilized in negative air equipment or vacuums used to conduct housekeeping activities throughout the facility.

HEPA filters ~~mist eliminators~~ are expected to be installed in a modified baghouse ~~scrubber~~ at one of the affected facilities.

Electrostatic Precipitators/Wet Electrostatic Precipitators

Electrostatic precipitators operate by charging the effluent particulate matter with a highly ionized gas stream and then attracting the charged particles to an oppositely charged metal wall. Typically, a cylindrical metal tube is used with an ionized wire running through it. As the ions move outward toward the oppositely charged cylinder, the particles are also ionized, and are deposited on the cylinder. The cylinder wall is periodically vibrated to collect particulate matter into a hopper. This technology can achieve 99 percent efficiency for total particulate matter as small as one µm. Electrostatic precipitators in lead-acid battery recycling operations are typically used downstream other lead controls such as baghouses, and treat exhaust streams with smaller lead particulates.

Based on conversations with facility owners/operators, neither type of electrostatic precipitators are expected to be used to comply with PR1420.1.

Fugitive Lead-Dust Control

Fugitive lead-dust at lead-acid battery recycling facilities can be a major source of lead emissions. Fugitive lead-dust accumulates in and around process areas, from lead point sources, on roof tops, in and around facility, and during maintenance operations to name a few. There are a variety of housekeeping and containment strategies that can be implemented to minimize fugitive lead dust. Housekeeping activities must be implemented frequently and properly to ensure they are effective. The concept behind many of these strategies is to either contain or remove lead dust so it cannot become airborne. Housekeeping practices specifying adequate

frequencies and locations for all cleanings to be performed are also critical in the effectiveness to control fugitive lead-dust emissions. The following summarizes some potential fugitive lead dust control strategies:

- Pave roadways subject to vehicular and foot traffic;
- Clean paved areas through vacuuming, vacuum sweepers, and use of wet suppression;
- Wet wash or vacuum areas where lead particulate and accumulate such as roof tops, areas where lead-containing wastes are stored or disposed of;
- Clean areas where lead dust may accumulate due to accidents, process upsets or equipment malfunctions;
- Clean surface impoundments ponds before lead-containing sludge dries and can become a source of fugitive lead-dust;
- Use of enclosures or containment areas during maintenance activities or storage of lead-containing materials; and
- Use of total enclosures under negative air pressure vented to point lead point source controls to ensure that lead dust that accumulates in and around process areas does not become fugitive.

BASELINE CONSIDERATIONS

The two affected facilities already comply with some of the requirements of PR 1420.1 under orders of abatement, best available control technology (BACT) requirements, or existing housekeeping practices. Tables 1-1 and 1-2 present control and housekeeping requirements at each of the two affected facilities. The tables show whether the facility complies with PR 1420.1 requirements (done), would need to comply with PR 1420.1 requirements (PR 1420.1) or the PR 1420.1 does not apply to the affected facility (N/A). One of the affected facilities has permits to construct enclosures and control equipment that comply with PR 1420.1 requirements. The other facility has applied for permits to construct, but has not received them. Adverse environmental impacts in Chapter 2 were evaluated for requirements that had not been implemented at time of the environmental analysis commenced.

Table 1-1
Control Technology Requirements

Control Technology Requirement	Facility 1	Facility 2	PR 1420.1 Reference
Enclosure Raw Material	PR 1420.1	PR 1420.1	~~(d)(1)(i)~~ (e)(1)(A) and (B)
Enclosure Dryer	PR 1420.1	N/A	~~(d)(1)(iii)~~ (e)(1)(C)
Enclosure Smelting Operations	PR 1420.1	PR 1420.1	~~(iv)~~ (e)(1)(D)
Other Enclosures	Done	Done	~~(d)(1)(ii), (v) to (vii)~~ (e)(1)(B)
Ventilation	PR 1420.1	PR 1420.1	~~(d)(1)(B) to (H) and (d)(2)~~ (e)(3) and (e)(5)
Baghouses	PR 1420.1 for new enclosures	Done	~~(d)(1)(B) to (H) and (d)(2)~~ (f)(1) to (5)
Dryer – Secondary Control	PR 1420.1	N/A	(f)(1)(3)
Modification to Scrubber	PR 1420.1	N/A	~~(d)(1)(B) to (H) and (d)(2)~~ (f)(1) and (2)

Done – Facility operators already comply with proposed rule.
PR 1420.1 – Facility operators would need to comply with requirement under PR 1420.1
N/A – Not applicable to facility – facility does not have dryer, scrubber or pond/reservoir

Table 1-2
Housekeeping Requirements

Housekeeping Requirements	Facility 1	Facility 2	PR 1420.1 Reference
Wash/Vacuum Roof Tops	PR 1420.1 ~~would increase from~~ monthly washing (~~semi-annual~~ quarterly for tall buildings) ~~to weekly washing~~	Done	~~(f)(1)(A)~~ (h)(1)(A) and (B)
Wash/Vacuum of Any Area Where Lead Is Stored, Disposed, Recovered or Recycled	Done	Done	~~(f)(1)(B)~~ (h)(1)(C)
Wash/Vacuum Areas After Maintenance or Event (Accidents, Process Upsets, Equipment Malfunction, etc., that causes deposition of Fugitive Dust)	PR 1420.1	PR 1420.1	(h)(1)(D) and (i)(2)
Turnaround/Maintenance in Enclosure with Negative Air Machine with Filters	PR 1420.1	PR 1420.1	~~(f)(2)~~ (i)(1)
~~Replace any Heavy Gauge Steel Hot Acid Gas Exhaust Duct Sections~~	~~PR 1420.1~~	~~PR 1420.1~~	~~(f)(3)~~
Inspect All Facility Structures That House Point or Fugitive Source of Lead Emissions	PR 1420.1	PR 1420.1	~~(f)(4)~~ (h)(2)
Send cracked or leaking batteries immediately to battery breaking area for processing or storage	PR 1420.1	PR 1420.1	(h)(3)
Pave, Concrete, Asphalt or Otherwise Enclosure All Facility Grounds	Done	Done	~~(f)(5)~~ (h)(4)
Remove All Weather Caps	Done	Done	~~(f)(6)~~ (h)(5)
Store Lead Containing Materials Leak-Proof Containers or Enclosure	PR 1420.1	PR 1420.1	~~(f)(7)~~ (h)(6)
Transport Lead Containing Materials Leak-Proof Containers or Enclosure	PR 1420.1	PR 1420.1	~~(f)(8)~~ (h)(7)
Pond or Reservoir	Seasonal washing done; weekly washings required by PR 1420.1	N/A	~~(f)(9)~~ (h)(8)

Done – Facility operators already comply with proposed rule.
PR 1420.1 – Facility operators would need to comply with requirement under PR 1420.1
N/A – Not applicable to facility – facility does not have dryer, scrubber or pond/reservoir

Table 1-2
Housekeeping Requirements (Concluded)

Housekeeping Requirements	Facility 1	Facility 2	PR 1420.1 Reference
On-site Mobile Sweeper	Done	PR 1420.1 would require sweeping twice more per day	~~(f)(10)~~ (h)(9)
~~Vehicle Wet Washing~~	~~PR 1420.1~~	~~PR 1420.1~~	~~(f)(11)~~

Done – Facility operators already comply with proposed rule.
PR 1420.1 – Facility operators would need to comply with requirement under PR 1420.1
N/A – Not applicable to facility – facility does not have dryer, scrubber or pond/reservoir

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

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

GENERAL INFORMATION

Project Title:	Proposed Rule 1420.1 ─ Emissions Standard For Lead From Large Lead-Acid Battery Recycling Facilities
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive, Diamond Bar, CA 91765
CEQA Contact Person:	James Koizumi, (909) 396-3234
PR 1420.1 Contact Person:	Eugene Kang, (909) 396-3524
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive, Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	PR 1420.1 would protect public health by reducing lead emissions produced by large lead-acid battery recycling facilities. PR 1420.1 would accomplish this by requiring enclosures for lead processes, pollution control equipment for lead point sources and additional housekeeping. Owner/operators of affected facilities would be required to meet a standard for lead of 0.15 micrograms per cubic meter averaged over any 30 consecutive days. Additionally, the proposed rule includes source testing, air monitoring, and recordkeeping requirements.
Surrounding Land Uses and Setting:	Primarily industrial and commercial facilities
Other Public Agencies Whose Approval is Required	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact issues have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agricultural Resources	☑	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality	☑	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☑	Land Use and Planning	☑	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☐	Transportation./Traffic
☑	Energy	☐	Noise	☑	Mandatory Findings

DETERMINATION

On the basis of this initial evaluation:

☑ I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1)has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: April 23, 2010 Signature: Susan Nakamura

Susan Nakamura
Planning and Rules Manager

CHANGES TO PR 1420.1 SINCE THE DRAFT EA

Subsequent to the release of the Draft EA for public review, PR 1420.1 several requirements were added, deleted or modified. The following briefly summarizes proposed modifications to PR 1420.1. A more detailed description of the proposed modifications to PR 1420.1 can be found in Chapter 1 of this Final EA.

- Addition of total facility lead point source emission rate limitation and maximum individual lead point source emission rate (pound per hour)
- Removal of 99 percent control efficiency compliance option for lead control devices
- Addition to require use of specific filters/bags in lead control devices
- Addition of requirement to added secondary lead controls on dryers
- Removal of vehicle wet wash area requirement
- Change in schedule of roof cleaning requirement with the new compliance option of vacuuming surfaces or wet washing
- Public notifications for:
    - Unplanned and planned shutdowns/turnarounds of specific equipment
    - Specific types of maintenance activity

Secondary Lead Controls on Dryers

The addition of secondary lead controls on dryers would require one of the two affected facilities to install a new baghouse. The new baghouse would require demolition of a 52 foot by 52 foot concrete area and removal of any contaminated soil, which is expected to be contaminated with lead. Since lead does not typically migrate any appreciable distance, SCAQMD staff estimates that soil would need to be removed to a depth of two feet at most. Based on discussion with facility operators, the lead contaminated concrete and soil would be hauled to the US Ecology Beatty Facility, Beatty Nevada.

After demolition, a new concrete pad would be poured to support the new control equipment. A new baghouse would then be installed and the dryer would be ducted to the new baghouse. Analysis of demolition and paving were added to the aesthetic, agriculture and forest resources, air quality, biological resources, cultural resources, energy, geology and soils, noise and solid/hazardous waste environmental topics.

Control Efficiency, Emission Rates and Specification of Filters and Bags

The lead control device efficiency in the version of PR 1420.1 that was circulated with the Draft EA has been replaced with emission rate limits for both the control devices and total facility. Specifications have been added for filters and bags. These changes were made to provide easier verification of compliance and to clarify the characteristics of the control devices expected to be used to comply with PR 1420.1. The purpose of the control efficiency or emission rate limits and filter and bag specifications would be to reduce emissions into the atmosphere, which contribute to ambient air concentrations of lead that exceed 0.15 micrograms per cubic meter averaged over any 30 consecutive days. No change in construction or operation that was analyzed in the Draft EA would be expected by the changes.

Removal of Vehicle Wet Wash Area Requirement

SCAQMD staff determined that the vehicle wet washing area requirement would be required as an additional lead reduction measure of the Compliance Plan if deemed necessary. Therefore, this proposed requirement was removed from PR 1420.1. Construction and water use from the

vehicle wet wash area were analyzed in the Draft EA circulated for public comment. Impacts from wet washing were removed from the analysis in the Final EA.

Change to Schedule in Roof Washing Requirements

The roof washing requirement in the version of PR 1420.1 circulated with the Draft EA for public comment required weekly washing of roof top structures.

The current proposal allows either wet washing or cleaning with a vacuum equipped with a filter rated by the manufacture to achieve a 99.97 percent capture efficiency for 0.3 micro particles. The current proposal requires 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 the deposition of fugitive lead dust onto roof tops or areas where lead-containing waste are generated from housekeeping areas are stored, disposed of, recovered or recycled. The weekly routine cleaning of areas where lead-containing waste are generated from housekeeping areas are stored, disposed of, recovered or recycled is the same as the version of PR 1420.1 circulated with the Draft EA for public comment. Immediate cleanings of roof tops would be required to be completed within 72 hours if the facility owners/operators can demonstrate that delays were due to safety or timing issues. Monthly cleaning of roof tops of structures equal or less than 45 feet in high that house areas associated with the storage, handling or processing of lead-containing materials would be required. Quarterly cleaning, no more than three calendar months apart, of roof tops of structures greater 45 feet in high that house areas associated with the storage, handling or processing of lead-containing materials would be required.

SCAQMD staff expects that wet washing and vacuuming as specified would result in similar fugitive lead-dust emission reductions. SCAQMD staff also expects that the requirement to immediately clean roofs and areas where lead-containing waste are generated from housekeeping areas are stored, disposed of, recovered or recycled after any maintenance activity or event with the monthly and quarterly routine roof top cleanings would result in less lead-dust emissions than the weekly routine cleaning presented in the version of PR 1420.1 circulated with the Draft EA for public comment since both routine and unscheduled events would be addressed.

The modifications to the requirements would reduce the amount of water used and disposed, since less roof top washings are likely to be required and vacuuming could be substituted for washing. Since both facilities currently wash roofs it is unlikely that vacuuming would replace roof top washing. However, vacuuming may replace wet washing of areas where lead-containing wastes are generated from housekeeping areas are stored, disposed of, recovered or recycled. Pressure washers and vacuums are expected to use similar amount of electricity so no change to energy is expected. Analysis of vacuuming has been added to the solid/hazardous waste environmental topics.

Notification and Recordkeeping

Reporting and recordkeeping changes are not expected to impact any environmental topic.

Weekly Washings of Ponds or Reservoir

Only one of the affected facilities has a surface impoundment pond. The analysis in the Draft EA assumed that the facility operators at the affected facility already comply with the pond/reservoir housekeeping requirements in PR 1420.1. While facility operators does comply with the requirements to remove lead-containing material and sludge within 24 hours after the

water level is less than one inch at any point above the bottom of the surface impoundment pond. Under PR 1420.1, facility operators would need to wash down the empty surface impoundment pond weekly until the pond/reservoir is used to store water again. Water use from weekly washings has been added to the hydrology/water quality section of PR 1420.1.

Changes to the Environmental Checklist

At the time the Draft EA was circulated, the environmental checklist did not include impacts to forest lands as a topic to be evaluated as part of a CEQA document. SCAQMD staff revised the Environmental Checklist to reflect amendments to the CEQA Guidelines adopted by the Natural Resources Agency which became effective on March 18, 2010. These amendments contained revisions, which included the consideration of impacts to forestry lands and greenhouse gases (GHGs) in the environmental analysis. The topic of "Agriculture Resources" in the checklist was revised and renamed as "Agriculture and Forest Resources" and questions were added to address the consideration of impacts to forest resources. The topic of "Air Quality" in the checklist was revised and renamed as "Air Quality and Greenhouse Gases, and questions were added to address the consideration of impacts to GHG resources.

Although the Draft EA did not include a preliminary analysis of forest resources, to make the analysis of environmental impacts consistent with the recent changes to the environmental checklist, a discussion of indirect impacts from the proposed project that could conflict with, or cause rezoning of forest land has been included in this section of the Final EA. No significant impacts on forest resources were identified.

The Draft EA already evaluated impacts from GHGs on the environment. No significant impacts from GHGs were identified in the Draft EA. The existing analysis was renumbered to correspond to the GHG questions in the checklist.

Conclusion

The modifications were analyzed and SCAQMD staff concluded that recirculation was not necessary per CEQA Guidelines §15073.5, because the modifications were determined not to be a substantial revision (i.e., a new, avoidable significant effect that requires mitigation measure or project revisions to reduce the effect to insignificance or that project effects cannot be reduced to insignificant and new measures or project revisions are required). Recirculation is not required, because mitigation is not required (because PR 1420.1 would have less than significant impacts for all environmental topics); the modifications were not a response to written or verbal comments on the proposed effects identified in the Draft EA (since no comments were received on the Draft EA); modifications were not required by CEQA (no modifications were made because of CEQA requirements), and do not create new significant environmental effects (because PR 1420.1 would have less than significant impacts for all environmental topics), and it is not necessary to mitigate an avoidable significant effect (because PR 1420.1 would have less than significant impacts for all environmental topics); and new information added to the proposed project makes insignificant modifications to the Draft EA (because PR 1420.1 would have less than significant impacts for all environmental topics).

ENVIRONMENTAL CHECKLIST AND DISCUSSION

		Potentially Significant Impact	Less Than Significant Impact	No Impact
I.	**AESTHETICS.** Would the project:			
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑

Significance Criteria

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

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

Discussion

I. a), b), c), & d) PR 1420.1 would require the construction of enclosures, control technology, ~~vehicle washing stations~~ and paving of dirt areas at two existing large lead-acid battery recycling facilities in the district. All construction activities would occur on-site at these existing facilities and are not expected to require substantial earthmoving. Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site, with the exception of off-site monitors. Most of the processes at the two affected facilities are enclosed. Construction would consist of enclosing existing raw material processing operations, dryers and smelting operations and venting the enclosures to air pollution control devices; installing, ~~and vehicle washing stations~~ and paving any remaining dirt areas.

The enclosure of the remaining open processing operations and paving of any remaining dirt areas on-site would be consistent with the industrial area where these facilities are located. The other processes (refining and casting) are already vented to air pollution control systems. The air pollution control systems used for the enclosures and secondary lead controls on dryers are expected to be similar to existing systems, and therefore, similar to the existing aesthetics of the facility. ~~Vehicle washing stations are not expected to be visible from outside of the affected facilities.~~ Any portions that are visible are expected to appear as partial enclosures or piping that is similar to other structures and equipment on site.

Both affected facilities are twenty-four hour operations. Therefore, additional lighting may be required on the outside of new structures. However, any new lighting is expected to be similar to

existing lighting; therefore, similar in character to existing lighting. The facilities are also located in industrial areas that are zoned for continuous operation.

Off-site monitors may be place around the affected facilities. Off-site monitors would be placed manually without heavy construction. The off-site monitors typically consist of a two foot by eight foot platform, two meters above the ground. The monitors are place one meter above the platform. The monitors are expected appear similar to the industrial area surrounding the existing affected facilities.

Because PR 1420.1 affects operations on-site at existing facilities in industrial areas, any new construction at these affected facilities is expected to be similar to existing buildings or other structures, and off-site air monitors are expected to appear similar to the surrounding industrial area, PR 1420.1 is not expected to obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Further, additional light or glare is expected to be similar to existing lighting. Therefore, PR 1420.1 is not expected to adversely affect day or nighttime views in the area.

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that aesthetic impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
II.	**AGRICULTURE ~~RESOURCES~~ AND FOREST RESOURCES.** Would the project:			
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
c)	~~Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?~~ Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest land	☐	☐	☑

Significance Criteria

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

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

Discussion

II. a), b), c) & ed) PR 1420.1 would require the construction of enclosures, control technology~~, vehicle washing stations~~ and air monitors at two existing large lead-acid battery recycling facilities in the district. All construction activities would occur on-site at these existing facilities and are not expected to require substantial earthmoving. A 52 foot by 52 foot section of concrete would be removed along with soil to a depth of two feet so a concrete pad could be poured to support the secondary control of a dryer. Since the affected facilities are located in industrial areas that have been previously disturbed the removal of the concrete and soil is not expected to adversely impact agricultural or forest resources. Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site.

Air monitors may be place off-site of the facility in the surrounding industrial area. Air monitors are expected to be placed at industrial sites on paved surfaces that have also already been greatly disturbed.

Therefore, the proposed project would not result in any construction of new buildings or other structures that would require converting farmland to non-agricultural use, or conflict with zoning for agricultural use or a Williamson Act contract, conflict with zoning for or cause reszoning of forest land, timber land or loss of forest land, or conversion of forest land to non-forest ues. Since the proposed project would not substantially change the facility or process at the facility, there are no provisions in PR 1420.1 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements relative to agricultural or forest resources would be altered by the proposed project.

Based upon these considerations, significant agricultural or forest resource impacts are not anticipated and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant agriculture or forest resources impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that agricultural and forest resource impacts from the overall project are less than significant.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact	No Impact
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑

Significance Criteria
Potential significant adverse air quality impacts will be evaluated and compared to the significance criteria in Tables 2-1a and 2-1b. If impacts equal or exceed any of the following criteria, they will be considered significant.

Discussion
PR 1420.1 would require the construction of enclosures, control technology~~, vehicle washing stations~~ and paving of dirt areas at two existing large lead-acid battery recycling facilities in the district. All construction activities would occur on-site at these existing facilities. Air monitors would not require construction and would be placed at industrial sites around the affected facility. ~~Based on discussions with the facility operators construction would occur on existing paved surfaces and are not expected to require earthmoving.~~ A 52 foot by 52 foot section of concrete would be removed along with soil to a depth of two feet so a concrete pad could be poured to support the secondary control of a dryer.

Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site. Most of the processes at the two affected facilities are enclosed. Construction would consist of enclosing existing raw material processing operations at both affected facilities, and smelting and drying operations at one of the facilities; venting the enclosure to air pollution control devices at both facilities; installing additional baghouses at one facility~~; installing vehicle washing stations at both facilities~~; and paving any remaining dirt areas at both facilities.

III. a) The SCAQMD is required by law to prepare a comprehensive districtwide AQMP which includes strategies (e.g., control measures) to reduce emission levels to achieve and maintain state and federal ambient air quality standards, and to ensure that new sources of emissions are planned and operated to be consistent with the SCAQMD's air quality goals. The AQMP's air pollution reduction strategies include control measures which target stationary, mobile and indirect sources. These control measures are based on feasible methods of attaining ambient air quality standards. Pursuant to the provisions of both the state and federal CAAs, the SCAQMD is required to attain the state and federal ambient air quality standards for all criteria pollutants, including lead. PR 1420.1 will not obstruct or conflict with the implementation of the AQMP because, overall, PR 1420.1 achieves net lead emission reductions. Further, the SCAQMD approved an air toxics planning document in March 2000 called "Final Draft Air Toxics Control

Plan (ATCP) for the Next Ten Years." PR 1420.1 would reduce lead emissions and therefore, be consistent with the goals of both the AQMP and ATCP. Therefore, implementing PR 1420.1 would not conflict or obstruct implementation of the AQMP or ATCP.

Table 2-1a
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	**Operation [c]**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 metric tons per year	
Ambient Air Quality for Criteria Pollutants [d]		
NO2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	 10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3 20 μg/m^3	
PM2.5 24-hour average	 10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	
Sulfate 24-hour average	 25 μg/m^3	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

[a] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ greater than or equal to

Table 2-1b
MDAQMD Air Quality Significance Thresholds

Mass Thresholds		
Pollutant	**Daily Threshold lb/day**	**Annual Threshold ton/year**
NOx	137	25
VOC	137	25
PM10	82	15
PM2.5	82	15
SOx	137	25
CO	548	100
H2S	54	10
Lead	0.6	3
Toxic Air Contaminants (TACs) Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)	
Ambient Air Quality for Criteria Pollutants [a]		
NO2 1-hour average annual average	MDAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
Sulfate 24-hour average	1 ug/m^3	
CO 1-hour average 8-hour average	MDAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

KEY: lb/day = pounds per day ton/year = tons per day ppm = parts per million ug/m^3 = microgram per cubic meter ≥ greater than or equal to

III. b), c) d) & f) For a discussion of these items, refer to the following analysis:

Construction Air Quality Impacts

New Affected Facilities

SCAQMD staff is not aware of any new large lead recycling facilities planned to be constructed in the future. Construction related to PR 1420.1 at new facilities would be similar to construction of structures to support the new large lead recycling processes. The same construction equipment used to build the facility is expected to build enclosures and control equipment at new facilities. However, construction of new large lead recycling facilities is considered speculative according to CEQA Guidelines §15145 at this time and will not be evaluated further in this analysis.

Existing Affected Facilities

One of the two existing facilities affected by PR 1420.1 has been issued air quality permits to construct enclosures and to install an air pollution control system (exhaust system with two baghouses) from the battery breaking area. These permit applications were submitted to comply with existing agreements with SCAQMD and other agencies. ~~Although no permit applications have been submitted for the vehicle washing system at this facility, it was assumed to be included in the construction for this analysis. A permit application for a vehicle washing system would be expected to be filed, if PR 1420.1 is adopted.~~

The other existing facility affected by PR 1420.1 has submitted air quality permit applications for enclosures and air pollution control systems for the raw material preparation system, smelting and refining building system and rotary dryers. The air pollution control systems would consist of exhaust systems, a spark arrestor, high efficiency particulate absorbing (HEPA) filter mist eliminator for an existing scrubber~~, vehicle wash system~~ and sweeper. These permit applications were submitted to comply with existing agreements with SCAQMD and other agencies. A permit application for a secondary lead-control device for the rotary dryers would be expected to be filed, if PAR 1420.1 is adopted.

PR 1420.1 was modified subsequent to the circulation of the Draft EA for public comment. The modifications include a requirement to add secondary lead control device to the exhaust of primary lead controlled devices used for dryers. The addition of a secondary control device at one of the affected large lead-acid battery recycling facilities would require demolition of a 52 foot by 52 foot area of concrete. The soil under the concrete area may be contaminated with lead. Since lead dose not typically migrate over any appreciable distance through soil, SCAQMD staff assumed that two feet of soil at most would be required to be removed. Based on the dimensions of the area demolished and a depth of two feet, approximately 200 cubic yards of lead-contaminated debris would need to be removed. The concrete and soil would be considered hazardous waste and the facility owner/operators have stated that the debris would be sent to US Ecology Beatty Facility, Beatty Nevada. Based on a capacity of 30 cubic yards per haul truck, seven haul truck trips would be required to haul the concrete and soil debris. The distance traveled by haul trucks within SCAQMD jurisdiction (distance from the affected facility to Castaic) is approximately 68 miles one-way. The distance traveled by haul trucks within MDAQMD jurisdiction (distance from the Castaic to Nevada) is approximately 191 miles one-way. Emissions calculations for vehicle trips were based on two-way trips.

Even though enclosures~~,~~ and air pollution control systems ~~and vehicle wash system~~ at the affected facilities construction would be done to fulfill obligations other than PR 1420.1, construction emissions were estimated since these structures, control technology and housekeeping activities would be required by PR 1420.1. Based on discussions with owner/operators at the affected large lead-acid battery recycling facilities, construction at the two facilities is not expected to overlap. In addition, demolition, concrete paving and structure construction phase are not expected to overlap.

PR 1420.1 includes requirements for air monitors. Air monitors are placed on two meter height platforms that are two feet wide by eight feet long. Other than placing the monitors on the platforms, air monitors do not require construction. Therefore, no construction emissions are associated with the air monitors. The delivery of the air monitors would be less than the peak day emissions associated with construction of the enclosures, ducting and control systems.

PR 1420.1 includes a requirement to enclose turnaround and maintenance activities in negative air containment enclosures vented to a permitted negative air machine. These enclosures are expected to be tarps or plastic sheeting supported by frames. No construction emissions are expected to be generated by the assembly of the tarps or plastic sheeting for turnaround and maintenance activities.

Construction emissions related to PR 1420.1 are presented in Appendix B and summarized in Tables 2-2a and 2-2b. Construction emissions were estimated from construction equipment, delivery vehicles and worker vehicles. Construction equipment, delivery vehicles and worker vehicle types and numbers were estimated based on the enclosure sizes (3.1 acres for both sites) and information from sample construction scenarios posted on the SCAQMD webpage (http://www.aqmd.gov/ceqa/handbook/LST/LST.html). Demolition, concrete paving and structure construction would occur within SCAQMD's jurisdiction, these activities (including vehicle travel within SCAQMD's jurisdiction) are compared to SCAQMD significance thresholds. Since haul trucks containing demolition debris would travel through MDAQMD's jurisdiction, emissions from haul truck travel through MDAQMD's jurisdiction are compared to MDAQMD significance thresholds. All construction criteria emissions are below the significance thresholds presented in Tables 2-1a and 2-1b; therefore, PR 1420.1 is not expected to be significant for construction emissions.

Table 2-2a
Criteria Emissions from Construction in SCAQMD

Description	CO, lb/day	NOx lb/day	VOC lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day
Demolition Phase	26	59	6.4	0.06	3.3	2.9
Concrete Paving Phase	21	37	5.3	0.041	2.4	2.2
Structure Construction Phase ~~Emissions~~	34	80	9.0	0.08	4.2	3.8
SCAQMD Significance Threshold	*550*	*100*	*75*	*150*	*150*	*55*
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Operational Air Quality Impacts

PR 1420.1 requires enclosing and controlling emissions from lead recycling operations and additional housekeeping operations (encapsulation of all facility grounds, washing roof tops, paved surfaces and vehicles; replacing steel hot acid gas exhaust duct sections, pond or reservoir lead material management, and sweeping). PR 1420.1 also includes provisions for ambient air monitoring, sampling and source testing. Compliance plans would be required if any facility is found to exceed an early detection ambient air lead concentration of 0.12 microgram per cubic meter averaged over any 30 consecutive days measured by facility monitors set up pursuant to PR 1420.1.

Table 2-2b
Criteria Emissions from Construction in MDAQMD

Description	CO, lb/day	NOx lb/day	VOC lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day
Demolition Phase	30.5	97.5	7.8	0.1	4.7	4.1
MDAQMD Significance Threshold	*548*	*137*	*137*	*137*	*82*	*82*
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Enclosing and Controlling Emissions
Most operating processes at the two affected facilities are enclosed and already controlled. One facility would add one new enclosure and two new baghouses. The other facility would add new enclosures that would vent to existing control systems. The additional enclosures and lead emission control equipment would reduce lead emissions and is not expected to directly increase any other emissions (i.e., criteria, toxic or GHG emissions).

Secondary emissions ~~form~~ from vehicles may be generated by the transport of new and spent filters; however, filters are expected to be purchased and disposed with existing filters used at the facility and other hazardous wastes generated at the facility. Therefore, no new trips are expected.

Therefore, no new emissions are expected from operation of enclosures and lead control technology requirements.

Housekeeping Operations
The affected facilities already perform many of the housekeeping requirements of the proposed rule. Almost all unpaved areas are encapsulated, operators already wash down paved operating areas, lead material is managed in pond and reservoir areas, and operators already sweep affected facilities. PR 1420.1 would increase the frequency of housekeeping operations, increase roof top washing, and process area sweeping ~~and add vehicle wet washing~~. None of the housekeeping operations are expected to directly increase criteria, toxic or greenhouse gas emissions. Secondary criteria emissions may increase from the additional sweeping and aerial lifts used for roof washing. One affected facility operator sweeps three times a day with LNG sweepers, which complies with PR 1420.1, but washes low roofs monthly and high roofs semi-annually. The other affected facility operator sweeps once a day with a diesel sweeper, so sweeping would have to increase to three times a day to be compliant with PR 1420.1. This facility uses sprinklers to wash roofs every day so no new secondary emissions would be generated. Emissions were estimated for the two extra sweeping events required at the affected facility that currently only sweeps once per day and from increasing the use of aerial lifts to weekly at the other affected facility. Emissions from sweepers were estimated by assuming that sweepers would be nine feet wide, sweep over the entire outside area around the production site (i.e., not around administrative buildings) two additional times a day with two feet of overlap on the return path as the sweepers travel back and forth. Emissions from aerial lifts assumed that lifts were operated six hours per day for two days, fifty times more a year (52 weeks minus the existing two weeks, since roofs are washed semi annually).

Based on a 10 mile per gallon fuel consumption, 65 additional gallons of diesel would be required annually for the two additional sweepings at the facility that is swept only once per day. The additional consumption of 65 gallons of diesel per year is not expected to require an additional fueling trip, so no increase in emissions are expected from diesel delivery trips. No additional LNG fueling trips are expected because the facility operators currently comply with the PR 1420.1 requirement to sweep three times per day.

Roof washing is contracted out so aerial lifts are delivered to the affected facility. A single heavy-duty diesel truck round trip of 40 miles per day is expected to be required on a peak day.

Minor emissions from welding may be generated by increased replacement of steel hot acid gas exhaust duct sections; and the replacement of sections is expected to be infrequent. Welding equipment is expected to be electric, so emissions would be generated only from the welding process itself. Emissions from welding by increased replacement of steel hot acid gas exhaust duct sections are expected to be infrequent and less than significant.

Air monitors would be visited every other day. One affected facility is located 30 miles from the district; the other is located 10 miles from the district. Therefore, a total of 80 miles may be traveled round trip to visit the air monitors.

Criteria emissions are presented in Table 2-3 and detailed in Appendix B. These emissions are less than the significance thresholds in Table 2-1; therefore, are expected to be less than significant.

Compliance Plans

SCAQMD staff expects that the enclosure, control technology and housekeeping requirements detailed in proposed project would reduce lead emission concentrations at the affected facilities to below 0.15 microgram per cubic meter concentration averaged over any 30 consecutive days measured by facility monitors compliant with PR 1420.1. Under PR 1420.1 compliance plans are required if the facility exceeds 0.12 microgram per cubic meter concentration averaged over any 30 days. Implementation of the approved compliance plans would occur if the facility exceeds the 0.15 microgram per cubic meter concentration averaged over any 30 consecutive days. It is unknown what types of measures the facility operators would include in the compliance plans, if this requirement is triggered. It is possible that compliance plans would consist of more frequent housekeeping activities, which as can be seen from the above analysis, are not expected to generate direct criteria emissions and generate secondary criteria emissions far below the significance thresholds.

Any compliance options that would require additional control equipment would need air quality permits. All permitted equipment is evaluated under CEQA.

Since enclosure, control and housekeeping requirements are expected to reduce lead emission concentrations at facilities to below 0.15 microgram per cubic meter averaged over any 30 consecutive days measured by facility monitors and compliance plans would address specific emission sources that are not known at this time; adverse impacts from compliance plans are considered speculative according to CEQA Guidelines §15145 and will not be evaluated further in this analysis.

Table 2-3
Secondary Criteria Emissions from Housekeeping Operation

Description	CO, lb/day	NOx, lb/day	VOC, lb/day	SOX, lb/day	PM10, lb/day	PM2.5, lb/day
Heavy-Duty Sweeper	0.39	0.43	0.05	0.001	0.02	0.01
Aerial Lift	1.26	2.2	0.40	0.002	0.15	0.14
Aerial Lift Delivery	0.96	3.06	0.24	0.003	0.15	0.13
Air Monitor Visit	0.66	0.07	0.07	0.0009	0.007	0.004
Total	3.3	5.7	0.77	0.007	0.32	0.28
Significant Thresholds	550	55	55	150	150	55
Significant?	No	No	No	No	No	No

Toxic Air Contaminants (TACs)
PR 1420.1 is designed to reduce lead emissions from lead-acid battery recycling facilities. PR 1420.1 is expected to reduce lead emission concentrations to below 0.15 microgram per cubic meter averaged over any 30 consecutive days.

Construction TACs
Since facilities currently sweep and would be required to sweep three times per day, and construction is expected to occur on existing paved surfaces; construction is not expected to generate lead dust emission from lead entrained in soils and on paved surfaces.

Secondary diesel exhaust particulate emissions are expected from construction equipment to build enclosures, ventilation for the enclosures and control equipment. Based on existing permit applications for the enclosures, ventilation for the enclosures and control equipment, construction should be completed within nine months at one affected facility and two months at the other affected facility. Since diesel exhaust particulates are carcinogenic TACs that are evaluated over 40 year exposure durations for off-site workers and 70-year exposure durations for sensitive receptors, construction projects lasting less than a year are not expected to be significant for toxic air contaminant emissions.

Operation TACs
PR 1420.1 is not expected to generate direct emissions from operations. The enclosures and control equipment are not expected to generate TAC emissions. Housekeeping is not expected to generate direct TAC emissions, and compliance plan requirements are considered to be speculative.

No additional quantifiable health risk is expected by one additional gasoline vehicle trip to each facility to visit air monitors every other day.

Secondary diesel exhaust particulate emissions are expected to be generated by sweeping requirements. One facility is currently swept three times a day with LNG sweepers, which complies with PR 1420.1. The other facility is swept once a day with diesel sweepers. Emissions were estimated for the two extra times sweeping would be required at the affected facility that currently only sweeps once per day.

Since the additional sweeping is only expected to require 65 gallons more fuel per year, no additional diesel fuel delivery is expected, so there would be no new health risk from diesel fuel delivery.

Secondary diesel exhaust particulate emissions are also expected to be generated by aerial lifts used to wash roofs. One facility uses sprinklers to wash roofs, so no additional health risk would be generated from this facility. The other facility uses aerial lifts to wash the tallest buildings twice a year. It takes two days to wash the tallest buildings with six hours of aerial lift use. PR 1420.1 would increase washing to every week. So, PR 1420.1 would increase building washing by 100 days per year (two days per washing, 50 weeks per year (52 weeks minus the two weeks when washing is currently done)).

Since health risk is localized, it must be evaluated at each of the affected facilities:

Health Risk from Facility A

Health risk was estimated based on diesel exhaust particulate emissions from increased roof washing at the other affected facility. Facility operators at this facility already sweep three times per day required by PR 1420.1, so no increased health risk would be caused by sweeping at this facility. Using SCAQMD Tier II health risk methodology, sensitive/residential receptor carcinogenic health risk would increase by 0.2 in one million. Off-site worker carcinogenic health risk would increase by 2.2 in one million according to air dispersion modeling using ISCST3. Both off-site worker and sensitive/residential receptor carcinogenic health risk are less than the significance threshold of 10 in one million; therefore, PR 1420.1 is not expected to cause a significant adverse health risk impact to receptors near this facility.

Health Risk from Facility B

Health risk was estimated based on diesel exhaust particulate emissions from sweeping two more times at the facility that currently only sweeps once a day. This facility uses sprinklers to wash roof tops, so no increased health risk would be caused by roof washing. Using SCAQMD Tier II health risk methodology, off-site worker receptor carcinogenic health risk would increase by 0.5 in one million and sensitive/residential receptor carcinogenic health risk would increase by 0.1 in one million. Both off-site worker and sensitive/residential receptor carcinogenic health risk are less than the significance threshold of 10 in one million; therefore, PR 1420.1 is not expected to cause a significant adverse health risk impact to receptors near this facility.

III. g) & h) Global Warming and Greenhouse Gases

In addition to criteria pollutant emissions, combustion processes generate GHG emissions that have the potential to affect global climate. Reducing the lead emission from lead-acid battery recycling facilities does not directly produce GHGs. However, sweepers used for housekeeping during the operational phase are expected to generate GHG emissions in combustion exhaust. The following GHG analysis focuses primarily on CO2 emissions because CO2 is the primary GHG pollutant emitted during the combustion process and is the GHG pollutant for which emission factors are most readily available. ARB EMFAC2007 emission factors for on-road mobile sources were used to determine carbon dioxide (CO2) and methane (CH4) emission factors. ARB OFFROAD2007 emission factors for off-road mobile sources were used to determine carbon dioxide (CO2) and methane (CH4) emission factors. EMFAC2007 and OFFROAD2007 does not include nitrous oxide (N2O) emission factors for the vehicles and

equipment assumed for this project, so NO2 emission factors were developed from the ratio of CH4 and NO2 emissions factors presented in ARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions for on-road mobile sources.

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour. Since the half-life of CO2 is approximately 100 years, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. As a result, GHG emission impacts are considered to be cumulative impacts rather than project-specific impacts.

Detailed calculations are presented in Appendix B. PR 1420.1 is expected to result in an incremental increase of 30 metric tons of CO2eq emissions per year from construction, which is 927 metric tons from construction amortized over a 30 year period as proscribed in the Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans[4] adopted by the SCAQMD Governing Board in December 2008. Operational CO2eq emissions are expected to be 54 metric tons per year (20 metric tons from sweeping, 11 metric tons from aerial lifts for roof washing, 15 tons from delivery of aerial lifts and 7.3 metric tons from ~~district~~ SCAQMD staff visiting air monitors). An incremental increase of 84 tons (30 metric tons from construction and 54 metric tons from operations) per year of CO2 emissions is less than the significance threshold of 10,000 metric tons of CO2 per year. PR 1420.1 would reduce lead emissions, which along with other control measures in the 2007 AQMP, are a comprehensive ongoing regulatory program that would reduce overall GHGs emissions. GHG emissions are summarized in Table 2-4. Based on the above analysis, PR 1420.1 would not generate GHG emissions either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. Therefore, PR 1420.1 is not considered significant for adverse GHG impacts.

III. e) As previously noted, implementing PR 1420.1 is not expected to directly require construction to install control equipment or construction of new structures other than a secondary lead control device for a dryer ~~an additional vehicle washer~~, since permit applications for required structures and control equipment have been submitted to address other existing obligations. However, since PR 1420.1 also includes requirements for these structures and control equipment, odors related to construction and operation of these structures and control equipment are addressed here. Construction is expected to occur on-site ~~and is not expected to require the use of large earthmoving equipment~~. Also, the affected facilities are located in industrial facilities where heavy duty diesel trucks already operate. Therefore, the addition of several pieces of construction equipment is not expected to generate diesel exhaust odor greater than what is already present.

[4] Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/hb/2008/December/081231a.htm.

Table 2-4
Secondary GHG Emissions from the Proposed Project ~~Housekeeping~~ Operation

Description	CO2, Mton/year	CH4, Mton/year	N2O, Mton/year	CO2eq, Mton/year
Demolition	0.26	0.000012	0.000005	0.26
Concrete Paving	0.056	0.000007	0.000006	0.056
Structure Construction	30	0.0025	0.0021	30
Total Construction*	30	0.0025	0.0021	30
Sweepers	20	0.0009	0.00008	20
Aerial Lifts	11	0.0004	0.001	11
Aerial Lift Delivery	15	0.0005	0.00004	15
Air Monitor	7.3	0.0005	0.0007	7.3
Total Operation	54	0.0024	0.0015	54
Project Total	**84**	**0.005**	**0.004**	**84**

Construction emissions were estimated for construction equipment at both affected facilities. Construction emissions are spread evenly over 30 years per Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/hb/2008/December/081231a.htm .
Operational emissions were estimated for sweepers and air monitoring station visits.

PR 1420.1 would require additional sweeping and roof washing at the facilities. Heavy-duty diesel trucks are used to deliver used batteries and to ship recycled lead product. Additional exhaust from more frequent sweeping and roof washing activities is not expected to generate diesel exhaust odor greater than what is already present.

Therefore, no significant adverse odor impacts are expected from implementing PR 1420.1.

Based upon these considerations, the air quality impacts associated with increased emissions of criteria pollutants, toxic air contaminants and GHG emissions are not expected to be significant. Therefore, based on the analysis above, PR 1420.1 is not expected to generate significant air quality impacts and will not be evaluated further in this ~~Draft~~ Final EA. Since no significant adverse air resources impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that air quality and greenhouse gas emissions impacts from the overall project are less than significant.

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

Significance Criteria

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

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

Discussion

IV. a), b), c), & d) PR 1420.1 would require the construction of enclosures, control technology~~,~~ ~~vehicle washing stations~~ and monitors at two existing large lead-acid battery recycling facilities in the district. All construction activities would occur on-site at these existing facilities and are not expected to require substantial earthmoving. A 52 foot by 52 foot section of concrete would be removed along with soil to a depth of two feet so a concrete pad could be poured to support the secondary control of a dryer. Since the affected facilities are located in industrial areas that have been previously disturbed the removal of the concrete and soil is not expected to adversely impact biological resources. Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site. The existing large lead-acid battery recycling facilities are located in areas zoned as industrial, which have already been greatly disturbed.

Air monitors may be place off-site of the facility in the surrounding industrial area. Air monitors are expected to be place at industrial sites on paved surfaces that have also already been greatly disturbed.

In general, the affected facilities and surrounding industrial areas currently do not support riparian habitat, federally protected wetlands, or migratory corridors. Additionally, special status plants, animals, or natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service are not expected to be found in close proximity to the affected facilities. Therefore, the proposed project would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely in the SCAQMD's jurisdiction.

Compliance with PR 1420.1 is expected to reduce lead emissions from operations at the affected facilities, which would improve not worsen present conditions of plant and animal life. PR 1420.1 does not require acquisition of additional land or further conversions of riparian habitats or sensitive natural communities where endangered or sensitive species may be found.

IV. e) & f) The proposed project is not envisioned to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because it will only affect two existing large lead-acid battery recycling located in industrial areas. PR 1420.1 is designed to reduce lead adverse impacts outside the boundaries of affected facilities. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the proposed project. Additionally, the proposed project would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because all activities associated with complying with PR 1420.1 would occur at existing industrial facilities.

The SCAQMD, as the Lead Agency for the proposed project, has found that, when considering the record as a whole, there is no evidence that the proposed project will have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in §753.5 (d), Title 14 of the California Code of Regulations. Further, in accordance with this conclusion, the

SCAQMD believes that this proposed project qualifies for the no effect determination pursuant to Fish and Game Code §711.4 (c).

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that biological resource impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:			
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource, site, or feature?	☐	☐	☑
d)	Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☑

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V. a), b), c), & d) PR 1420.1 would require the construction of enclosures, control technology~~, vehicle washing stations~~ and paving of dirt areas at two existing large lead-acid battery recycling facilities in the district. All construction activities would occur on-site at these existing facilities and are not expected to require substantial earthmoving. A 52 foot by 52 foot section of concrete would be removed along with soil to a depth of two feet so a concrete pad could be poured to support the secondary control of a dryer. Since the affected facilities are located in industrial areas that have been previously disturbed the removal of the concrete and soil is not expected to adversely impact cultural resources. Changes to operations would include additional

housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site.

Air monitors may be place off-site of the facility in the surrounding industrial area. Air monitors are expected to be place at industrial sites on paved surfaces.

The existing large lead-acid battery recycling facilities are located in areas zoned as industrial, which have already been greatly disturbed. Areas used for air monitors are also expected to be zoned industrial and previously disturbed. Therefore, PR 1420.1 is not expected to require physical changes to the environment that could disturb paleontological or archaeological resources. Therefore, the proposed project has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside a formal cemeteries. Finally, because the proposed project would involve construction activities in previously disturbed areas on-site at industrial facilities and are not expected to require substantial earthmoving, it is unlikely that the county coroner or that the Native American Heritage Commission would need to be contacted. The proposed project is, therefore, not anticipated to result in any activities or promote any programs that could have a significant adverse impact on cultural resources in the district.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PR 1420.1 and will not be further assessed in this ~~Draft~~ Final EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that cultural resources impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
VI.	**ENERGY.** Would the project:			
a)	Conflict with adopted energy conservation plans?	☐	☐	☑
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☑	☐
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☑	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☑	☐
e)	Comply with existing energy standards?	☐	☐	☑

Significance Criteria
Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:
- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion
VI. a) & e) PR 1420.1 does not require any action which would result in any conflict with an adopted energy conservation plan or violation of any energy conservation standard. PR 1420.1 is not expected to conflict with adopted energy conservation plans because existing facilities would be expected to continue implementing any existing energy conservation plans.

PR 1420.1 is not expected to cause new development. The local jurisdiction or energy utility sets standards (including energy conservation) and zoning guidelines regarding new development and will approve or deny applications for building new facilities. During the local land use permit process, the project proponent may be required by the local jurisdiction or energy utility to undertake a site-specific CEQA analysis to determine the impacts, if any, associated with the siting and construction of new development.

As a result, PR 1420.1 would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the need for new or substantially altered power or natural gas systems. Accordingly these impact issues will not be further analyzed in the ~~Draft~~ Final EA.

VI. b), c) & d. PR 1420.1 would increase electric use from additional blowers associated with controlling new enclosures. Diesel fuel would be consumed from construction and additional sweeping.

Electricity Impacts
The owner/operators at the two affected facilities are currently enclosing their raw material/battery breaking, smelting and rotary dryer areas. Based on permit applications the enclosures are expected to require two 100-horsepower blowers at one facility serviced by Southern California Edison (Edison), and two 100-horsepower blowers and two 150-horsepower blowers at the other facility serviced by the Los Angeles Department of Water and Power (LADWP).

Air monitors are expected to be powered by electricity service near where the air monitors are placed (i.e., may not be powered from the affected lead-acid battery recycling facilities). The air monitors typically require 16 amps of service (six amps for the monitor and 10 amps for vacuum pumps), which would be approximately two kilowatts (16 amps x 110 voltage). The addition of two kilowatts is not expected to be significant.

California Energy Commission staff reports that the southern California area (Edison Planning Area) consumed 105,054 gigawatts ~~megawatts~~ in 2008 with a peak consumption of 23,272

~~gigawatts~~ megawatts per hour that year.[5] The 142 kilowatts per hour required to run blowers at the affected facilities would be 1.3E-7 percent of the 2008 consumption and 0.001 percent of the peak area consumption that was available in 2008 (Table 2-5). The CEC staff reports that LADWP consumed 25,921 gigawatts in 2008 with a peak consumption of 5,717 megawatts per hour in 2008. The 319 kilowatts per hour required to run the blowers at the affect facility would be 319 kilowatts-hour, which is 1.2E-6 percent of the 2008 consumption and 0.006 percent of the peak consumption. Therefore, SCAQMD staff concludes that the amount of electricity required to meet the incremental energy demand associated with PR 1420.1 would be sufficient and would not result in a significant adverse electricity energy impact.

Table 2-5
Electricity Use

Area	Combined Blower Rating, HP	Electricity Use, kW/hr	Area Consumption, GW	Percent of Area Consumption	Area Peak Consumption MW/hr	Percent of Area Peak Consumption
Edison	200	142	105,054	1.3E-07	23,727	0.001
LADWP	450	319	25,921	1.2E-06	5,717	0.006

Diesel Impacts

Construction Diesel Use

Approximately 317 gallons of diesel fuel per day would be expected to be consumed by construction equipment and delivery trucks on a peak day. Since construction is phased, the additional diesel consumption from the demolition and construction of new baghouse for secondary control of a dryer is within the 317 gallons of diesel expected on a peak construction day, which would occur during the construction of enclosures. According to the 2007 AQMP, 10 million gallons of diesel is consumed every day. Since 317 gallons of diesel per day is far less than one percent (0.003 percent) of the diesel available, the proposed project is not considered to have a significant adverse diesel fuel use impact from construction.

Operational Diesel Use

Sweeper Diesel Use

One facility is currently swept three times a day with LNG sweepers, which complies with PR 1420.1. The other facility is swept once a day with diesel sweepers. Diesel use was estimated for the two extra sweeping events that would be required at the affected facility that currently only swept once per day. Diesel use was estimated assuming that sweepers would be nine feet wide, sweep over the entire outside area around the production site (i.e., not around administrative buildings) two times a day with two feet of overlap on the return path as the sweepers travel back and forth. Assuming a ten mile per gallon of diesel fuel efficiency approximately 2.1 gallons of diesel would be consumed on a peak day.

[5] Supply from California Energy Commission's Energy Almanac at http://energyalmanac.ca.gov/naturalgas/natural_gas_receipts.html.

Since the additional sweeping is only expected to require 65 gallons more fuel per year, no additional diesel fuel delivery is expected, so there would be no additional diesel fuel use from diesel fuel delivery.

Aerial Lift Diesel Use
One facility uses sprinklers to wash roofs, so no fuel is required. The other facility uses aerial lifts to wash tall roof tops. The aerial lifts are used six hours per day. Diesel fuel use was estimated using a 1.4 gallon per hour fuel consumption from OFFROAD2007. The diesel fuel use from aerial lifts would be 8.4 gallons per day.

Roof washing is contracted out so aerial lifts are delivered. A single heavy-duty diesel truck round trip of 40 miles per day is expected to be required on a peak day. Assuming a ten mile per gallon of diesel fuel efficiency approximately eight gallons of diesel would be consumed on a peak day.

According to the 2007 AQMP, 10 million gallons of diesel is consumed every day in California. Since 18.5 gallons of diesel fuel per day (2.1 gallons from sweepers, 8.4 from aerial lifts and eight gallons from aerial lift delivery) is less than one percent (0.0002 percent) of the diesel available, the proposed project is not considered to have a significant adverse operational impact for diesel fuel use.

Gasoline Usage

Construction Gasoline Use
Nine construction worker trips are expected on a peak day. Based on a 20 mile round trip, and a 16 mile per gallon fuel efficiency, approximately 10 gallons of gasoline would be used on a peak day. The 2007 AQMP states that 44 million gallons of gasoline are consumed per day in California. An additional 10 gallons of gasoline consumed on a peak day (0.00002 percent of the daily consumption) is not expected to have an adverse impact on gasoline supplies.

Operational Gasoline Use
One trip to each facility to visit air monitors, based on 80 miles round trip (30 miles to one facility and 10 miles to the other from the district), and a 16 mile per gallon fuel efficiency, would consume approximately five gallons of gasoline on a peak day. An additional five gallons of gasoline consumed on a peak day (0.00001 percent of the daily consumption) is not expected to have an adverse impact on gasoline supplies.

Based upon the above considerations, the proposed project is not expected to use energy in a wasteful manner, would not substantially deplete energy resources.

Based upon the preceding analysis, it is not expected that PR 1420.1 would create any significant effects on peak and base period demands for electricity and other forms of energy, create any significant effects on local or regional energy supplies or requirements for additional energy, or result in the need for new or substantially altered power or natural gas utility systems since only insignificant use of electricity and diesel fuel are expected.

Based upon these considerations, significant adverse impacts to energy are not expected from implementation of PR 1420.1 and will not be evaluated further in this ~~Draft~~ Final EA. Since no

significant energy impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that energy impacts from the overall project are less than significant.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑
• Strong seismic ground shaking?	☐	☐	☑
• Seismic–related ground failure, including liquefaction?	☐	☐	☑
• Landslides?	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☑

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII. a) PR 1420.1 would require the construction of enclosures, control technology~~, vehicle washing stations~~ and encapsulation of facility grounds at two existing large lead-acid battery recycling facilities in the district. All construction activities would occur on-site at these existing facilities and are not expected to require substantial earthmoving. A 52 foot by 52 foot section of concrete would be removed along with soil to a depth of two feet so a concrete pad could be poured to support the secondary control of a dryer. Since the affected facilities are located in industrial areas that have been previously disturbed and must be construction according to Uniform Building Code, the removal of the concrete and soil is not expected to cause risk of loss, injury or death involving rupture of an earthquake fault, seismic ground shaking or landslides.

Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site.

Air monitors may be placed off-site. Air monitors are expected to be placed on existing paved surfaces; and therefore are not expect to affect soil or geology.

Because Southern California is an area of known seismic activity, existing facilities are expected to conform with the Uniform Building Code and all other applicable state and local building codes. As part of the issuance of building permits, local jurisdictions are responsible for assuring that the Uniform Building Code is adhered to and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction.

Since all structures and control technology would be built according to the Uniform Building Code, the proposed project would not expose people or structures to risks of loss, injury, or death involving: rupture of an earthquake fault, seismic ground shaking, ground failure or landslides. Since the affect facilities already exist, PR 1420.1 is not expected to increase exposure to existing earthquake risk.

VII. b) Based on discussion with affected facility operators, construction related to PR 1420.1 is expected to occur on existing paved surfaces and is not expected to require ~~any~~ substantial earthmoving. A 52 foot by 52 foot section of concrete would be removed along with soil to a depth of two feet so a concrete pad could be poured to support the secondary control of a dryer.

A new concrete pad would be constructed in accordance with the Uniform Building Code, which would prevent soil erosion. PR 1420.1 also requires the encapsulation of all facility grounds to prevent lead contamination. Therefore, no soil erosion or loss of topsoil, unstable earth conditions or changes in geologic substructures are expected to occur at the affected facilities as a result of implementing the proposed project.

VII. c) Since the proposed project would affect existing facilities and all demolition and construction is expected to follow the Universal Building Code, it is expected that the soil types present at the affected facilities would not be further susceptible to expansion or liquefaction. Furthermore, subsidence is not anticipated to be a problem since no substantial excavation, grading, or filling activities are expected occur at affected facilities. Additionally, the affected areas are not envisioned to be prone to landslides or have unique geologic features since the affected facilities are existing facilities that are located in industrial areas.

VII. d) & e) Since PR 1420.1 would affect existing facilities located in industrial zones and all demolition and construction is expected to follow the Universal Building Code, it is expected that people or property would not be exposed to expansive soils or soils incapable of supporting water disposal. Though each affected facility has an existing wastewater treatment systems that would continue to be used, these systems have the capacity to support this proposed project. Sewer systems are available to handle wastewater produced and treated by each affected facility. PR 1420.1 would not require the installation of septic tanks or alternative wastewater disposal systems at each existing facility affected by the proposed project. As a result, PR 1420.1 would not require operators to utilize septic systems or alternative wastewater disposal systems. Thus, the proposed project would not adversely affect soils associated with a septic system or alternative wastewater disposal system.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PR 1420.1 and would not be further analyzed in this ~~Draft~~ Final EA. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that geology and soils impacts from the overall project are less than significant.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	☐	☑	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	☐	☐	☑
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑
i) Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.

- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII. a) PR 1420.1 would require the construction of enclosures, control technology~~, vehicle washing stations~~ and paving of dirt areas at two existing large lead-acid battery recycling facilities in the district. Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site. Since the goal of PR 1420.1 would be to reduce direct and indirect sources of lead, the proposed project would reduce the emissions of hazardous emissions

PR 1420.1 would not affect the amount of lead recycled, so it is not expected to directly affect operations. Indirectly, PR 1420.1 would reduce the amount of fugitive lead that is emitted by enclosing all lead recycling operations, additional air pollution control systems and through additional housekeeping requirements.

PR 1420.1 may increase the amount of lead disposed of by capturing additional fugitive emissions through enclosures, control technology, and housekeeping activities (see Section XVI. Solid/Hazardous Waste), but the increase amount of lead captured would be the lead that currently is emitted as fugitive emission. The capture of these fugitive emissions would reduce lead exposure to the public and environment.

Therefore, PR 1420.1 is not expected to create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous material.

VIII. b) PR 1420.1 requirements (enclosure, control, housekeeping and monitoring) would not increase the frequency or magnitude of lead emissions through reasonably foreseeable upset and accident conditions. The enclosure, control, housekeeping and monitoring would reduce existing potential adverse impacts from upset and accident conditions, since additional monitoring would alert owner/operators earlier to upsets and accidents, additional operations would be enclosed and controlled, and additional housekeeping requirements would assist in capturing fugitive lead emissions.

VIII. c) No schools are located within a quarter mile of either affected facility. Therefore, PR 1420.1 would not result in hazardous emissions, handling of hazardous or acutely hazardous materials, substances or wastes within one-quarter mile of an existing or proposed school.

VIII. d) Government Code §65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). Though some of the affected facilities subject to PR 1420.1 may be included on the list of the hazardous materials sites compiled pursuant to Government Code §65962.5, compliance with the proposed project is expected to enhance current hazardous waste handling practices by requiring enclosures or use of closed containers to store or transport lead containing material. Hazardous wastes from the existing facilities are required to be managed in accordance with applicable federal, state, and local rules and regulations.

PR 1420.1 would further reduce fugitive emissions from lead-acid battery existing recycling facilities. Lead emissions from point sources are already controlled at these facilities. Lead emissions collected from air pollution control systems connected to enclosures and housekeeping activities required by PR 1420.1 would be placed in the lead recycling process to be formed into lead product (see Tables 1-2 and 1-2 for list of existing and PR 1420.1 fugitive emission control and housekeeping activities). Accordingly, significant hazards impacts from the disposal/recycling of hazardous materials are not expected from the implementation of PR 1420.1.

VIII. e) & f) One affected facility is not near any airports or private airstrips. The other facility is within six miles of the El Monte Airport. PR1420.1 is not expected to affect any airport or private airstrip since the proposed project is not expected to cause the construction of any object that would exceed the height of existing buildings or equipment. PR 1420.1 would result in the reduction of lead emissions. Secondary TAC emissions from sweeping were addressed in the Air Quality section of this EA and found to be less than significant. Therefore, no new hazards are expected to be introduced at affected facilities that could create safety hazards at local airports or private airstrips. Therefore, PR 1420.1 is not expected to result in a safety hazard for people residing or working in the project area even within the vicinity of an airport.

VIII. g) Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. The proposed project would not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. The two existing affected facilities already have emergency response plans in place. Thus, PR 1420.1 is not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII. h) & i) The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Further, businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. Local fire departments ensure that adequate permit conditions are in place to protect against potential risk of upset.

The air pollution control systems for the new enclosures would not involve increase fire risk because it would not involve flammable materials. The enclosure for the smelter area would be vented to a scrubber. The water in the existing wet scrubber reduces the risk of fire from smelting emissions. The air pollution control system for the rotary driers includes a spark arrestor which would reduce the risk of fire on-site.

The proposed project would not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees. No substantial or native vegetation typically exists on or near the affected

facilities (specifically because such areas could allow the accumulation of fugitive lead dust), the proposed project requires the encapsulating (paving or asphalting) of all facility grounds. So the proposed project is not expected to expose people or structures to wild fires. Therefore, no significant increase in fire hazards is expected at any of the affected facilities associated with the proposed project.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PR 1420.1 and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that hazards and hazardous materials impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☐	☑	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☑	☐
f)	Otherwise substantially degrade water quality?	☐	☑	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flaws?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☑	☐
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☑	☐
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑

Significance Criteria
Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Quality:
- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Water Demand:
- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.
- The project increases demand for water by more than five million gallons per day.

Discussion
The following discussion addresses weekly roof washing and wheel washing. PR 1420.1 was modified after the Draft EA was circulated for public review to remove the wheel washing requirement and the roof top washing requirement was modified. Roof washing was reduced to monthly cleanings of roof tops on structures less than 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and quarterly cleanings, no more than three calendar months apart, of roof tops on structures greater than 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials. Owner/operators would be required to 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 above (roof tops and areas where wastes from housekeeping activities are stored, disposed of, recovered or recycled). Immediate cleanings of roof tops would be completed within 72 hours if the facility can demonstrate that delays were due to safety or timing issues. The hydrology and water quality analysis has been revised to reflect these changes.

IX. a), f), & k) The two existing affected facilities already have wastewater treatment operations on-site. The wastewater treatment systems are comprised of settling and equalization tanks. Lead collected in the wastewater treatment systems is placed into the lead recycling operation to be recycled. Water from the wastewater treatment systems is discharged to publicly owned treatment works (POTWs). The water discharge complies with existing lead water quality standards. Based on conversations with facility operators, the existing wastewater systems would be able to treat additional wastewater generated by the proposed project from the ~~vehicle washers and~~ housekeeping requirements. Therefore, PR 1420.1 is not expected to have significant adverse affects on water quality standards or waste discharge requirements, otherwise

degrade water quality or exceed wastewater treatment requirements of the Regional Water Quality Control Board.

IX. b), l), n) &o)

Surface Impoundment Pond

Only one of the affected facilities has a surface impoundment pond. PR 1420.1 includes a requirement that would prevent the surface impoundment pond from drying while holding lead-containing materials. PR 1420.1 would also require that the pond be washed until used again for holding water. ~~Facility operators comply with surface impoundment pond requirements in PR 1420.1. Therefore, water use associated with the surface impoundment pond is considered part of the existing setting and would not increase the amount of water used.~~ The analysis in the Draft EA assumed that the facility operators at the affected facility already comply with the pond/reservoir housekeeping requirements in PR 1420.1. While facility operators does comply with the requirements to remove lead-containing material and sludge within 24 hours after the water level is less than one inch at any point above the bottom of the surface impoundment pond. Under PR 1420.1, facility operators would need to wash down the empty surface impoundment pond weekly until the pond/reservoir is used to store water again. It was assumed that the affected facility operator would wash the entire surface area of the surface impoundment pond in a day with $1/16^{th}$ inch of water. Based on the surface impoundment pond area of one acre that would be washed, approximately 1,697gallons of water would be used to wash the impoundment pond area.

Facility Process Area Washing

Based on discussions with existing affected facility operators PR 1420.1 ~~1120.1~~ would not increase water used in existing wet scrubber and wet ESP. It was assumed that the facilities wash the entire surface area of each affected site minus non-process buildings and areas on the same day with $1/16^{th}$ inch of water. Based on a combined area of 170,000 square feet that would be washed, approximately 6,623 gallons of water would be used to wash facility surfaces on a worst-case day.

The facility process area washing analysis in the Draft EA included roof washing. One affected facility operator currently washes roofs daily; therefore, already meets the roof washing requirement of PR 1420.1 The other facility operator washes roofs of structures less than 45 feet in height monthly, which meets the requirements of PR 1420.1. Roofs that are greater than 45 feet are washed semi-annually, so two more washings of these roofs per year would be required to comply with quarterly roof washing requirement in PR 1420.1. Therefore, the modified amendments to Rule 1420.1 would result in greater roof washings for roofs greater than 45 feet than are currently done at one of the affected facilities, but fewer roof top washings than the weekly washings previously proposed in the Draft EA that was circulated for public comment.

In addition owner operators are offered the choice whether to wet wash roofs and storage areas or to use a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97 percent capture efficiency for 0.3 micron particles. If facilities use vacuums to clean roofs, then cleaning the roofs would not involve water use.

The "worst-case" under the modification would the same as that analyzed in the Draft EA, i.e., when all surfaces (roofs, ground, etc.) are washed in a single day. Therefore, the "worst-case"

water usage would remain approximately 6,623 gallons of water would be used to wash facility surfaces on a worst-case day.

Wheel Washing

The wheel washing requirement was removed from PR 1420.1; therefore, adverse impacts from the requirement were removed from this analysis. ~~Approximately 100 trucks per day may be washed between both facilities. Based on the assumption that a truck is 15 feet tall by 75 feet long by nine feet wide and washed with 1/16th inch of water, approximately 15,078 gallons of water per day would be used.~~

The total water use of ~~21,701~~ 8,320 gallons per day is less than the significance threshold of five million gallons per day. Even though the total potential increase in water use of the proposed project is below the SCAQMD's five million gallons per day significance threshold, it may be helpful to consider other criteria for evaluating what would be considered a substantial use of potable water, especially since California is in a State of Emergency for Drought. For example, CEQA Guidelines §15155 – City or County Consultation with Water Agencies, defines a "water-demand" project in several ways. While the criteria for defining water demand are not significance thresholds per se, the criteria can provide some insight as to how city or county lead agencies evaluate water-demand impacts. Most of the criteria in this part of the CEQA Guidelines do not have a bright line or direct way to correlate the criteria in terms of gallons per day for a direct comparison to SCAQMD's significance criteria for potable water use. However, CEQA Guidelines §15155 (a)(1)(C) defines a water-demand project as: "A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space." To estimate what this means in terms of water demand per person relative to the square footage (sf) of the floor area of the plant, commercial water usage rates[6] and average employment levels[7] (i.e. the number of employees per square foot) can be applied as follows:

$$\frac{\text{(123 GAL WATER)}}{\text{(YEAR) (SF OF BUILDING)}} \times \frac{\text{(1,000 SF OF BUILDING)}}{\text{(1.8 EMPLOYEES)}} \times \frac{\text{(1 YEAR)}}{\text{(260 DAYS)}} \times \text{(1,000 EMPLOYEES)} = \text{262,820 GAL/DAY}$$

This water demand estimate can then be applied to industrial sources because CEQA Guidelines §15155 (a)(1)(E) uses the same 1,000 employee level to defines a water-demand project as: "An industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acre of land, or having more than 650,000 square feet of floor area."

The total water use of ~~21,701~~ 8,320 gallons per day is also below 262,820 gallons of potable per day. Therefore, PR 1420.1 would not significantly deplete groundwater supplies or interfere substantially with groundwater recharge, and sufficient water supplies are available to serve existing entitlements and resources. With water use less than significance threshold of five million gallons per day and 262,820 gallons of potable water per day, PR 1420.1 would not

[6] California Commercial End-Use Survey, Consultant Report, Table 8-1, p 150. Prepared For: California Energy Commission, Prepared by: Itron, Inc. March 2006. http://www.energy.ca.gov/2006publications/CEC-400-2006-005/CEC-400-2006-005.pdf

[7] Urban Land Use Institute Data, Wausau West Industrial Park Expansion, Development Impact Analysis, Average Employment Levels, p.4, Prepared by Vierbicher Associates, January 5, 2001.

require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Further, because water use is less than the significance threshold of five million gallons per day and 262,820 gallons of potable water per day the proposed project is not expected to require a determination by the wastewater treatment provider which serves or may serve the project's projected demand in addition to the provider's existing commitments.

IX. c), d), g), h), i), and j) PR 1420.1 would affect operations at two existing lead-acid battery recycling facilities. These facilities are mostly paved. PR 1420.1 would enclose all operations related to lead-acid battery recycling and require the encapsulation of all facility grounds by paving or asphalting. Since the affected facilities already exist and are essentially fully paved, and the areas the facilities are located in are zoned industrial, PR 1420.1 is not expected to alter the existing draining pattern of the site or area, including through alteration of the course of a stream or river that would result substantial erosion or siltation on- or off-site; place housing within a 100-year flood hazard area; place structures within a 100-year flood hazard area which would impede or redirect flood flaws; exposure people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or a dam; or inundation by seiche, tsunami or mudflow.

IX. e) & m) ~~PR 1420.1 includes a requirement for vehicle wet washing areas.~~ PR 1420.1 requires that all water used for the washing process be collected, handled and treated such that further releases of lead emissions are avoided. Other housekeeping requirements involving washing roofs and areas where lead-containing wastes associated with storage, handling or processing of lead materials, and lead material management at ponds and reservoirs are already occurring to comply with orders for abatement. Since new washing requirements under PR 1420.1 require that all water used for the washing process be collected, handled and treated, the proposed project is not expected to create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems; provide substantial additional sources of polluted runoff; or require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant effects.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of PR 1420.1 and would not be further analyzed in this ~~Draft~~ Final EA. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that hazards and hydrology and water quality impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:			
a)	Physically divide an established community?	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☑	☐
c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X. a) PR 1420.1 would require the construction of enclosures, and control technology~~, and vehicle washing stations~~ at two existing large lead-acid battery recycling facilities in the district. All construction activities would occur on-site at these existing facilities and are not expected to require substantial earthmoving. Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operations would also occur on-site. Therefore, the proposed project would not create divisions in any existing communities.

X. b) Land use and other planning considerations are determined by local governments. PR 1420.1 would restrict the construction or operation of large lead recycling facilities in areas that are zoned for residential or mix use. In addition, any new facility would be required to be located further than 1,000 feet from the boundary of a sensitive receptor, school under construction or any area that is zoned for residential or mixed use. The new facility requirements are not designed to impede or conflict with existing land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, but to assist in avoiding or mitigating lead impacts from large lead recycling facilities. Operations at affected facilities would still be expected to comply, and not interfere, with any applicable land use plans, zoning ordinances.

X. c) Large lead recycling facilities are expected to be restricted to industrial zoned areas. Since zoning is established in general plans, which undergo CEQA analysis, no industrial zoned areas are expected to conflict with an applicable habitat conservation or natural community conservation plan. Therefore, PR 1420.1 affects existing and new large lead recycling facilities which exist or would be build in industrial areas no significant adverse impacts to applicable habitat conservation or natural community conservation plan are expected.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PR 1420.1 and would not be further analyzed in this ~~Draft~~ Final EA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that land use and planning impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XI.	**MINERAL RESOURCES.** Would the project:			
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☑
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☑

Significance Criteria

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

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI. a) & b) There are no provisions in PR 1420.1 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state such as aggregate, coal, clay, shale, et cetera, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Based upon these considerations, significant mineral resources impacts are not expected from the implementation of PR 1420.1 and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that mineral resources impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XII.	**NOISE.** Would the project result in:			
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☑	☐
f)	For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	☐	☑	☐

Significance Criteria

Impacts on noise will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XI. a) & f) Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, is intense enough to damage hearing, or is otherwise annoying (unwanted noise). Sound levels are measured on a logarithmic scale in decibels (dB). The universal measure for environmental sound is the "A" weighted sound level, dBA, which is the sound pressure level in decibels as measured on a sound level meter using the A-weighted

filter network. "A" scale weighting is a set of mathematical factors applied by the measuring instrument to shape the frequency content of the sound in a manner similar to the way the human ear responds to sounds.

Federal, state and local agencies regulate environmental and occupational, as well as, other aspects of noise. Federal and state agencies generally set noise standards for mobile sources, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of General Plan policies and Noise Ordinance standards, which are general principles, intended to guide and influence development plans. Noise Ordinances set forth specific standards and procedures for addressing particular noise sources and activities. The Occupational Safety and Health Administration (OSHA) sets and enforces noise standards for worker safety.

One example of local jurisdiction requirements might be the City of Los Angeles. Existing operational noise generated from lead acid battery recycling in Los Angeles would be subject to the City of Los Angeles Noise Element of the General Plan and/or the City of Los Angeles Municipal Code. Table 2-6 summarizes these requirements. Other local jurisdictions typically have similar requirements.

Table 2-6
City of Los Angeles Noise Requirements

Requirement	Construction Limit (dBA)	Operational Limit (exterior dBA except where noted)
Noise Element of the General Plan of the City of Los Angeles	65 dBA CNEL or less - considered "conditionally acceptable" for residential use. 70-75 dBA CNEL - considered "conditionally acceptable for industrial use".	65 dBA CNEL or less - considered "conditionally acceptable" for residential use. 70-75 dBA CNEL - considered "conditionally acceptable" for industrial use.
City of Los Angeles Municipal Code Chapter XI, Article 2, §112.05	Requires that noise levels generated by construction equipment within a residential zone not exceed 75 dBA.	Not applicable.
City of Los Angeles Municipal Code Chapter IV, Article 1, §41.40	Construction activities prohibited without a special permit between the hours of 10:00 p.m. and 7:00 a.m.	Not applicable.

The proposed project affects existing facilities and would not generate excessive noise levels outside the boundaries of the affected facilities, or expose people residing or working in the project area to excessive noise levels. The proposed project requires no additional equipment to the existing facilities which would cause noise level to exceed ambient levels.

Construction-Related Noise

One of the two existing facilities affected by PR 1420.1 has been issued air quality permits to construct for enclosing and air pollution control system (exhaust system with two baghouses) from the battery breaking area. These permit applications were submitted to comply with existing agreements with SCAQMD and other agencies. ~~No permit applications have been submitted for the vehicle washing system at this time.~~

The other existing facility affected by PR 1420.1 has submitted air quality permit applications for enclosures and air pollution control systems for the raw material preparation system, smelting and refining building system and rotary dryers. The air pollution control systems would consist of exhaust systems, a spark arrestor, high efficiency particulate absorbing (HEPA) filter mist eliminator for an existing scrubber~~, vehicle wash system~~ and sweeper. These permit applications were submitted to comply with existing agreements with SCAQMD and other agencies. A permit for a secondary lead control device for the dryers is expected to be filed, if PR 1420.1 is adopted.

Existing sites are paved and most of the construction is expected to occur on these existing paved surfaces~~; therefore, large potentially noise intensive construction equipment would not be needed to prepare the site, build enclosures and install control equipment.~~ A 52 foot by 52 foot section of concrete would be removed along with soil to a depth of two feet at most and a new concrete pad could be poured to support the secondary control of a dryer. Table 2-6 presents construction noise levels from typical construction equipment. The affected facility operations currently include diesel truck traffic to deliver recycled batteries and ship recycled lead product. Based on Table 2-6, truck noise levels are around 82 dBA at 50 feet. Construction would increase the noise levels to around 85 dBA at 50 feet from the center of construction activity. The closest resident to either facility is about 850 feet. Using an estimated six dBA reduction for every doubling in distance, the noise levels at the closest resident would be indistinguishable from background. In general, given ambient noise levels near affected facilities, noise attenuation (the lowering of noise levels over distances), and compliance with local noise ordinances, potential construction noise impacts are not expected to be significant.

Table 2-7~~-6~~
Construction Noise Sources

Equipment	Typical Range (decibel)	Analysis Value (decibel)
Cranes	75-89	85
Tractors/Loaders/Backhoes	73-98	85
Pavers	85-88	75
Generator Sets	71-83	85
Truck	82-92	82

Typical ranges are from the City of Los Angeles, 1998. Levels are in dBA at 50-foot reference distance.
Analysis values are intended to reflect noise levels from equipment in good condition, which appropriate mufflers, air intake silencers, etc. In addition, these values assume averaging of sound level over all directions from the listed piece of equipment.

Operational Noise

Noise is a by-product of lead-acid battery recycling operations. Employees and equipment at existing affected facilities currently perform activities which create noise, such as, raw material processing (battery breaking/crushing, charger preparation, rotary drying, sweating), smelting (furnaces), refining and casting, and truck loading/unloading. Noise ordinances and noise general plan requirements typically govern activities at existing facilities. Contributors to ambient noise levels at typical facilities include onsite equipment and mobile sources. PR 1420.1 does not require the installation of any equipment which could be defined as a major contributor to ambient noise levels. Enclosing existing open processes, such as, raw material handling and rotary dryers would reduce noise produced during these processes. The affected facilities already comply with the types of housekeeping requirements in PR 1420.1 due to other requirements and obligations; therefore, the types of housekeeping activities that are done are expected to remain unchanged, the frequency of housekeeping activities is expected to increase ~~and vehicle wet washers would be added~~. Since housekeeping activities are already done~~, with the exception of vehicle wet washing,~~ only the duration of the noise from these activities is expected to increase, since PR 1420.1 would increase the frequency which housekeeping activities are done. ~~Wet washing of vehicles is not expected to generate substantial noise.~~ Therefore, PR 1420.1 is not expected to cause an increase in noise above current existing ambient noise levels.

Also, local noise levels are usually governed by noise elements within a local jurisdiction's General Plan, and/or local noise ordinances. Because of the attenuation rate of noise based on distance from the source, it is unlikely that noise levels exceeding local noise ordinances would occur beyond a facility's boundaries.

Based upon these considerations, significant noise impacts are not expected from the implementation of PR 1420.1 and will not be further evaluated in this ~~Draft~~ Final EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that noise impacts from the overall project are less than significant.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

Significance Criteria
Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:
- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion
XIII. a) PR 1420.1 would require the construction of enclosures, control technology~~, vehicle washing stations~~ and paving of dirt areas at two existing large lead-acid battery recycling facilities in the district. Changes to operations would include additional housekeeping activities to reduce lead emissions. All changes to operation would also occur on-site. The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution as no additional workers are anticipated to be required to comply with the proposed amendments. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PR 1420.1. It is expected that any construction activities at affected facilities would use construction workers from the local labor pool in southern California. As such, PR 1420.1 would not result in changes in population densities or induce significant growth in population.

XIII. b) & c) Because the proposed project affects operations at two existing lead-acid battery recycling facilities, PR 1420.1 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly, induce the construction of single- or multiple-family units, or require the displacement of people elsewhere.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of PR 1420.1 and are not further evaluated in this ~~Draft~~ Final EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that population or housing impacts from the overall project are less than significant.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	☐	☐	☑
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV. a) & b) PR 1420.1 would not involve the use of flammable or combustible materials. As a result, no new fire hazards or increased use of hazardous materials would be introduced at existing affected facilities that would require emergency responders such as police or fire departments. Thus, no new demands for fire or police protection are expected from PR 1420.1 since the proposed rule amendments will not require construction activities associated with the installation of emission control devices.

XIV. c) & d) As noted in the "Population and Housing" discussion, implementation of the proposed project would not require new employees for construction because construction workers from the local labor pool in southern California would be used. Similarly, no new employees would be required to comply with PR 1420.1 because the control equipment and housekeeping operations required by the proposed project are similar to existing equipment and housekeeping requirements which are done by existing employees. As a result, PR 1420.1 would have no direct or indirect effects on population growth in the district. Therefore, there would be no increase in local population and thus no impacts are expected to local schools or parks.

XIV. e) Because the proposed project involves requirements that are similar to existing operations and the facilities are already heavily regulated, PR 1420.1 is not expected to require the need for additional government services. Permits for the enclosures and air pollution control

equipment required to comply with PR 1420.1 have already been issued or are in the process of being issued to comply with other requirements or obligations; therefore, additional permit staff would not be needed. Enforcement of PR 1420.1 is expected to be performed by the existing SCAQMD inspector. Further, the proposed project would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. There will be no increase in population and, therefore, no need for physically altered government facilities.

Based upon these considerations, significant public services impacts are not expected from the implementation of PR 1420.1 and are not further evaluated in this ~~Draft~~ Final EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that public resources impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.				
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely effects existing recreational opportunities.

Discussion

XV. a) & b) As previously discussed under "Land Use," there are no provisions in PR 1420.1 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposed project. Further, implementation of PR 1420.1 would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment because the proposed project is not expected to induce population growth.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PR 1420.1 and are not further evaluated in this ~~Draft~~ Final EA. Since no significant recreation impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that recreation impacts from the overall project are less than significant.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☑	☐
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI.a) Landfills are permitted by the local enforcement agencies with concurrence from the California Integrated Waste Management Board (CIWMB). Local agencies establish the maximum amount of solid waste which can be received by a landfill each day and the operational life of a landfill. PR 1420.1 would generate additional waste from the disposal of lead contaminated baghouse filters, HEPA filters for an existing wet scrubber.

Construction

~~No demolition is expected to comply with PR 1420.1; therefore, no construction solid waste is expected from the proposed project.~~ PR 1420.1 was modified subsequent to the circulation of the Draft EA for public comment. The modifications include a requirement to add secondary lead control device to the exhaust of primary lead controlled devices used for dryers. The addition of a secondary control device at one of the affected large lead-acid battery recycling facilities would require demolition of a 52 foot by 52 foot area of concrete. The soil under the concrete area may be contaminated with lead. However, since lead is not likely to migrate through soil, SCAQMD staff estimated that two feet of soil would be required to be removed. Based on the dimensions of the area demolished and a depth of two feet, approximately 200 cubic yards of lead-contaminated debris would need to be removed. The concrete and soil would be considered hazardous waste and the facility owners/operators have stated that the debris would be sent to US Ecology Beatty Facility, Beatty Nevada.

US Ecology Beatty facility has approximately 1,300,000 cubic yards available capacity for the remaining 10 to 12 year life expectancy (108,000 to 110,000 cubic yards per year). A single disposal of 200 cubic yards of debris would be less than 0.2 percent of the annual capacity. Based on the above analysis, the additional construction waste would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Therefore, PR 1420.1 is not expected to be significant for solid/hazardous waste construction waste.

Control Technology Requirements

One of the two affected facilities has been granted permits and is construction of enclosures and air pollution control systems (exhaust systems and two baghouses). Additional hazardous waste would be generated from disposing filters from the two new baghouses. The filter bags and HEPA filters are approximately 1,280 cubic yards in size are assumed to be replaced every two years. Secondary filters for the dryer are about one cubic yard in size and would be replaced annually.

The other affected facility has submitted permit applications to construct enclosures which would be controlled by existing air pollution control systems (exhaust systems, spark arrestor, and HEPA filter mist eliminator for existing scrubber). The owner/operators of this facility have stated filters would not need to be replaced more frequently because of the new enclosures, because the existing systems are currently designed to handle the additional load. Therefore, the addition of the enclosures would not alter existing hazardous waste from the baghouses. The HEPA filter for the mist eliminator is already in place, so hazardous waste from the HEPA filters for the mist eliminator is considered existing hazardous waste and not part of PR 1420.1.

Lead contaminated filters from the new baghouses would be disposed as hazardous waste, in a fashion similar to the disposal of existing filter waste, but in larger volumes.

Housekeeping Requirements

~~With the exception of vehicle washing requirements, the~~ The two existing lead-acid battery recycling facilities currently comply with the types of housekeeping requirements in PR 1420.1; however, the proposed project is expected to increase the frequency of housekeeping activities. Lead would be removed from new housekeeping operation ~~vehicle wet washing~~ wastewater by existing wastewater systems used for existing housekeeping operations at the affected facilities. The lead recovered from the wastewater treatment system is placed into the lead-acid battery recovery process to be recycled; therefore, lead from the wastewater treatment system would not be disposed at solid waste landfills. So, no new hazard waste is expected to be generated from housekeeping requirements of PR 1420.1. Therefore, it is not expected that PR 1420.1 would substantially change hazardous waste handling and disposal volumes from housekeeping requirements.

Dust from the sweepers is placed into the lead recycling process, so additional sweeping is not expected to increase hazardous solid waste.

PR 1420.1 would not alter lead management activities associated with surface impoundment ponds or reservoirs holding stormwater. PR 1420.1 includes a requirement to prevent the impoundment ponds or reservoirs holding stormwater from drying while holding lead-containing

materials. One only one existing affected facility has a surface impoundment pond. Facility operators are already required to prevent the surface impoundment pond from drying out and to wash it down until used again to hold water. Therefore, lead-containing solid waste from the surface impoundment pond is considered part of the existing setting; and no increase in hazardous waste from the management of lead-containing material at surface impoundment pond is expected from PR 1420.1

Hazardous solid waste from the affected facilities are currently sent to three Class I landfills ~~in California~~: Chemical Waste Management Kettleman Hills in Kettleman City, California, Allied Waste La Paz County Landfill in Parker, Arizona and US Ecology Beatty Facility, Beatty Nevada.

Analysis of Operational Solid/Hazardous Waste Impact ~~Noise~~ Impacts

Chemical Waste Management Kettleman Hills has a remaining capacity of 7,360,000 cubic yards with an estimated closure date of 2037. The Allied Waste La Paz County Landfill has approximately 20,000,000 cubic yards of capacity remaining for the 50 year life expectancy. US Ecology Beatty facility has approximately 1,300,000 cubic yards available capacity for the remaining 10 to 12 year life expectancy. Dividing the remaining fill capacities by life expectancies yields approximately 802,593 cubic yards available annually.

The addition of 1,280 cubic yards of lead contaminated filters every two years ~~(643~~ and one cubic yard annually~~)~~ would be 0.08 percent of the annual hazardous solid waste capacity at the three Class I landfills currently used by the affected facilities. Therefore, it is assumed that the additional hazardous solid waste from PR 1420.1 would have less than significant adverse impacts to the capacity at the three Class I landfills.

XVI.b) Existing affected facility operators currently dispose of lead contaminated baghouse filters. It is assumed that facility operators at these affected facilities comply with all applicable local, state, or federal waste disposal regulations.

Implementing PR 1420.1 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

Based on these considerations, PR 1420.1 is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing PR 1420.1 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that solid/hazardous waste impacts from the overall project are less than significant.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII.	**TRANSPORTATION/TRAFFIC.** Would the project:			
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☑
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e)	Result in inadequate emergency access?	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☑
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

Significance Criteria

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a), b) & f) As noted in the "Discussion" sections of other environmental topics, compliance with PR 1420.1 is expected to require minor construction activities (i.e., without ~~heavy~~ substantial earthmoving activities) with the installation of enclosures, ventilation and control equipment. PR 1420.1 was estimated to need 10 deliveries of equipment or other construction materials and to need nine construction worker trips on a peak construction day. Construction onsite is not expected to affect on-site traffic or parking. The additional nineteen construction trips are less than the significance threshold of 350 round trips, therefore construction activities are not expected to cause a significance adverse impact to traffic or transportation.

All operational requirements are expected to occur on-site so no additional off-site impacts from PR 1420.1. PR 1420.1 is expected to require additional sweeping; however, sweeping three times a day is not expected to affect traffic or parking on-site.

XVII. c) One affected facility is not near any airports or private airstrips. The other facility is within six miles of the El Monte Airport. Any actions that would be taken to comply with the proposed project are not expected to influence or affect air traffic patterns or navigable air space. Thus, PR 1420.1 would not result in a change in air traffic patterns including an increase in traffic levels or a change in location that results in substantial safety risks.

XVII. d) & e) The proposed project does not involve construction of any roadways or other transportation design features, so there would be no change to current roadway designs that could increase traffic hazards. The siting of each affected facility is consistent with surrounding land uses and traffic/circulation in the surrounding areas of the affected facilities. Thus, the proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the affected facilities. Emergency access at each affected facility is not expected to be impacted by the proposed project. Further, each affected facility is expected to continue to maintain their existing emergency access. Since PR 1420.1 involves only minor construction activities and sweeping three times a day would be the only operational impact, the proposed project is not expected to alter the existing long-term circulation patterns. The proposed project is not expected to require a modification to circulation, thus, no long-term impacts on the traffic circulation system are expected to occur.

XVII. g) Affected facilities would still be expected to comply with, and not interfere with adopted policies, plans, or programs supporting alternative transportation (e.g. bicycles or buses). Since all PR 1420.1 compliance activities would occur on-site, PR 1420.1 would not hinder compliance with any applicable alternative transportation plans or policies.

Based upon these considerations, PR 1420.1 is not expected to generate significant adverse transportation/traffic impacts and, therefore, this topic will not be considered further. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that transportation/traffic impacts from the overall project are less than significant.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☑	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐

Discussion

XVIII. a) As discussed in the "Biological Resources" section, PR 1420.1 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because construction and operations related to the proposed project would be located entirely within the boundaries of existing facilities in industrial areas which have already been greatly disturbed and that currently do not support any species of concern or the habitat on which they rely. PR 1420.1 is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past. Each site affected by the proposed project is part of an existing facility, which has been previously graded, such that PR 1420.1 is not expected to extend into environmentally sensitive areas.

XVIII. b) Based on the foregoing analyses, since PR 1420.1 will not result in significant adverse project-specific environmental impacts, it is not expected to cause cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project. Furthermore, potential adverse impacts from implementing PR 1420.1 will not be "cumulatively considerable" because there are no, or only minor incremental impacts and there will be no contribution to a significant cumulative impact caused by other projects that would exist in absence of the proposed project. Therefore, there is no potential for significant adverse cumulative or cumulatively considerable impacts to be generated by the proposed project.

XVIII. c) Based on the foregoing analyses, PR 1420.1 is not expected to cause adverse effects on human beings. Significant adverse impacts to air quality, energy, hazards and hazardous materials, hydrology and water quality, land use/planning, solid/hazardous waste are not expected from the implementation of PR 1420.1. No impacts to aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, mineral resources, noise, population and housing, public services, recreation, and transportation/traffic are expected as a result of the implementation of PR 1420.1.

As previously discussed in items I through XVIII, the proposed project has no potential to cause significant adverse environmental effects. Based on SCAQMD staffs' review of the proposed modifications to PR 1420.1, it is concluded the modifications do not alter the determination that impacts from the overall project to any of the environmental topics presented in the environmental checklist are less than significant.

APPENDIX A

PROPOSED RULE 1420.1

(Adopted November 5, 2010)

RULE 1420.1. EMISSIONS STANDARD FOR LEAD 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 of the National Ambient Air Quality Standard for Lead.

(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 Rule 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 a lead control device, such as a baghouse, into a solid mass.

(2) AMBIENT AIR for purposes of this rule means outdoor air.

(3) BATTERY BREAKING AREA means the plant location at which lead-acid batteries are broken, crushed, or disassembled and separated into components.

(4) 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.

(5) 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.

(6) 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.).

(7) 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 on file with the District.

(8) FUGITIVE LEAD-DUST means any solid particulate matter containing lead that is in contact with ambient air and has the potential to become airborne.

(9) 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.

(10) 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.

(11) LEAD means elemental lead, alloys containing elemental lead, or lead compounds, calculated as elemental lead.

(12) LEAD CONTROL DEVICE means any equipment installed in the ventilation system of a lead point source or emission collection system for the purposes of collecting and containing lead emissions.

(13) LEAD POINT SOURCE means any process, equipment, or total enclosure used in the lead-acid battery recycling operation, including, but not limited to, agglomerating furnaces, dryers, and smelting furnaces, that pass through a stack or vent designed to direct or control its exhaust flow prior to release to the atmosphere.

(14) LEEWARD WALL means the furthest exterior wall of a total enclosure that is opposite the windward wall.

(15) MAINTENANCE ACTIVITY means any of the following activities conducted outside of a total enclosure that generates 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.

(16) 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.

(17) 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).

(18) 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.

(19) 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.

(20) 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.

(21) 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.

(22) 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 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.

(23) SMELTING means the chemical reduction of lead compounds to elemental lead or lead alloys through processing in high temperatures greater than 980° C.

(24) SMELTING FURNACE means any furnace where smelting takes place including, but not limited to, blast furnaces, reverberatory furnaces, rotary furnaces, and electric furnaces.

(25) 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-on), 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.

(26) 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 1.5 micrograms per cubic meter ($\mu g/m^3$) 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 0.15 $\mu g/m^3$ 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 subdivision (f). 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 0.12 ($\mu g/m^3$) averaged over any 30 consecutive days determined by monitors pursuant to subdivision (j) or at any District-installed monitor.

(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 Lead 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 to a lead control device 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_2O) 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_2O) with a minimum accuracy of plus or minus 0.001 mm Hg (0.0005 inches H_2O).

(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) Lead Point Source Emissions Controls

(1) The owner or operator of a large lead-acid battery recycling facility shall vent emissions from each lead point source to a lead control device that meets the requirements of this subdivision and is approved by the Executive Officer.

(2) The total facility mass lead emissions from all lead point sources shall not 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 source tests conducted by the facility or the District.

(3) The owner or operator of a large lead-acid battery recycling facility shall install a secondary lead control device that controls lead emissions from the exhaust of the primary lead control device used for a dryer. The secondary lead control device shall be fitted with dry filter media, and the secondary lead control device shall only be used to vent the primary lead 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.

(4) For any lead 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.

(5) For any lead 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.

(6) Each emission collection system and lead control device shall, at minimum, be inspected, maintained, and operated in accordance with the manufacturer's specifications.

(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 0.12 $\mu g/m^3$ averaged over any 30 consecutive days determined by monitors pursuant to subdivision (j) or at any District-installed monitor shall:

(1) Notify the Executive Officer in writing within 72 hours of when the facility knew or should have known of exceeding an ambient air lead concentration of 0.12 $\mu g/m^3$ averaged over any 30 consecutive days.

Notification shall only be required for the first time the ambient air lead concentration of 0.12 µg/m^3 is exceeded;

(2) Submit, within 30 calendar days of exceeding an ambient air lead concentration of 0.12 µg/m^3 averaged over any 30 consecutive days, 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 emission reduction measures to achieve the ambient lead concentration of 0.15 µg/m^3 averaged over any 30 consecutive days, as required under paragraph (d)(2), including, but not limited to, requirements for the following:

(i) Housekeeping, inspection, and maintenance activities;

(ii) Additional total enclosures;

(iii) Modifications to lead control devices;

(iv) Installation of multi-stage lead control devices;

(v) Process changes including reduced throughput limits; and

(vi) Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment.

(B) The locations within the facility and method(s) of implementation for each lead reduction measure of subparagraph (g)(2)(A); and

(C) An implementation schedule for each lead emission reduction measure of subparagraph (g)(2)(A) to be implemented if lead emissions discharged from the facility contribute to ambient air concentrations of lead that exceed 0.15 µg/m^3 averaged over any 30 consecutive days measured at any monitor pursuant to subdivision (j) or at any District-installed monitor. The schedule shall also include a list of the lead 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). 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. 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 0.15 $\mu g/m^3$ averaged over any 30 consecutive days 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.

(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 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 concentrations, at or beyond the property line, as

determined by Executive Officer-approved air dispersion modeling calculations and emission estimates from all lead point sources and fugitive lead-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 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 concentrations.

(2) Collect 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.

(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 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 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 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.

(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 0.15 $\mu g/m^3$ 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.

(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 control 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) The owner or operator of a large lead-acid battery recycling facility with an existing lead 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.

(3) Prior to the owner or operator of a large lead-acid battery recycling facility conducting a source test pursuant to paragraph (k)(1) or (k)(2),

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 lead control standard;

(B) Preliminary lead analytical data;

(C) Planned sampling parameters; and

(D) Information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated test.

(4) 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) or (k)(2).

(5) 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 paragraph (f)(2). Notifications shall be made to 1-800-CUT-SMOG.

(6) Source tests shall be conducted while operating at a minimum of 80% of equipment maximum 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*

(7) The average of triplicate samples, obtained according to approved test methods specified in paragraph (k)(6), shall be used to determine compliance.

(8) 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.

(9) 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.

(10) 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.

(11) An existing source test conducted on or after January 1, 2009 for lead 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)(6), (k)(8), or (k)(9).

(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 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 lead control device inspection and maintenance requirements of paragraph (f)(6), 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 15th 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 averages for each day within the reporting period.

(B) Any exceedances of ambient air lead concentrations specified in

paragraph (d)(2) 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 lead control device has occurred. The notification shall include the associated processes or equipment vented by the shutdown lead control device. 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.

(B) 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 lead control device that result in lead emissions. The notification shall specify the subject equipment and the start and end date of the turnaround or shutdown period.

(C) Notify the Executive Officer at least ten calendar days prior to the beginning of maintenance activity, as defined in paragraph (c)(15), that is conducted routinely on a monthly or less frequent basis. The notification and report required under subparagraph (n)(2)(E) 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.

(D) 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.

(E) Provide the notification to the Executive Officer required under subparagraphs (n)(2)(A), (n)(2)(B), and (n)(2)(C) 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.

(F) Provide notification to the public required under subparagraphs (n)(2)(A), (n)(2)(B), and (n)(2)(D) 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.

(G) 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) On and after July 1, 2011, if emission are discharged into the atmosphere which contribute to ambient air concentrations of lead that exceed 0.12 $\mu g/m^3$, 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 0.12 $\mu g/m^3$, averaged over any 30 consecutive days.

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 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 B

ASSUMPTIONS AND CALCULATIONS

Table B-1
Enclosure Sizes from Permit Applications

Building	Width, m	Length, m	Height, m	Area, ft2	Area, acre	Construction Days	Construction Months
Total Enclosure 1	125	329	75	41,125	0.94	71.4	3.2
Total Enclosure 2	140	500	25	70,000	1.61	121.5	5.5
Total Enclosure 3	45	140	25	6,300	0.14	10.9	0.5
Total Enclosure 4	15	45	17	675	0.02	1.2	0.1
Total Enclosure 5	90	180	54	16,200	0.37	28.1	1.3
Totals				134,300	3.1	233	

Source: Permit applications

Table B-2a
Concrete Demolition for Lead Control Device Foundation Construction Emissions

Construction Activity			
Demolition of concrete	2,704	Square Foot Area[a]	
Demolition Schedule	**1**	**days[a]**	

Equipment Type[a,b]	No. of Equipment	hr/day	Crew Size
Concrete/Industrial Saws	1	8.0	6
Tractors/Loaders/Backhoes	2	8.0	
Rubber Tired Dozers	1	2.0	

Construction Equipment Emission Factors

Equipment Type[c]	CO lb/hr	NOx lb/hr	VOC lb/hr	SOX lb/hr	PM10 lb/hr	PM2.5 lb/hr	CO2 lb/hr	CH4 lb/hr	N2O lb/hr
Concrete/Industrial Saws	0.427	0.657	0.127	0.001	0.055	0.051	58.5	0.011	0.011
Tractors/Loaders/Backhoes	0.393	0.675	0.102	0.001	0.052	0.048	66.8	0.009	0.009
Rubber Tired Dozers	1.413	2.989	0.338	0.002	0.129	0.118	239	0.030	0.029

Table B-2a (Continued)
Concrete Demolition for Lead Control Device Foundation Construction Emissions

Demolition Dimensions

Description[a]	Width of Area	Length of Area	Depth of Area
	ft	ft	ft
Total Project	52	52	2

Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier[d]	Mean Wind Speed[e]	Moisture Content[f]	Debris Handled[g]
	mph		ton/day
0.35	10	2.0	249

Construction Vehicle (Mobile Source) Emission Factors

	CO	NOx	VOC	SOX	PM10	PM2.5	CO2	CH4	N2O
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Heavy-Duty Truck[h]	0.01195456	0.03822102	0.00304157	0.00004131	0.00183062	0.00160083	4.21120578	0.00014201	0.0000106
Worker Vehicles	0.00826276	0.00091814	0.00091399	0.00001077	0.00008698	0.00005478	1.09568235	0.00008146	0.0001076

On-Site Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day[i]	One-Way Trip Length[j] (miles)
Haul Truck	7	68
Construction Workers	6	20

Table B-2a (Continued)
Concrete Demolition for Lead Control Device Foundation Construction Emissions

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	CO lb/day	NOx lb/day	VOC lb/day	SOX lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day	N2O lb/day
Concrete/Industrial Saws	3.4	5.3	1.0	0.01	0.44	0.41	468	0.09	0.09
Tractors/Loaders/Backhoes	6.3	10.8	1.6	0.01	0.83	0.77	1,069	0.15	0.14
Rubber Tired Dozers	2.83	6.0	0.68	0.00	0.26	0.24	478	0.06	0.06
Total	**12.5**	**22.0**	**3.3**	**0.02**	**1.5**	**1.41**	**2,015**	**0.30**	**0.28**

Incremental Increase in Onsite Fugitive Dust Emissions from Construction Equipment

Material Handling[k]: (0.0032 x Aerodynamic Particle Size Multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x debris handled (ton/day)) x (1 - control efficiency) = PM10 Emissions (lb/day)

Description	Control Efficiency %	PM10[m] lb/day
Material Handling (Demolition)[l]	61	0.27
Material Handling (Debris)	61	0.27
Total		**0.54**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	CO lb/day	NOx lb/day	VOC lb/day	SOX lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day	N2O lb/day
Haul Truck	11.4	36.4	2.9	0.039	1.7	1.5	4,009	0.14	0.010
Worker Vehicles	2.0	0.2	0.2	0.003	0.0	0.0	263	0.02	0.026
Total	**13.4**	**36.6**	**3.1**	**0.042**	**1.8**	**1.5**	**4,272**	**0.15**	**0.036**

Table B-2a (Concluded)
Concrete Demolition for Lead Control Device Foundation Construction Emissions

Total Incremental Localized Emissions from Construction Activities

Sources	**CO** lb/day	**NOx** lb/day	**VOC** lb/day	**SOX** lb/day	**PM10** lb/day	**PM2.5** lb/day	**CO2** Mton/project/ 30 yrs	**CH4** Mton/project/ 30 yrs	**N2O** Mton/project/ 30 yrs
On-site Emissions	**25.9**	**58.6**	**6.4**	**0.1**	**3.3**	**2.9**	**0.10**	**0.0000069**	**0.0000048**
Significance Threshold[n]	***550***	***100***	***75***	***150***	***150***	***55***			
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**			

Notes:

a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Oct 2006. Assumed equipment is diesel fueled. N2O values estimated from ratio of N2O and CH4 EF presented for on-road vehicles in the ARB Regulation for Mandatory Reporting of GHG Emissions.

d) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggregate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm

e) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

f) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28

g) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, p 2-28. Debris weight to area ratio = 0.046 ton/sq ft (2,704 sq ft x 0.046 ton/sq ft)/1 days = 249 ton/day

h) 2010 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O-values from ARB Regulation for Mandatory Reporting of GHG Emissions.

i) Assumed 30 cubic yd truck capacity [(249 ton/day x 2,000 lb/ton x cyd/1,620 lb = 307 cyd)/30 cyd/truck = 11 one-way truck trips/day, building debris density is assumed to be 1,620 lb/cyd] Multiple trucks can be used.

j) Assumed trucks travel to the US Ecology, Beatty, NV facility per conversations with the affected facility. It is 68 miles from facility to Cajon pass.

k) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28.

l) EPA suggests using the material handling equation for demolition emission estimates.

m) Includes watering at least three times a day per Rule 403 (61% control efficiency)

n) SCAQMD Regional Significant Thresholds

o) ARB's CEIDARS database PM2.5 fractions - construction dust category for fugitive and diesel vehicle exhaust category for combustion.

Table B-2b
Haul Truck Travel Through Mojave Desert Air Quality Management District

EMFAC2007 Emission Factors

CO, lb/mile	NOx, lb/mile	VOC, lb/mile	SOx, lb/mile	PM10, lb/mile	PM2.5, lb/mile	CO2, lb/mile	CH4, lb/mile	N2O, lb/mile
0.01195456	0.03822102	0.00304157	0.00004131	0.00183062	0.00160083	4.21120578	0.00014201	0.00001058

2010 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O-values from ARB Regulation for Mandatory Reporting of GHG Emissions.

Haul Truck Emissions

Debris Hauled, yard3/ day	Truck Haul Capacity, yard3/ day	Daily Number of Trucks	One-way VMT, mile	CO, lb/day	NOx, lb/day	VOC, lb/day	SOx, lb/day	PM10, lb/day	PM2.5, lb/day	CO2, lb/day	CH4, lb/day	N2O, lb/day	CO2eq, lb/day
200	30	7	191	30.5	97.5	7.8	0.1	4.7	4.1	10,740	0.36	0.027	10,804
MDAQMD Significance Thresholds, lb/day				548	137	137	137	82	82				
Significant?				No	No	No	No	No	No				

Table B-2c
Concrete Paving for Lead Control Device Foundation Construction Emissions

Construction Activity	
Concrete Paving	
Construction Schedule	**1 days[a]**

Equipment Type[a,b]	No. of Equipment	hr/day	Crew Size
Pavers	1	5.0	8
Cement and Mortar Mixers	4	6.0	
Rollers	1	5.0	
Tractors/Loaders/Backhoes	1	5.0	

Table B-2c (Continued)
Concrete Paving for Lead Control Device Foundation Construction Emissions

Construction Equipment Combustion Emission Factors

Equipment Type[c]	CO lb/hr	NOx lb/hr	VOC lb/hr	SOX lb/hr	PM10 lb/hr	PM2.5 lb/hr	CO2 lb/hr	CH4 lb/hr	N2O lb/hr
Pavers	0.564	0.987	0.177	0.001	0.071	0.065	77.9	0.016	0.015
Cement and Mortar Mixers	0.043	0.060	0.010	0.000	0.004	0.003	7.2	0.001	0.001
Rollers	0.421	0.775	0.118	0.001	0.055	0.050	67.1	0.011	0.010
Tractors/Loaders/Backhoes	0.393	0.675	0.102	0.001	0.052	0.048	66.8	0.009	0.009

Construction Vehicle (Mobile Source) Emission Factors

	CO lb/mile	NOx lb/mile	VOC lb/mile	SOX lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO2 lb/mile	CH4 lb/mile	N2O lb/mile
Heavy-Duty Truck[d]	0.01195456	0.03822102	0.00304157	0.00004131	0.00183062	0.00160083	4.21120578	0.0001420	0.00001058
Worker Vehicles	0.00826276	0.00091814	0.00091399	0.00001077	0.00008698	0.00005478	1.09568235	0.0000814	0.00010753

On-Site Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One-Way Trip Length (miles)
Delivery Truck[e]	3	40
Worker Vehcile	8	20

Table B-2c (Continued)
Concrete Paving for Lead Control Device Foundation Construction Emissions

Incremental Increase in Onsite Idling Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO** lb/day	**NOx** lb/day	**VOC** lb/day	**SOX** lb/day	**PM10** lb/day	**PM2.5** lb/day	**CO2** lb/day	**CH4** lb/day	**N2O** lb/day
Pavers	2.8	4.9	0.9	0.00	0.35	0.33	390	0.08	0.08
Cement and Mortar Mixers	10.1	18.6	2.8	0.0	1.3	1.2	1,609	0.25	0.24
Rollers	0.22	0.30	0.05	0.00	0.0	0.0	36	0.00	0.00
Tractors/Loaders/Backhoes	1.96	3.37	0.51	0.00	0.26	0.24	334	0.05	0.04
Total	**15.1**	**27.2**	**4.3**	**0.0**	**1.9**	**1.8**	**2,369**	**0.39**	**0.36**

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO** lb/day	**NOx** lb/day	**VOC** lb/day	**SOX** lb/day	**PM10** lb/day	**PM2.5** lb/day	**CO2** lb/day	**CH4** lb/day	**N2O** lb/day
Flatbed Truck	2.9	9.2	0.73	0.010	0.44	0.38	1,011	0.034	0.0025
Worker Vehicle	2.6	0.29	0.29	0.003	0.028	0.018	351	0.026	0.0344
Total	**5.5**	**9.5**	**1.02**	**0.013**	**0.47**	**0.40**	**1,361**	**0.060**	**0.0369**

Total Incremental Combustion Emissions from Construction Activities

Sources	**CO** lb/day	**NOx** lb/day	**VOC** lb/day	**SOX** lb/day	**PM10** lb/day	**PM2.5** lb/day	**CO2** Mton/project/ 30 yrs	**CH4** Mton/project/ 30 yrs	**N2O** Mton/project/ 30 yrs
On-Site Emissions	**20.6**	**36.7**	**5.3**	**0.041**	**2.4**	**2.2**	**0.056**	**0.0000067**	**0.0000060**
Significance Threshold[f]	***550***	***100***	***75***	***150***	***150***	***55***			
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Table B-2c (Concluded)
Concrete Paving for Lead Control Device Foundation Construction Emissions

Notes:

a) SCAQMD, estimated from survey data, Sept 2004.

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Oct 2006. Assumed equipment is diesel fueled. N2O values estimated from ratio of N2O and CH4 EF presented for on-road vehicles in the ARB Regulation for Mandatory Reporting of GHG Emissions.

d) 2009 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O-values from ARB Regulation for Mandatory Reporting of GHG Emissions.

e) Assumed haul truck travels 40 miles.

f) SCAQMD Regional Significant Thresholds

g) ARB's CEIDARS database PM2.5 fractions - construction dust category for fugitive and diesel vehicle exhaust category for combustion.

Table B-2d
Structure Construction Emissions

Example	Construction Activity					
Three Acre Site	Building	134,300	Square Foot Structure[a]	Duration	234	days

Construction Schedule Unknown

Equipment Type[a,b]	No. of Equipment	hr/day	Crew Size
Forklifts	2	7.0	9
Cranes	2	8.0	
Tractors/Loaders/Backhoes	2	6.0	
Generator Sets	2	8.0	
Electric Welders	4	8.0	

Table B-2d (Continued)
Structure Construction Emissions

Construction Equipment Combustion Emission Factors

Equipment Type[c]	CO lb/hr	NOx lb/hr	VOC lb/hr	SOX lb/hr	PM10 lb/hr	PM2.5 lb/hr	CO2 lb/hr	CH4 lb/hr	N2O lb/hr
Forklifts	0.232	0.516	0.069	0.001	0.028	0.026	54.4	0.006	0.006
Cranes	0.543	1.451	0.159	0.001	0.064	0.059	128.7	0.014	0.014
Tractors/Loaders/Backhoes	0.393	0.675	0.102	0.001	0.052	0.048	66.8	0.009	0.009
Generator Sets	0.329	0.644	0.096	0.001	0.040	0.036	61.0	0.009	0.008
Electric Welders	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Construction Vehicle (Mobile Source) Emission Factors

	CO lb/mile	NOx lb/mile	VOC lb/mile	SOX lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO2 lb/mile	CH4 lb/mile	N2O lb/mile
Heavy-Duty Truck[d]	0.01195456	0.03822102	0.00304157	0.00004131	0.00183062	0.00160083	4.21120578	0.00014201	0.00001058
Worker Vehicles	0.00826276	0.00091814	0.00091399	0.00001077	0.00008698	0.00005478	1.09568235	0.00008146	0.00010753

Construction Worker Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)
Flatbed Truck[e]	10	40
Construction Workers	9	20

Table B-2d (Continued)
Structure Construction Emissions

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

	CO	NOx	VOC	SOX	PM10	PM2.5	CO2	CH4	NO2
Equipment Type	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Fork Lifts	3.25	7.23	0.96	0.01	0.39	0.36	762	0.09	0.08
Cranes	8.69	23.22	2.55	0.02	1.03	0.95	2,058	0.23	0.22
Tractors/Loaders/Backhoes	4.72	8.10	1.22	0.009	0.62	0.57	802	0.11	0.10
Generator Sets	5.27	10.30	1.54	0.01	0.63	0.58	976	0.14	0.13
Electric Welders	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	**21.9**	**48.9**	**6.3**	**0.05**	**2.7**	**2.5**	**4,598**	**0.57**	**0.53**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

	CO	NOx	VOC	SOX	PM10	PM2.5	CO2	CH4	N2O
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Flatbed Truck	9.56	30.6	2.43	0.0330	1.46	1.28	3,369	0.11	0.01
Worker Vehicles	2.97	0.33	0.33	0	0.03	0.02	394	0.03	0.04
Total	**12.5**	**30.9**	**2.76**	**0.03**	**1.49**	**1.30**	**3,763**	**0.14**	**0.05**

Total Incremental Combustion Emissions from Construction Activities

	CO	NOx	VOC	SOX	PM10	PM2.5	CO2[g]	CH4[g]	N2O[g]
Sources	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	Mton/project/ 30 yrs	Mton/project/ 30 yrs	Mton/project/ 30 yrs
On-Site Emissions	**34**	**80**	**9.0**	**0.08**	**4.2**	**3.8**	**30**	**0.003**	**0.002**
Significance Threshold[f]	***550***	***100***	***75***	***150***	***150***	***55***	10,000 Mton/year	10,000 Mton/year	10,000 Mton/year
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**			

Table B-2d (Concluded)
Structure Construction Emissions

Notes:
a) Based on permit applications
b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.
c) SCAB values provided by the ARB, Oct 2006. Assumed equipment is diesel fueled except the welders which are powered by the generator. N2O values estimated from ratio of N2O and CH4 EF presented for on-road vehicles in the ARB Regulation for Mandatory Reporting of GHG Emissions.
d) 2010 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O values from ARB Regulation for Mandatory Reporting of GHG Emissions.
e) Assumed haul truck travels 40 miles round trip
f) SCAQMD Regional Significance Thresholds
g) GHGs are reported in metric tons (Mton) over 30 years.

Table B-3
Estimation of Area Swept

Area, m2	Area, ft2	Area, acres	Width of Sweeper Path, ft	Linear Feet Traveled, ft	Linear Feet Traveled, miles
36,000	387,501	8.9	7	55,357	10.48

Table B-4
EMFAC2007 On-Road Emission Factors

Description	CO, lb/mile	NOx, lb/mile	VOC, lb/mile	SOX, lb/mile	PM10, lb/mile	PM2.5, lb/mile	CO2, lb/mile	CH4, lb/mile	N2O, lb/mile
Heavy-Duty Truck	0.01195456	0.03822102	0.00304157	0.00004131	0.00183062	0.00160083	4.21120578	0.00014201	0.00001058
Medium-Duty Truck	0.018438	0.020625	0.002590	0.000027	0.000751	0.000642	2.732222	0.000126	0.000011
Gasoline Vehicles	0.00826276	0.00091814	0.00091399	0.00001077	0.00008698	0.00005478	1.09568235	0.00008146	0.00010753

Table B-5
Additional Emissions from Visiting Air Monitors

Description	VMT, mile/day	CO, lb/day	NOx, lb/day	VOC, lb/day	SOX, lb/day	PM10, lb/day	PM2.5, lb/day	CO2, Mton/year	CH4, Mton/year	N2O, Mton/year
Gasoline vehicle	80	0.66	0.07	0.07	0.0009	0.007	0.0044	7.3	0.0005	0.000712

Assumes sweeping twice more per day
EMFAC2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

Table B-6
Additional Emissions from Sweeping

Description	VMT, mile/day	CO, lb/day	NOx, lb/day	VOC, lb/day	SOX, lb/day	PM10, lb/day	PM2.5, lb/day	CO2, Mton/year	CH4, Mton/year	N2O, Mton/year
Medium-Duty Truck	21.0	0.39	0.43	0.05	0.0006	0.016	0.013	9.5	0.00044	0.000037

Assumes sweeping twice more per day
EMFAC2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

Table B-7
Additional Emissions from Aerial Lifts

Description	Usage, hr/day	CO, lb/day	NOx, lb/day	VOC, lb/day	SOX, lb/day	PM10, lb/day	PM2.5, lb/day	CO2, Mton/year	CH4, Mton/year	N2O, Mton/year
Aerial Lift	6	1.26	2.16	0.40	0.002	0.15	0.14	11.3	0.0004	0.0007

Assumes weekly roof washing over 50 days per year (52 weeks minus existing semi-annual washing).
Offroad2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

Table B-8
Additional Emissions from Delivery of Aerial Lifts

Description	VMT, mile/day	CO, lb/day	NOx, lb/day	VOC, lb/day	SOX, lb/day	PM10, lb/day	PM2.5, lb/day	CO2, Mton/year	CH4, Mton/year	N2O, Mton/year
Heavy-Duty Truck	80.0	0.96	3.06	0.24	0.00	0.15	0.13	15.3	0.0005	0.000038

Assumes weekly roof washing over 50 days per year (52 weeks minus existing semi-annual washing).
EMFAC2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

Table B-9
Additional Health Risk from Sweeping

Receptor Type	PM10, ton/yr	CP (mg/kg-day)-1	X/Q, (ug/m3)/(ton/yr)	Afann	MET	DBR, L/kg-day	EVF	MP	Health Risk in a Million
Worker	0.0029	1.1	60.5	1	0.53	149	0.38	1	5.7
Sensitive/Residential	0.0029	1.1	1.57	1	0.53	302	0.96	1	0.8

SCAQD Teir II analysis used to evaluate health risk.
Off-site worker assumed to be within shortest downwind distance of 25 meters.
Nearest sensitive/residential receptor 260 meters downwind from source.

Table B-10
Additional Sensitive/Residential Health Risk from Aerial Lifts

Aerial Lift PM10, ton/yr	CP (mg/kg-day)-1	X/Q, (ug/m3)/(ton/yr)	Afann	MET	DBR, L/kg-day	EVF	MP	Health Risk in a Million
0.0074	1.1	41.5	1	0.55	149	0.38	1	10.6

SCAQD Teir II analysis used to evaluate health risk.
Nearest sensitive/residential receptor 670 meters downwind from source.

Table B-11
ISCST Input File for Off-Site Worker Health Risk from Aerial Lifts

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**
**************************************
**
** ISCST3 Input Produced by:
** AERMOD View Ver. 6.4.0
** Lakes Environmental Software Inc.
** Date: 4/23/2010
** File: C:\Users\jkoizumi\Documents\Lakes\ISCARMOD\2010\Exide\Exide\Exide.INP
**
**************************************
**
**
**************************************
** ISCST3 Control Pathway
**************************************
**
**
CO STARTING
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   MODELOPT CONC  URBAN NOCALM
   AVERTIME PERIOD
   POLLUTID OTHER
   TERRHGTS ELEV
   RUNORNOT RUN
CO FINISHED
**
**************************************
** ISCST3 Source Pathway
**************************************
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SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION 1 AREA 389700.000 3763500.000 0.000
** Source Parameters **
   SRCPARAM 1 9.047E-09 0.000 139.000 167.000 5.870
   SRCGROUP ALL
SO FINISHED
**
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** ISCST3 Receptor Pathway
**************************************
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RE STARTING
** DESCRREC "UCART1" "Receptors generated from Uniform Cartesian Grid"
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** DESCRREC "FENCEPRI" "Cartesian plant boundary Primary Receptors"
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** Project Parameters
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Table B-12
Additional Off-Site Worker Health Risk from Aerial Lifts

Conc., ug/m3	CP (mg/kg-day)-1	DBR, L/kg-day	EF, day/yr	ED, yr	AT, day	Health Risk in a Million
0.0344	1.1	149	245	40	25,550	2.16

Table B-13
GHG Emission Summary

Description	**CO2, Mton/year**	**CH4, Mton/year**	**N2O, Mton/year**	**CO2eq, Mton/year**
Demolition	0.26	0.000012	0.000005	0.26
Concrete Paving	0.056	0.0000067	0.0000060	0.056
Structure Construction	30	0.0025	0.0021	30
Total Construction*	30	0.0025	0.0021	30
Sweeping	20	0.0009	0.00008	20
Aerial Lift	11	0.0004	0.001	11
Aerial Lift Delivery	15	0.0005	0.00004	15
Air Monitor Visit	7.3	0.0005	0.0007	7.3
Total Operation	54	0.0024	0.0015	54
Total	84	0.005	0.004	84

CO2 GHG potential – 1; CH4 GHG potential – 21; N2O GHG potential 310

Table B-14
Electricity Use from New Blowers

Area	Combined Blower Rating, HP	Electricity Use, kW/hr	Electricity Use, MW/year	Area Consumption, GWH	Percent of Area Consumption	Area Peak Consumption MW	Percent of Area Peak Consumption
Edison	200	142	1,241	105,054	1.3E-07	23,727	0.6
LADWP	450	319	2,793	25,921	1.2E-06	5,717	5.6

Table B-15b
Diesel Fuel Use from Demolition Equipment

Equipment	No. of Equipment	Usage hr/day	Consumption (gal/hr)	Fuel Use (gal/day)
Concrete/Industrial Saws	1	8.0	2.68	21
Tractors/Loaders/Backhoes	2	8.0	2.68	43
Rubber Tired Dozers	1	2.0	11.8	24
				88

Table B-15b
Diesel Fuel Use from Construction Equipment

Equipment	No. of Equipment	Usage hr/day	Consumption (gal/hr)	Fuel Use (gal/day)
Forklifts	2	7.0	2.5	35
Cranes	2	8.0	9.8	157
Tractors/Loaders/Backhoes	2	6.0	3.4	41
Generator Sets	2	8.0	2.8	45
Electric Welders	4	8.0	0	0
				277

Table B-16
Fuel Use from Construction Vehicles

Vehicle	Phase	Fuel	No. of One-Way Trips/Day	Trip Length (miles)	Distance Traveled (miles)	Consumption (mpg)	Fuel Use (gal/day)
Heavy-Duty Truck	Demolition	Diesel	7	259	1,813	10	181
Worker Vehicles	Demolition	Gasoline	6	20	120	16	8
Heavy-Duty Truck	Structure	Diesel	10	40	400	10	40
Worker Vehicles	Structure	Gasoline	8	20	160	10	16

Table B-17
Additional Diesel Fuel Use from Sweepers

VMT, mile/day	Fuel Efficiency miles/gal	Usage, gal/day
21.0	10	2.1

Table B-18
Additional Gasoline Fuel Use from Visiting Monitors

VMT, mile/day	Fuel Efficiency miles/gal	Usage, gal/day
80	16	5.0

Table B-19
Additional Gasoline Fuel Use from Aerial Lifts

Consumption, (gal/hr)	Usage, hr/day	Usage, gal/day
1.4	6	8.4

Table B-20
Additional Gasoline Fuel Use from Aerial Lifts Delivery

Distance Traveled miles	Consumption mpg	Usage, gal/day
80	10	8.0

Table B-21
Water Use for Buildings

Surface Area, ft2	Area, acres	Depth of Water Applied, ft	Volume of Water, ft3/area	Volume of Water, gal/area	Daily Number of Washings	Volume of Water, gal/day
753,424	17.3	0.005	3,924	29,354	1	29,354

Surface area of both affected facilities added together
Assumed 1/16 inch depth of water applied per washing
PR 1420.1 requires washing areas weekly. Assumed all washing occurs on single day

~~**Table B-22**~~
~~**Water Use for Trucks**~~

~~Truck Height, ft~~	~~Truck Length ft~~	~~Truck Width ft~~	~~Surface Area of Rectangular Box, ft2~~	~~Depth of Water Applied, ft~~	~~Volume of Water, ft3/truck~~	~~Volume of Water, gal/truck~~	~~Daily Number of Trucks~~	~~Volume of Water, gal/day~~
~~15~~	~~75~~	~~9~~	~~3,870~~	~~0.005~~	~~20~~	~~151~~	~~100~~	~~15,078~~

~~Assumed 1/16 inch depth of water applied per washing~~
~~Daily Number of Trucks from both affected facilities added together~~

Table B-22
Water Use for Washing Pond Area

Area of Pond, acre	Area of Pond, ft2	Depth of Water Applied, feet	Volume, ft3/ washing	Volume, gal/day
1	43,560	0.005	227	1,697

Assumed 1/16 inch depth of water applied per washing

Table B-23
Water Use from Washing Process Areas

Facility	Area, ft2	Area, acres	Depth of Water Applied, ft	Volume of Water, ft3/area	Volume of Water, gal/area	Daily Number of Washings	Volume of Water, gal/day
Facility A	50,000	1.1	0.005	260	1,948	1	1,948
Facility B	120,000	2.8	0.005	625	4,675	1	4,675
Total	**170,000**	**3.9**	**0.005**	**885**	**6,623**	**1**	**6,623**

Table B-24
Volume of Spend Filters from New Baghouses

Control	No of Control Units	Diameter, ft	Width, ft	Length, ft	Height, ft	Area, ft2	Volume, ft3
Filter bags	196	0.52		13			543
HEPA filters	25		2	1	2		100
Filter bags	196	0.52		13			543
HEPA filters	25		2	1	2		100
Total							**1,286**

Baghouse filters and filter bags are disposed every two years.

Table B-25
Volume of Spend Secondary Filters for Dryer

No of Filters	Filter Length, ft	Filter Height, ft	Filters Width, ft	Waste Volume, ft3	Waste Volume, yd3
18	2	2	0.33	24	0.89

Dryer secondary filters are disposed annually.

APPENDIX C

COMMENT LETTERS AND RESPONSE TO COMMENTS

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October 12, 2010

Our File Number: 18NJ-137726

VIA EMAIL AND OVERNIGHT DELIVERY

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Attention: Elaine Chang, DrPH
Deputy Executive Officer

Ms. Susan Nakamura
Planning & Rules Manager

Re: Exide's Supplemental Response and Comments to 1420.1 Rulemaking

Dear Mses. Chang and Nakamura:

A. Introduction.

On behalf of Exide Technologies, Inc., we are submitting these comments in order to address both the District's inclusion of a mass emissions rate limit in Rule 1420.1 and the impact of the recent proposal by Quemetco to lower the mass emissions rate limit from 0.045 pounds of lead per hour to 0.003 pounds per hour. As explained in Exide's September 21 and September 30, 2010 letters, the inclusion of the mass emissions rate limit in section 1420.1(f)(2) is legally and scientifically inappropriate. By establishing a mass emissions limit focusing entirely on stack emissions, the District improperly forecloses a facility from proposing cost-effective alternatives to satisfy the NAAQS ambient air standard. In addition, to lower the mass emissions rate limit from 0.045 lbs/hr to 0.003 lbs/hr as recently proposed is a substantial change which will threaten the economic viability of Exide's Vernon Facility to remain operating in Southern California. This would result in significant adverse economic and environmental impacts not presently evaluated in the proposed rule's existing impact assessments, necessitating subsequent or supplemental socio-economic and environmental impact assessments.

1-1

Please include these comments and the District's response to these comments in the administrative rulemaking record. We appreciate your consideration.

B. <u>If the District Imposes A Facility Mass Emissions Rate Limit, the District Must Provide For, And Allow Exide To Propose, Alternative Methods To Comply With The Lead NAAQS.</u>

The District includes a mass facility emissions rate limit of 0.045 pounds per hour as a core requirement in section 1420(f)(2), citing a need to "ensure [that] point sources are controlled to allow a 30 percent margin for fugitive emissions." [October 2010 Staff Report, 2-6]. Exide contends that Health & Safety Code Sections 40001(d), 39666(f), 40406 and 40440.8 – all statutes cited by the District for legal support – require the District to consider facility-specific alternatives to the stack mass emissions rate limit that are designed to achieve compliance with the 0.15 ug/m^3 lead NAAQS. Recognizing these legal requirements to provide for compliance flexibility, the District recently amended section 1420(f)(3) to allow a facility to apply for "an alternative [dryer] secondary lead control method that is equally or more effective for the control of lead emissions." Though Exide opposes the inclusion of any facility stack mass emissions rate limit as a core rule requirement, at a minimum, Exide requests that language similar to that added in subsection (f)(3) be included in subsection (f)(2) as follows:

1-2

> *The total facility mass lead emissions from all lead point sources shall not 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 based on the most recent source tests conducted pursuant to subdivision (k).* ***An alternative method that is equally or more effective to satisfy the ambient air concentration requirement in paragraph (d)(2) 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.***

This language would preserve the purpose of Rule 1420.1 while allowing the facility to design alternative cost-effective solutions to comply with the NAAQS. The District is not legally or equitably justified in mandating one method of compliance, especially since, as stated by the District in its recent response to comments, "the ambient monitors will be the ultimate test of [NAAQS] compliance." What may be appropriate or feasible for one facility may not be appropriate or feasible for another. In the end, the facility is responsible for the outcome and, thus, must have the flexibility to determine – with District approval and enforcement authority – the method by which it satisfies the NAAQS standard.

1-3

1. The District is Required to Consider Alternatives Under Health & Safety Code Section 40001.

H&S Code Section 40001(d)(1)-(3), which governs all district rulemaking to achieve the federal NAAQS, sets forth the appropriate balance between NAAQS compliance and allowing a facility to design the method by which it will comply. As stated in the statute: "A district shall allow the implementation of alternative methods of emission reduction, emissions monitoring, or recordkeeping if a facility demonstrates to the satisfaction of the district that those alternative methods will provide equivalent performance." [H&S Code § 40001(d)(1)]. If the District specifies an "emissions limit," the District shall allow the facility to include operational and effectiveness measurement elements "that can be included as permit conditions by the District to ensure compliance with, and enforcement of, the equivalent performance requirements . . . ." [H&S Code § 40001(d)(3)]. The District's mandated facility mass emissions rate limit here functions both as an emissions limit and control method. Though Exide opposes any mass emissions rate limit, at the very least Rule 1420.1 must provide for, and allow, Exide an alternative compliance method in accordance with H&S Code § 40001(d).

1-4

2. The District is Required to Consider Alternatives Under Health & Safety Code Section 39666

Attempting to impose an ATCM emissions limit on stack emissions to achieve the NAAQS lead standard, the District cites H&S Code Section 39666 as legal authority for proposed Rule 1420.1. [*See, e.g.*, Resolution]. If the District relies on section 39666, then it must satisfy its requirements. The statute provides that, where an ATCM measure "requires the use of a specified method or methods to reduce, avoid, or eliminate the emissions of a toxic air contaminant, a source may submit to the District an alternative method or methods that will achieve an equal or greater amount of reduction in emissions of, and risk associated with, that toxic air contaminant." [H&S Code § 39666(f)]. The District "shall approve" the alternative method if it is demonstrated to be enforceable and effective. [*Id.*]

As currently written, Rule 1420.1 forecloses any alternative methods of compliance, regardless of whether other methods may be equally effective. The District may not mandate a facility mass emissions rate limit without allowing the facility to propose alternatives. Again, Exide requests inclusion of the above language to rule Section(f)(2) to correct this flaw in the existing proposed rule.

1-5

3. The District Must Provide a BARCT Analysis, Considering Facility-Specific Economic and Environmental Impacts.

In its recent staff response, the District stated that Rule 1420.1 "is a Best Available Retrofit Technology (BARCT) Rule for Lead." [Staff Response to Comment 45]. BARCT is defined as "an emissions limitation that is based on the maximum degree of reduction achievable,

taking into account environmental, energy, and economic impacts by each class or category of source." [H&S Code § 40406] Exide agrees with the District that Quemetco's recent proposal to limit the mass emissions rate to 0.003 lbs/hr is unnecessary to achieve the NAAQS lead standard and cost prohibitive and, thus, does not satisfy BARCT, for the Exide facility. However, Exide contends that the District's rulemaking record is presently inadequate to even allow for Governing Board consideration as to whether the 0.045 lbs/hr facility mass emissions rate limit is BARCT under H&S Code Section 40920.6.

1-5 Cont.

Because the District states that Rule 1420.1 is a BARCT rule, Exide contends that the District must fully evaluate the rule's technical and economic feasibility, identify different control options that can achieve the emissions reduction objectives of the regulation, review the cost-effectiveness of each potential control option, make findings as to the cost-effectiveness of each option, and allow alternative means of producing equivalent reductions at any equal or lesser dollar amount per ton reduced. [H&S Code § 40920.6]. Even if Section 40920.6 does not apply directly, the District has determined that BARCT requires a 0.045 lbs/hr facility limit without properly considering the technical, economic and environmental impacts of that limit as required by Sections 40406, 40440.8 and 40922.

4. <u>The District's Socioeconomic Analysis is Insufficient Because It Does Not Adequately Consider Relative Cost-Effectiveness.</u>

The District's Socioeconomic Assessment estimates the annual total cost to comply with Rule 1420.1 will be $0.41 million for the first year and $0.32 million annually thereafter. Though the District purports to consider economics, the District does not properly consider the "availability and cost-effectiveness of alternatives" to the mass emissions rate limit as required by H&S Code Sections 40440.8 and 40922. Section 40922 (made applicable here by Section 40440.8) requires the District to consider "an assessment of the cost-effectiveness of available and proposed control measures" and states that the District's analysis "shall contain a list of the control measures from the least cost-effective to the most cost-effective." The District must also consider relative cost-effectiveness, in addition to technological feasibility and other factors. [H&S Code § 40922].

1-6

The District avoids a relative cost-effectiveness analysis and does not cite to section 40922, presumably because the District takes the position that section 40922 only applies to rules meant to control ozone, CO, NOx and SOx. The District's interpretation ignores that section 40440.8 requires a socioeconomic assessment without limit to designated criteria pollutants, and section 40440.8 (requiring a socio-economic analysis) cites to and requires analysis under section 40922. Indeed, when implementing rules designed to limit emissions of PM and ammonia from refineries (constituents other than ozone, CO, NOx and SOx), the District engaged in the 40922 incremental cost analysis that it fails to conduct here. [*Western States Petroleum Association v. SCAQMD*, 136 Cal. App. 4th 1012].

Furthermore, Section 40703 states that "in adopting any regulation, the district shall consider, pursuant to Section 40922, and make available to the public, its findings related to the cost-effectiveness of the control measure, as well as the basis for the findings and the considerations involved." The law also requires that the District "shall make reasonable efforts, to the extent feasible within existing budget constraints, to make specific reference to the direct costs expected to be incurred by regulated parties, including businesses and individuals." [H&S Code § 40703]. Here, while the District generally considered certain compliance costs to reach its $0.41/$0.32 million per year estimate, it did not adequately consider the economic impact to Exide, particularly as to the newly-proposed alternative of a 0.003 lbs/hr facility mass emissions rate limit, and the District did not properly consider cost-effective alternatives that would still result in NAAQS compliance.

1-6 Cont.

5. <u>The Clean Air Act Does Not Prohibit Increased Stack Height as a Control Option</u>.

The District rejected Exide's proposal to increase stack heights, stating that "the Clean Air Act, Section 123, prohibits using stack heights in lieu of emissions controls." [October 2010, Staff Response to Comment 8]. The District is incorrect. Under the CAA, a facility can take full credit for improved dispersion provided by any stack height up to 65 meters (200+ ft.) without any justification required as dictated by good engineering practice. Good engineering practice means "the height necessary to insure that emissions from the stack do not result in excessive concentrations of any pollutant in the immediate vicinity of the source as a result of atmospheric downwash." "In no event may the Administrator prohibit any increase in any stack height or restrict in any manner the stack height of any source." [CAA, Section 123(c); 40 CFR Part 51; *see, also*, District Rule 1401(a)(1) defining "Acceptable Stack Height" in conformance with CAA Section 123.] For the reasons summarized in its September 21, 2010 letter, Exide is significantly impacted by downwash at its stacks, which are barely taller than the facility buildings. Increasing the stack height is a legally viable alternative to satisfy the NAAQS.

1-7

C. <u>The Proposed 0.003 lbs/hr Facility Mass Emissions Rate Limit Alternative Threatens The Economic Viability Of Exide's Facility To Remain Operating In Southern California, Resulting In Significant Adverse Economic and Environmental Impacts Not Previously Considered That Require Subsequent Or Supplemental Socio-Economic and Environmental Impact Assessments</u>.

Quemetco recently proposed that the District reduce the rule's facility mass emissions rate limit from 0.045 lbs/hr to 0.003 lbs/hr, a substantial change to the existing proposed rule. For the District to consider this proposal for adoption, it must fully evaluate the proposal's significant adverse economic and environmental impacts. The District estimates a $15-20 million cost for Exide (based solely on Quemetco costs) to reduce mass emissions to this level. Exide believes this cost to be prohibitive and that it will threaten its economic viability to continue operating in Southern California, with Exide considering the option of expanding operations in facilities out

1-8

1-8 Cont.

of State [*See* concurrently submitted October 11, 2010 Exide letter]. Exide's closure as a result of "substantial changes" to the Rule (*i.e.*, a 15-fold emissions reduction above the amounts already proposed) will result in significant adverse economic impacts and direct and indirect significant adverse environmental impacts necessitating the District prepare subsequent or supplemental socio-economic environmental impact assessments. [14 CCR § 15162].

As noted by the District, Exide has an average production of 100,000 to 120,000 tons of lead per year, equivalent to approximately 11 million automotive batteries. Exide and Quemetco are the only two large lead battery recyclers in the Western United States, with the closest comparable facility in Texas. [Staff Report, at 1-7.] If Exide is forced to discontinue its Vernon Facility operations, Exide's departure would reasonably result in "significant adverse effects" not previously considered in the existing rulemaking documents, including but not limited to:

1-9

- Loss of approximately 125+ union jobs at the Vernon Facility and additional jobs in industries servicing the Vernon Facility.
- Substantial loss of lead acid battery recycling capacity in the District.
- Increased truck traffic and pollution (including diesel particulate and GHG emissions) from shipping batteries out of California or to Mexico.
- Increased risk of illegal or improper disposal of lead batteries in the District.
- Increased lead, diesel particulate and GHG and other emissions including truck traffic from Quemetco's facility closer to a residential community environment.

These impacts would require subsequent or supplemental socio-economic and environmental impact assessments; the District's existing assessments are presently inadequate and fail to analyze those foreseeable adverse impacts. [*See, e.g., Bakersfield Cit. Loc. Con, v. City of Bakersfield*, 124 Cal. App. 4th 1184 (2004) (agency must conduct a CEQA analysis if economic harm is reasonably likely to result in direct or indirect environmental impact). H&S Code § 40440.8(b)(2).] To properly consider for adoption a 0.003 lbs/hr facility mass emissions rate limit, the District must evaluate these potentially significant adverse economic and environmental impacts (which it has not done in the existing rulemaking documents) through preparation of subsequent or supplemental socio-economic and environmental impact assessments. Re-circulation and allowance for comment is also required. Obviously, this will further delay the approval of an applicable rule.

D. <u>Conclusion</u>.

1-10

In conclusion, Exide contends that the mass emissions rate limit is untenable and unjustified, particularly because the District has not considered cost-effective alternatives designed to satisfy the NAAQS. In addition, District consideration of Quemetco's proposal to

1-10 Cont.

lower the mass limit to 0.003 lbs/hr will threaten the economic viability of Exide's Vernon Facility, requiring further analysis of the rule's potentially significant adverse socio-economic and environmental impacts, not previously evaluated or considered in the existing rulemaking documents. We appreciate your consideration of these comments.

Very truly yours,

Randolph C. Visser

for SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

W02-WEST:1OFTI\402975458.1

cc: Mr. Barry R. Wallerstein (***Via Email***)
Laki Tisopulos, Ph.D., P.E.
Ms. Cheryl Marshall (***Via Email***)
Kurt Wiese, Esq. (***Via Email***)
William Wong, Esq. (***Via Email***)
Christine Graessle, Esq. (***Via Email***)
Robert L. Collings, Esq. (***Via Email***)

PROPOSED ALTERNATIVE 3 FOR CONSIDERATION AT THE NEXT HEARING BOARD MEETING

AGENDA NO. 36 — Adopt Rule 1420.1 – Emissions Standard for Lead from Large Lead-acid Battery Recycling Facilities

Modify subparagraph (f)(2) of Proposed Rule 1420.1

"(2) ~~The total facility mass lead emissions from all lead point sources shall not 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 based on the most recent source tests conducted pursuant to subdivision (k)."~~

Modify subparagraph (g)(2)(A) of Proposed Rule 1420.1

(A) A description of additional lead emission reduction measures including, but not limited to, requirements for the following:

(i) Housekeeping, inspection, and maintenance activities;

(ii) Additional total enclosures;

(iii) Modifications to lead control devices and installation of multi-stage lead control devices necessary to achieve a total facility lead emission rate of 0.045 pounds per hour from all lead point sources and a maximum emission rate of 0.010 pounds of lead per hour for any single lead point source;

~~(iv) Installation of multi-stage lead control devices;~~

(iv) Process changes including reduced throughput limits; and

(vi) Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment.

Add subparagraph (g)(2)(D) of Proposed Rule 1420.1

(D) An implementation schedule for (g)(2)(A)(iii) to achieve a total lead emission rate of 0.045 pounds per hour from all lead point sources and a maximum emission rate of 0.010 pounds of lead per hour for any single lead point source if lead emissions discharged from the facility contribute to ambient air concentrations of lead to exceed 0.15 $\mu g/m^3$ averaged over any 30 consecutive days measured at any monitor pursuant to subdivision (j) or at any District-installed monitor no later than one year after the date of exceeding the 0.15 $\mu g/m^3$ average.

Modify paragraph (g)(4) of Proposed Rule 1420.1

(4) ~~The owner or operator shall implement measures based on the schedule in the approved Compliance Plan if~~ If lead emissions discharged from the facility contribute to ambient air concentrations of lead to exceed 0.15 $\mu g/m^3$ averaged over any 30 consecutive days measured at any monitor pursuant to subdivision (j) or at any District-installed monitor, the owner or operator shall:.

(A) Implement lead emission reduction measures based on the schedule in the approved Compliance Plan; and

(B) Notwithstanding paragraph (f)(2), meet a total facility emission rate of 0.045 pounds per hour from all lead point sources and a maximum emission rate of 0.010 pounds of lead per hour for any single lead point source no later than one year after the date of exceedance. The total facility emission rate shall be determined using the most recent source tests conducted by the facility or the District

EXIDE TECHNOLOGIES

October 12, 2010

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Attention: Elaine Chang, DrPH
Deputy Executive Officer

Ms. Susan Nakamura
Planning & Rules Manager

Re: Comments on Proposed Rule 1420.1

Dear Mses. Chang and Nakamura:

Exide provides the following additional comments on proposed Rule 1420.1, and requests SCAQMD's consideration of, and response to, them prior to adopting a final rule.

With regard to the Quemetco, Inc. comments submitted to the District Board on September 22, 2010, Exide agrees with AQMD staff that the proposed lower emission rate limit of 0.003 lbs/hr of lead is unnecessary, cost prohibitive and should not be included in the final rule [October 2010 Staff Report, Appendix A, Page A-17 and 18.].

Since the proposal for the 0.003 lb/hr facility-wide lead emission rate was only submitted a little more than a week before the rule was to be approved, Exide has had little time to fully evaluate such a proposal and has the following concerns with it.

First, Exide is unsure if the control technology installed at the Quemetco facility is technically feasible and compatible with Exide's process. The Exide facility uses a fundamentally different furnace technology (blast furnace) than what Quemetco uses (electric arc furnace) to process reverberatory furnace slag. Exide has no basis for assuming that this fundamental difference is amenable to the wet electrostatic precipitator (WESP) emission control technology. Exide is aware of no other emission control technology that even claims to be able to reach the 0.003 lb/hr facility-wide level. At this point, Exide could only speculate (at best) that the WESP technology is technically feasible and could be employed at our facility. Whether emissions from our facility would also remain below 0.003 lb/hr with implementation of the WESP is unknown.

Additionally, it has been reported that Quemetco spent $18 million on installation of its emission control system, inclusive of the WESP. We have no way of knowing what portion of these costs are attributable to the regenerative thermal oxidizer (RTO) that was also installed as part of Quemetco's project. Organic emissions are not an issue from a risk perspective from our facility and we presume, therefore, that installation of a WESP to achieve the 0.003 lb/hr lead emission rate would not also require installation of an RTO. Thus, we can, at best, "guess" that the cost to achieve a 0.003 lb/hr Pb rate would be on the order of $18 million on the basis of no site or process-specific analysis.

Finally, at a cost of this magnitude, and from what we know of this control technology at this time, this proposal will threaten the economic viability of the Exide Vernon, CA recycling facility and Exide would have to consider the alternative of expanding operations at its other recycling facilities outside of California. Such would result in previously unconsidered significantly adverse socio-economic and environmental consequences including loss of jobs, loss of Basin lead acid battery recycling capacity and related air emission increases.

In follow-up to Exide's original comments on the reasons a 0.045 lb./hr. lead emission rate is not the proper control methodology for this rule, is not needed to ensure compliance with the ambient standard and should not be included in the final rule, Exide provides the following proposed alternative by which a mass emission rate could be included in the rule. Exide proposes that if compliance with the 0.15 ug/m3 ambient standard cannot be achieved by the compliance deadline of January 1, 2012, then the facility wide and individual point source mass emission rate limits would go into effect as a component of the required contingency compliance plan. [*See* enclosed Proposed Rule Alternative 3.] As the proposed rule already incorporates a compliance plan "safety valve" trigger of 0.12 ug/m^3 (80% of the 0.15 ug/m^3 NAAQS), the use of emissions rate limit as a core requirement is unnecessary. If a facility mass emission rate limit is to be considered at all, please submit this proposal to the Governing Board for consideration as well.

The SCAQMD first proposed a facility mass emissions rate of 0.045 lb./hr. in its August 31, 2010 proposed rule. At the Governing Board hearing on October 1, 2010 an alternative facility mass emissions rate of 0.003 lb./hr. was proposed. Exide has evaluated its compliance options with the Proposed Rule based on the 0.15 ug/m3 standard in the NAAQS that was amended in 2008. Neither Exide, nor the SCAQMD have had sufficient time to review the technical feasibility and economic aspects of meeting an facility Pb emission rate of 0.003 lb./hr. from stationary sources. Exide's proposal provides for existing control measures and housekeeping activities to be implemented and take effect. If additional emission reduction measures are then required to meet the 0.15 ug/m3 standard, Exide can evaluate which measures will be effective in complying with the standard, rather than relying on an arbitrary emission rate or control technology that would not be practicable for Exide's overall equipment configuration.

Exide has extensively evaluated the issue of its facility's ambient lead concentration impacts and finds that the REAL impacts are predominantly caused by two effects – fugitive emissions and stacks that are being affected by building downwash.

Several of the facility stacks are just barely taller than their adjacent buildings. Stacks that are legitimately subject to downwash in this manner can legitimately be improved by simply increasing the stack height to avoid the downwash zone. That is, the "problem" with these stacks is NOT that their emissions are too great or in any way indicative of inadequate control effectiveness, but that they are simply too short. Contrary to the Staff response on this issue [October 2010 Staff Report, Appendix A, Page A-3], neither the federal Clean Air Act nor relevant California or District rules would in any way "prohibit" the use of stack height increases to resolve adverse building downwash influences. We would be happy to provide full citations of the relevant statutes and regulations on this point.

On 6-25-2009 Exide signed a consent order with the SCAQMD that required the construction of additional total enclosures, venting them to existing control equipment, and additional housekeeping activities such as the installation of a vehicle wash station. When Exide completes the requirements of this consent order the emission rate from fugitive sources should be substantially reduced and contribute to Exide's compliance with the NAAQS.

The ultimate goal here is to help to protect public health by reducing their ambient concentrations. For heavily downwash-influenced stacks, the prescription is a redesign of the geometry rather than wasting resources on essentially unachievable emission limitations. The District's dispersion modeling exercise used to derive and back-calculate the new Subsection (f)(2) emission rate limits gave no consideration to the possibility of alternate stack physical geometries and the impact of fugitive emissions and only considered alternate emission rate scenarios to achieve modeled compliance. The District does not have the authority to impose such a narrow compliance standard, and has not properly considered all possible methods for achieving the standard. We believe that this lack of consideration of reasonable and appropriate alternatives has resulted in a proposed rule which would serve to distract and misdirect resources from the primary focus for achieving the revised NAAQS – reduction in fugitive emissions.

We respectfully request due consideration of the comments outlined above and acceptance by the District of Exide's requested revisions.

Please contact Fred Ganster at 610-921-4052 with any questions you may have regarding this submittal.

Sincerely,
EXIDE TECHNOLOGIES

Corey Vodvarka

Corey Vodvarka
Plant Manager

cc: Mr. Barry R. Wallerstein
Laki Tisopulos, Ph.D., P.E.
Ms. Cheryl Marshall
Kurt Wiese, Esq.
William Wong, Esq.
Christine Graessle, Esq.
Robert L. Collings, Esq.

COMMENT LETTER NO. 1
SHEPPARD MULLIN
OCTOBER 12, 2010

Response to Comment 1-1

Thank you for your comments. Detailed responses to comments regarding inclusion of a mass emission rate limit in PR 1420.1(f)(2), reducing the facility mass emission rate limit for point sources in PR 1420.1 from 0.045lbs/hr to 0.003 lbs/hr, and the anticipated closure of any facilities subject to PR 1420.1 are addressed below.

Response to Comment 1-2

PR 1420.1 does not specify the method or control approach that a facility must use to meet either the total facility lead point source emission rate of 0.045 lb/hr or individual point source lead emission rate of 0.010 lb/hr. Furthermore, Health and Safety Code Section 40001(d)(3) states that "if a district rule specifies an emission limit for a facility or system, the district shall not set operational or effectiveness requirements for any specific control equipment operating on a facility or system under that limit." PR 1420.1 simply requires achieving an emission rate limit and does not set any operational or effectiveness requirements for any specific emission control equipment operating on a facility or system under the proposed emission rate limit.

Regarding the commenter's objection to the facility mass emissions rate limit for point sources: based on air dispersion modeling using the most recent source tests results and stack parameters, the stack emissions of one facility subject to PR 1420.1 would exceed the ambient lead standard of 0.15 micrograms per cubic meter averaged over 30 days. As a result, Proposed Rule 1420.1 establishes a point source emission rate of 0.045 lbs/hour as a core requirement. This facility-wide emission level was derived from modeling, which demonstrates that at the point of maximum impact, the ambient concentration would be about 30 percent below the new ambient lead standard. The 30 percent "buffer" is necessary so the facility has an emissions budget for fugitive emissions. Staff believes that if the 0.045 lbs/hr emission rate limit is not established as a core requirement, at least one of the facilities subject to PR 1420.1 would most likely exceed the standard based on point source emissions alone, and would be well above the standard when fugitive emissions are included. As a result, implementation of controls would be delayed if the 0.045 lbs/hr emission rate is not required. Thus, staff's proposal of the emission rate limit as a core requirement stands.

Response to Comment 1-3

Please see response to comment 1-2.

Response to Comment 1-4

The commenter's reference to the Health & Safety Code Section 39666(f) states, "Where an airborne toxic control measure requires the use of a specified method or methods to reduce, avoid, or eliminate the emissions of a toxic air contaminant, a source may submit to the district an alternative method or methods that will achieve an equal or greater amount of reduction in emissions of, and risk associated with, that toxic air contaminant…" PR 1420.1 does not

implement an ATCM. As a result, the reference to Health and Safety Code Section 39666(d) is removed.

Response to Comment 1-5

The staff response has been revised in Response to Comment #45 in Appendix A of the Staff Report, reflecting that PR 1420.1 is not a BARCT rule. The response no longer states that PR 1420.1 is a BARCT rule. The intent of PR 1420.1 is to achieve attainment with the revised NAAQS for lead.

The commentator states that the environmental impacts of the 0.045 pound per hour facility limit were not considered as required by Health and Safety Code §40406. SCAQMD staff disagrees with this statement. Control strategies are presented in Chapter 1 of the Final EA. Each control strategy is presented and a statement is made as to whether the control strategy is expected to be used for the proposed project. Baghouses, wet scrubbers and HEPA filters are listed as control strategies that would be used. Electrostatic precipitators/wet electrostatic precipitators are strategies that are not expected to be used. No comment was received on this section of the Draft EA.

Construction and operation of the control technologies were analyzed in the aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, mineral resources, noise, population and housing, public services, recreation and transportation and traffic sections of Chapter 2 of the Final EA and found to have no impacts on these environmental topics. Construction and operation of the control technologies were analyzed in the air quality, energy, hazards and hazardous materials, hydrology and water quality, land use and planning, and solid/hazardous waste sections of Chapter 2 of the Final EA and found to have no significant impacts.

Response to Comment 1-6

Regarding requirements for availability and cost-effectiveness analyses required by the Health and Safety Code Sections referenced by the commenter, the District continues to take the position that section 40922 does not pertain to lead. Although Health and Safety Code Sections 40440.8 and 40703 require these analyses, both require the analyses pursuant to section 40922 which again only pertains to ozone, CO, SOx, and NOx. It should also be noted that staff's proposal remains at the 0.045 lb/hr and 0.010 lb/hr lead emission rate for total facility and individual point sources, respectively.

Response to Comment 1-7

The commenter is correct in that stack heights legally may be altered up to the specified maximum in order to change the dispersion of lead emissions from the point sources. Staff's position, however, is that increasing the stack height or buoyancy would just be a dilution of fence line monitor concentrations, and that the same amount of lead emissions are being dispersed in the atmosphere. Lead is a persistent and would continue to accumulate on the ground in areas of dispersion. Simply changing the air dispersion of emissions without overtly reducing emissions is not in the best interest for air quality and public health.

Response to Comment 1-8

PR 1420.1 requires affected facilities to meet an emission rate of 0.045 lbs/hr total mass emission rate from all point sources of lead at the facility. The Staff Report, Environmental Analysis and Socioeconomic Analysis are based on PR 1420.1, which requires a total stack mass emission rate of 0.045 lbs/hr from all point sources of lead emissions at a facility. If the Governing Board were to direct staff to incorporate a total stack emission rate of 0.003 lbs/hr of lead, either as a core requirement, or in the contingency Compliance Plan, additional environmental and economic analyses would be needed. The Board could, however, select an option that would require the facility to evaluate the feasibility of a total stack emission rate of 0.003 lb/hr of lead if the facility triggered the need for a compliance plan. If it is determined that it is technically and environmentally feasible to lower the total stack emission rate, Rule 1420.1 could be amended and the appropriate environmental and socioeconomic analyses would be conducted.

Response to Comment 1-9

Staff's proposal is a total facility mass emission rate limit of 0.045 lb/hr and not the 0.003 lb/hr rate. This comment requests the analysis of the closure of an affected facility. As stated in Response to Comment 1-8, the closure of affected facilities because of PR 1420.1 is not expected. Therefore no analysis will be prepared for the closure of affected facilities.

Response to Comment 1-10

See response to comment 1-2 regarding the applicability of the facility mass emission rate limit. See response to comment 1-8 regarding the inclusion of a lower (i.e. 0.003 lbs/hr) facility mass emission rate limit in PR 1420.1, and the expected closure of any facilities subject to PR 1420.1.

EXIDE TECHNOLOGIES

October 12, 2010

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Attention: Elaine Chang, DrPH
Deputy Executive Officer

Ms. Susan Nakamura
Planning & Rules Manager

Re: Comments on Proposed Rule 1420.1

Dear Mses. Chang and Nakamura:

Exide provides the following additional comments on proposed Rule 1420.1, and requests SCAQMD's consideration of, and response to, them prior to adopting a final rule.

With regard to the Quemetco, Inc. comments submitted to the District Board on September 22, 2010, Exide agrees with AQMD staff that the proposed lower emission rate limit of 0.003 lbs/hr of lead is unnecessary, cost prohibitive and should not be included in the final rule [October 2010 Staff Report, Appendix A, Page A-17 and 18.].

2-1 Since the proposal for the 0.003 lb/hr facility-wide lead emission rate was only submitted a little more than a week before the rule was to be approved, Exide has had little time to fully evaluate such a proposal and has the following concerns with it.

First, Exide is unsure if the control technology installed at the Quemetco facility is technically feasible and compatible with Exide's process. The Exide facility uses a fundamentally different furnace technology (blast furnace) than what Quemetco uses (electric arc furnace) to process reverberatory furnace slag. Exide has no basis for assuming that this fundamental difference is amenable to the wet electrostatic precipitator (WESP) emission control technology. Exide is aware of no other emission control technology that even claims to be able to reach the 0.003 lb/hr facility-wide level. At this point, Exide could only speculate (at best) that the WESP technology is technically feasible and could be employed at our facility. Whether emissions from our facility would also remain below 0.003 lb/hr with implementation of the WESP is unknown.

2-2 Additionally, it has been reported that Quemetco spent $18 million on installation of its emission control system, inclusive of the WESP. We have no way of knowing what portion of these costs are attributable to the regenerative thermal oxidizer (RTO) that was also installed as part of Quemetco's project. Organic emissions are not an issue from a risk perspective from our facility and we presume, therefore, that installation of a WESP to achieve the 0.003 lb/hr lead emission rate would not also require installation of an RTO. Thus, we can, at best, "guess" that the cost to achieve a 0.003 lb/hr Pb rate would be on the order of $18 million on the basis of no site or process-specific analysis.

Finally, at a cost of this magnitude, and from what we know of this control technology at this time, this proposal will threaten the economic viability of the Exide Vernon, CA recycling facility and Exide would have to consider the alternative of expanding operations at its other recycling facilities outside of California. Such would result in previously unconsidered significantly adverse socio-economic and environmental consequences including loss of jobs, loss of Basin lead acid battery recycling capacity and related air emission increases.

2-3

In follow-up to Exide's original comments on the reasons a 0.045 lb./hr. lead emission rate is not the proper control methodology for this rule, is not needed to ensure compliance with the ambient standard and should not be included in the final rule, Exide provides the following proposed alternative by which a mass emission rate could be included in the rule. Exide proposes that if compliance with the 0.15 ug/m3 ambient standard cannot be achieved by the compliance deadline of January 1, 2012, then the facility wide and individual point source mass emission rate limits would go into effect as a component of the required contingency compliance plan. [*See* enclosed Proposed Rule Alternative 3.] As the proposed rule already incorporates a compliance plan "safety valve" trigger of 0.12 ug/m^3 (80% of the 0.15 ug/m^3 NAAQS), the use of emissions rate limit as a core requirement is unnecessary. If a facility mass emission rate limit is to be considered at all, please submit this proposal to the Governing Board for consideration as well.

The SCAQMD first proposed a facility mass emissions rate of 0.045 lb./hr. in its August 31, 2010 proposed rule. At the Governing Board hearing on October 1, 2010 an alternative facility mass emissions rate of 0.003 lb./hr. was proposed. Exide has evaluated its compliance options with the Proposed Rule based on the 0.15 ug/m3 standard in the NAAQS that was amended in 2008. Neither Exide, nor the SCAQMD have had sufficient time to review the technical feasibility and economic aspects of meeting an facility Pb emission rate of 0.003 lb./hr. from stationary sources. Exide's proposal provides for existing control measures and housekeeping activities to be implemented and take effect. If additional emission reduction measures are then required to meet the 0.15 ug/m3 standard, Exide can evaluate which measures will be effective in complying with the standard, rather than relying on an arbitrary emission rate or control technology that would not be practicable for Exide's overall equipment configuration.

2-4

Exide has extensively evaluated the issue of its facility's ambient lead concentration impacts and finds that the REAL impacts are predominantly caused by two effects – fugitive emissions and stacks that are being affected by building downwash.

Several of the facility stacks are just barely taller than their adjacent buildings. Stacks that are legitimately subject to downwash in this manner can legitimately be improved by simply increasing the stack height to avoid the downwash zone. That is, the "problem" with these stacks is NOT that their emissions are too great or in any way indicative of inadequate control effectiveness, but that they are simply too short. Contrary to the Staff response on this issue [October 2010 Staff Report, Appendix A, Page A-3], neither the federal Clean Air Act nor relevant California or District rules would in any way "prohibit" the use of stack height increases to resolve adverse building downwash influences. We would be happy to provide full citations of the relevant statutes and regulations on this point.

2-5 On 6-25-2009 Exide signed a consent order with the SCAQMD that required the construction of additional total enclosures, venting them to existing control equipment, and additional housekeeping activities such as the installation of a vehicle wash station. When Exide completes the requirements of this consent order the emission rate from fugitive sources should be substantially reduced and contribute to Exide's compliance with the NAAQS.

2-6 The ultimate goal here is to help to protect public health by reducing their ambient concentrations. For heavily downwash-influenced stacks, the prescription is a redesign of the geometry rather than wasting resources on essentially unachievable emission limitations. The District's dispersion modeling exercise used to derive and back-calculate the new Subsection (f)(2) emission rate limits gave no consideration to the possibility of alternate stack physical geometries and the impact of fugitive emissions and only considered alternate emission rate scenarios to achieve modeled compliance. The District does not have the authority to impose such a narrow compliance standard, and has not properly considered all possible methods for achieving the standard. We believe that this lack of consideration of reasonable and appropriate alternatives has resulted in a proposed rule which would serve to distract and misdirect resources from the primary focus for achieving the revised NAAQS – reduction in fugitive emissions.

We respectfully request due consideration of the comments outlined above and acceptance by the District of Exide's requested revisions.

Please contact Fred Ganster at 610-921-4052 with any questions you may have regarding this submittal.

Sincerely,
EXIDE TECHNOLOGIES

Corey Vodvarka

Corey Vodvarka
Plant Manager

cc: Mr. Barry R. Wallerstein
Laki Tisopulos, Ph.D., P.E.
Ms. Cheryl Marshall
Kurt Wiese, Esq.
William Wong, Esq.
Christine Graessle, Esq.
Robert L. Collings, Esq.

COMMENT LETTER NO. 2
EXIDE COMMENT LETTER
OCTOBER 12, 2010

Response to Comment 2-1

Staff understands that Wet Electrostatic Precipitator (WESP) control technology installed at the commenter's facility may result in different emission rates than those achieved at another facility subject to PR 1420.1 utilizing the WESP technology. AQMD staff agrees that additional time is needed to further evaluate the technical feasibility, potential environmental impacts and economic impacts of such a proposal. Staff's proposal is to retain the total facility lead emission rate of 0.045 lb/hr.

Response to Comment 2-2

Proposed Rule 1420.1 requires as a core requirement that affected facilities achieve a total stack emission rate of 0.045 lbs/hr. AQMD staff agrees that additional time is needed further evaluate the technical feasibility, potential environmental impacts and economic impacts of lowering the stack emission rate to 0.003 pounds per hour. Staff's proposal is to retain the total facility lead emission rate of 0.045 lbs/hr.

Response to Comment 2-3

PR 1420.1 requires affected facilities to meet an emission rate of 0.045 lbs/hr total mass emission rate from all point sources of lead at the facility. The Staff Report, Environmental Analysis and Socioeconomic Analysis are based on PR 1420.1, which requires a total stack mass emission rate of 0.045 lbs/hr from all point sources of lead emissions at a facility. If the Governing Board were to direct staff to incorporate a total stack emission rate of 0.003 lbs/hr of lead, either as a core requirement, or in the contingency Compliance Plan, additional environmental and economic analyses would be needed. The Board could, however, select an option that would require the facility to evaluate the feasibility of a total stack emission rate of 0.003 lb/hr of lead if the facility triggered the need for a compliance plan. If it is determined that it is technically and environmentally feasible to lower the total stack emission rate, Rule 1420.1 could be amended and the appropriate environmental and socioeconomic analyses would be conducted.

Response to Comment 2-4

Based on air dispersion modeling using the most recent source tests results and stack parameters, the stack emissions of one facility subject to PR 1420.1 would exceed the ambient lead standard of 0.15 micrograms per cubic meter averaged over 30 days. As a result, Proposed Rule 1420.1 establishes a point source emission rate of 0.045 lbs/hour as a core requirement. This facility-wide emission level was derived from modeling, which demonstrates that at the point of maximum impact, the ambient concentration would be about 30 percent below the new ambient lead standard. The 30 percent "buffer" is necessary so the facility has an emissions budget for fugitive emissions. Staff believes that if the 0.045 lbs/hr emission rate limit is not established as a core requirement, at least one of the facilities subject to PR 1420.1 would most likely exceed the standard based on point source emissions alone, and would be well above the standard when

fugitive emissions are included. As a result, implementation of controls would be delayed if the 0.045 lbs/hr emission rate is not required. Thus, staff's proposal of the emission rate limit as a core requirement stands.

Regarding the comments on stack height, staff agrees that stack heights may be legally altered up to the specified maximum in order to change the dispersion of lead emissions from the point sources. Staff's position, however, is that increasing the stack height or buoyancy would just result in a dilution of fence line monitor concentrations, and that the same amount of lead emissions are being dispersed in the atmosphere. Lead is a persistent and would continue to accumulate on the ground in areas of dispersion. Simply changing the air dispersion of emissions without overtly reducing emissions is not in the best interest for air quality and public health.

Response to Comment 2-5

AQMD staff agrees that the completion of additional total enclosures, vented to existing control equipment as well as additional housekeeping activities should help to reduce fugitive emissions.

Response to Comment 2-6

See response to comment 2-4 regarding stack height. Air dispersion modeling conducted in support of this rulemaking used the most recent stack parameters. The AQMD maintains that it does have the authority to set an emission standard. Furthermore, Health and Safety Code Section 40001(d)(3) states that "if a district rule specifies an emission limit for a facility or system, the district shall not set operational or effectiveness requirements for any specific control equipment operating on a facility or system under that limit." PR 1420.1 simply requires achieving an emission rate limit and does not set any operational or effectiveness requirements for any specific emission control equipment operating on a facility or system under the proposed emission rate limit. See response to comment 1-2 in the letter from Sheppard Mullin dated October 12, 2010.