SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for:

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

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Preface

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) Rule 1420.1 – Emission Standards for Lead from Lead-Acid Battery Recycling Facilities. The Draft EA was released for a 30-day public review and comment period from October 10, 2013 – November 8, 2013. One comment letter was received on the Draft EA. The comment letter and response to comments are included in Appendix C. Two letters on the proposed amendments to PAR 1420.1 were received that included comments on the Draft EA. The two comment letters and response to the comments on the Draft EA are included in Appendix C are included in Appendix C. Responses to the proposed amendments to PAR 1420.1 are included in the Final Staff Report for PAR 1168 dated December 2013 (http://www.aqmd.gov/rules/proposed.html).

In October/November 2013, the SCAQMD staff source tested arsenic, benzene, and 1,3-butadiene emissions from Quemetco's wet electrostatic precipitator (ESP), regenerative thermal oxidizer (RTO), and baghouses. Results from these 2013 source tests showed elevated arsenic, benzene, and 1,3-butadiene emissions at Quemetco. There are a number of factors that could have contributed to the high emission levels found in the October/November 2013 source test such as, for example, a feedstock that had an unusually high level of arsenic, poor maintenance of equipment or processes, improper operation of pollution control equipment, etc. Quemetco has shown on multiple occasions through emissions source testing that their existing pollution controls can achieve the PAR 1420.1 emission limit for arsenic, benzene, and 1,3-butadiene. The emission limits represent a performance standard that has and can be achieved with the existing pollution control equipment combined with proper operating and maintenance. As a result, the SCAQMD staff believes that no additional pollution control equipment is needed to meet the PAR 1420.1 emission limits at Quemetco.

To be conservative, SCAQMD staff identified four additional measures that could be implemented to reduce arsenic, benzene, and 1,3-butadiene emissions at Quemetco: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Items 1, 2, 3 will help to reduce arsenic emissions and item 4 will reduce benzene and 1,3-butadiene emissions. These measures would have electricity, water and wastewater and hazardous waste impacts that are addressed in Sections VI. Energy, VII. IX. Hydrology and Water Quality and XVI. Solid/Hazardous Waste. The increases in electricity, water and wastewater and hazardous waste would not result in significant adverse energy, hydrology and water quality or solid/hazardous waste impacts from the proposed project. Therefore, no mitigation, consideration of alternatives or recirculation is required.

SCAQMD has modified PAR 1420.1 to require additional source test to ensure compliance with PAR 1420.1. This would result in two additional source test vehicle trips to each facility (Exide and Quemetco) per year. The Draft EA assumed one additional source test vehicle trip per year to Exide. Therefore, the emissions from source test trips per year were revised in the Final EA to reflect these trips (three round trips to Quemetco and three round trips to Exide). These revisions are summarized in the Final EA on Table 2-3 for criteria pollutants and in section III. g) and h)

for greenhouse gases and detailed in Table B-5 of Appendix B. As shown, in Table 2-3, the increases in criteria emissions and greenhouse gas emissions would not result in significant adverse air quality or greenhouse gas emissions from the proposed project. Therefore, no mitigation, alternative or recirculation is required.

Subsequent to release of the Draft EA, other minor modifications were also made to PAR 1420.1, which do not affect the environmental analysis. The most recent version of the rule included the following changes to the September 20, 2013 version provided with the Draft EA:

- added three definitions
- clarified arsenic concentration requirement
- clarified that the benzene and 1,3-butadiene emissions from emissions control devices on total enclosure were excluded from the total point emission levels.
- <u>added requirement to exclude benzene and 1,3-butadiene point sources that are less than one part per billion from total point source emission calculation;</u>
- added requirement to implement a multi-metals continuous emissions demonstration program
- clarified requirement for venting total enclosure
- delayed requirement for static differential furnace pressure monitoring device on smelting furnaces
- clarified and modified requirement for a Continuous Furnace Pressure Monitoring Plan
- modified curtailment provisions if there is an exceedance of the ambient arsenic concentration
- added curtailment provisions if total facility lead or arsenic emissions exceed limits or there is an exceedance of the ambient lead concentration
- added requirement to submit and update periodically a Compliance Plan for ambient lead or arsenic concentrations
- added requirement to collect arsenic samples
- clarified source test requirements
- clarified requirements for unplanned shutdowns
- clarified Lead Emission Rate Feasibility Study requirements
- added provision for severability

To facilitate identification, modifications to the document are included as underlined text and text removed from the document is indicated by strikethrough. SCAQMD staff has reviewed the modifications to PAR 1420.1 and concluded that none of the modifications alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to the draft document. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15073.5. Therefore, this document now constitutes the Final EA for PAR 1420.1.

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INTRODUCTION

Rule 1420.1 – Emission Standards for Lead from Lead-Acid Battery Recycling Facilities was adopted on November 5, 2010 and applies to large lead-acid battery recycling facilities that process more than 50,000 tons of lead a year. The purpose of Rule 1420.1 is to protect public health by reducing exposure to emissions of lead from these facilities and to help to ensure attainment of the National Ambient Air Quality Standard for lead.

The SCAQMD staff is proposing amendments to Rule 1420.1 to address other toxic air contaminant emissions at large lead acid battery recycling facilities. In March 2013, the SCAQMD staff approved and Health Risk Assessment pursuant to Rule 1402 for Exide Technologies that showed a maximum individual cancer risk of 156 in one million, a chronic hazard index of 63, and a cancer burden of 10. All of these health risk values exceed the cancer and non-cancer health risk thresholds established under the SCAQMD Rule 1402, which regulates toxic emissions from existing facilities. Rule 1402 requires a facility to reduce its maximum health risk to 25 in a million or less with a set health risk reduction plan, development and implementation schedule. Proposed amended Rule (PAR) 1420.1 would seek health risk reduction via a technology based approach by addressing arsenic, benzene, and 1,3-butadiene emissions which are the primary contributors to the elevated health risks at large lead-acid battery recycling facilities ~~by requiring health risk to be lowered to levels equivalent to Rule 1401, another air toxic rule for new facilities~~. PAR 1420.1 maintains existing lead requirements to ensure National Ambient Air Quality Standards (NAAQS) for lead can be achieved while including additional requirements for these other key air toxics to ensure emissions from large lead-acid battery recycling facilities are appropriately controlled and public health is further protected.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Amending Rule 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. 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.

CEQA and SCAQMD 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 Environmental Assessment (EA) to address the potential adverse environmental impacts associated with the proposed project. The Draft EA is an informational 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) identify possible ways to minimize the significant effects.

SCAQMD's review of the proposed project shows that the proposed project is not expected to generate significant adverse affects on the environment. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts for all environmental topics. ~~Comments received on the Draft EA during the 30-day public review period will be addressed~~

~~and included in the Final EA.~~ One comment letter was received on the Draft EA. The comment letter and response to comments are included in Appendix C. Two letters on the proposed amendments to PAR 1420.1 were received that included comments on the Draft EA. The two comment letters and response to the comments on the Draft EA are included in Appendix C are included in Appendix C. Responses to the proposed amendments to PAR 1420.1 are included in the Final Staff Report for PAR 1168 dated December 2013 (http://www.aqmd.gov/rules/proposed.html).

PROJECT LOCATION

The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the 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. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB 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 both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1).

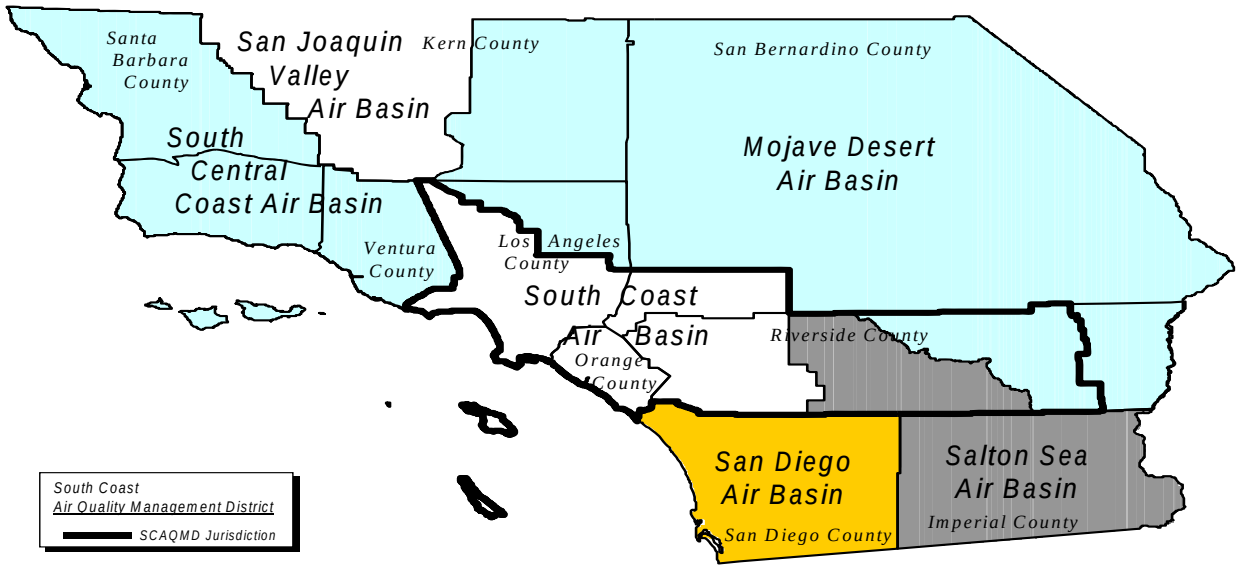

Figure 1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVES

The objectives of PAR 1420.1 would be to protect public health by reducing arsenic, benzene, and 1,3-butadiene emissions from large lead-acid battery recycling facilities by adding:

- Point source emission limits for arsenic, benzene and 1,3-butadiene;
- Compliance schedules;
- Arsenic ambient air quality concentration limits;
- Differential pressure requirements;

- Ambient arsenic monitoring
- Additional periodic source testing; and
- Clarifying that all emissions are to be ducted to control equipment.

PROJECT BACKGROUND

Lead-acid Battery Recycling Operations

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-acid batteries, which ultimately produces lead ingots that are then made into new batteries or sold to other entities. Below is a general description of the process including potential arsenic, benzene, and 1,3-butadiene emission points:

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. The feedstock for lead-acid battery recycling facilities can fluctuate. Although the majority of the feedstock is plastic-cased car batteries, there has been indication that the number of steel-cased batteries may be increasing for one of the facilities.

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

Battery Breaking/Crushing: The spent lead-acid batteries are unloaded from conveyors and loaded into a hammer mill system where they are crushed whole. Both Quemetco and Exide's battery breaking areas are located in a total enclosure that is vented to an emission collection system pursuant to Rule 1420.1. The crushed material is then placed into a series of tanks filled with water in order to filter out any plastic and rubber components of the battery casing and to clean materials of the acids. Through buoyancy effects, the crushed metal material sinks to the bottom of the tanks and goes through a series of screens to further isolate lead-bearing materials. Arsenic and other metals can be found in the lead-bearing materials due to battery parts such as the posts and grids containing alloys of arsenic and lead. The materials are then typically stored in open or partially covered piles if not required for immediate charge preparation (see below).

Charge Preparation/Rotary Drying/Sweating: Recovered lead-bearing materials are prepared by blending it with stored lead scrap and reagents prior to being charged to a furnace. The metallic scrap materials are placed in dryers to remove moisture prior to charging to a furnace in order to reduce furnace upsets (puffs and explosions). Some unfiltered plastic and rubber components of the battery casing may be inadvertently introduced into the dryer during this process. 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. The process of melting of plastic and rubber parts from the partial combustion of carbon coke (mainly in the dryers) generates toxic organic emissions such as benzene and 1,3-butadiene.

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 lead compounds to elemental lead. Smelting is carried out in the blast, electric resistance, reverberatory, and rotary kiln

furnaces. These furnaces emit high levels of metal particulates during the charging and tapping processes in addition to toxic organic emissions.

Blast furnaces: Typically, "hard" lead, or antimonial lead (containing approximately 10 percent antimony) is produced in blast furnaces. Scrap metal, re-run slag, scrap iron, coke, recycled dross, flue dust (which contains lead and arsenic), 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. Currently, Exide utilizes a blast furnace, which generates benzene and 1,3-butediene emissions.

Electric resistance furnaces: Electric resistance furnaces generate heat from molten slag that offers resistance to the passage of a current through it. Electric energy is converted into heat when a current flows through electrodes directly into the furnace charge (i.e., the material to be heated). Electric resistance furnaces typically generate less airborne emissions (lead and arsenic) compared to blast or reverberatory furnaces, which utilize combustion processes to generate the heat necessary to melt the furnace charge materials. Currently, Quemetco is the only lead-acid battery recycler in the Basin utilizing an electric resistance furnace. Quemetco's electric resistance furnace is typically used to further separate lead-containing materials from non lead-containing materials contained in the lead slag produced from the reverberatory furnace.

Reverberatory furnaces: Semi-soft lead (containing approximately three to four percent antimony) is produced in reverberatory furnaces, which generate lead and arsenic emissions. 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, which generate benzene and 1,3-butediene emissions. Reverberatory furnaces are used by both Exide and Quemetco.

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 to 1,300 degrees Fahrenheit. Arsenic fumes may be emitted when molten lead is transferred to refining kettles and lead particulates may become airborne off refining kettle contents due to thermal rise processes.

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. Other reagents used include sodium hydroxide, sodium nitrate, carbon coke, calcium metal, sodium metal, and phosphates.

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.

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.

Air Toxic Regulations

Rule 1402 was adopted on April 8, 1994 and reduces the health risk associated with emissions of toxic air contaminants from existing sources by specifying limits for cancer and non-cancer risk thresholds applicable to total facility emissions. Under Rule 1402 the health risk thresholds are as follows:

- Maximum individual cancer risk of 25 in one million;
- Cancer burden of 0.5; and
- Non-cancer acute or chronic hazard indices of 3.0.

Facilities that exceed any threshold are required to submit and implement risk reduction plans to achieve specified risk limits as quickly as possible, but no later than three years from the initial risk reduction plan submittal date. Rule 1402 also specifies public notification and inventory requirements.

Affected Facilities

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

Quemetco

Quemetco Inc. prepared and submitted an AB 2588 Health Risk Assessment to the SCAQMD in December 2000. After several public meetings and various comments, the SCAQMD staff modified and approved the AB 2588 Health Risk Assessment in December 2005. The modified AB 2588 Health Risk Assessment reported a non-cancer hazard index of less than 1.0, a maximum individual cancer risk of 21.8 in one million, and a cancer burden of 1.15, which triggered risk reduction requirements under Rule 1402 because the cancer burden exceeded the rule limit of 0.5. The AB 2588 Health Risk Assessment showed that the primary risk driver was arsenic.

Pursuant to Rule 1402, Quemetco prepared a Risk Reduction Plan in April 2006, subsequently approved by the SCAQMD and implemented by Quemetco. The Risk Reduction Plan proposed installation of a wet electrostatic precipitator (ESP) to control particulates and metals including arsenic, and possible installation of a regenerative thermal oxidizer (RTO) to control organics. Quemetco opted to install both the wet ESP and RTO.

Based on a permit condition, Quemetco conducted source tests in January 2009, and prepared and submitted another Health Risk Assessment to demonstrate compliance with Rule 1402. The source tests and subsequent Rule 1402 Health Risk Assessment were based on the maximum throughput, as specified in their permit to operate. SCAQMD staff reviewed, modified, and approved as modified, the Quemetco Rule 1402 Health Risk Assessment in February 2010. The approved Rule 1402 Health Risk Assessment reported a maximum individual cancer risk of 4.4

in one million, cancer burden of 0.023, and non-cancer hazard indices of less than one. The Maximum individual cancer risk was calculated for a residential receptor, and is below the Rule 1402 cancer risk threshold of 25 in a million, and the Rule 1401 cancer health risk threshold of 10 in one million.

Exide

In April 1999, SCAQMD approved Exide's AB 2588 Health Risk Assessment with a cancer risk of 2.3 in a million, and acute hazard index of 0.53, and a chronic hazard index of 0.04. The cancer risks were primarily due to arsenic and cadmium emissions and the non-cancer risks were primarily from lead emissions.

In December 2006, SCAQMD requested that Exide submit an updated AB 2588 Health Risk Assessment because of their recently reported chlorinated dioxins and furans emissions, which were not considered in the previous AB 2588 Health Risk Assessment. Exide submitted the updated AB 2588 Health Risk Assessment in July 2007 and it estimated cancer risks to be 10.7 in a million (primarily from arsenic, lead, and polychlorinated dibenzofurans), non-cancer acute hazard index to be 0.1 (primarily from arsenic), and the non-cancer chronic hazard index to be 0.056 (primarily from cadmium, sulfuric acid, and hydrogen sulfide). In July 2010, SCAQMD determined that the source tests used to estimate toxic emissions from the facility and for the HRA were inadequate and required that a new series of source test be conducted.

Exide conducted numerous source tests from September 2010 to October 2011 and a health risk assessment was submitted pursuant to the AB 2588 program in February 2012. Due to SCAQMD comments and additional source tests, Exide prepared and submitted a revised health risk assessment in January 2013. SCAQMD staff reviewed, modified, and approved as modified the health risk assessment in March 2013. The approved health risk assessment reported a maximum individual cancer risk of 156 in one million, a non-cancer chronic hazard index of 63, a non-cancer acute hazard index of 3.8, and a cancer burden of 10 triggering risk reduction requirements under Rule 1402 because all heath risk thresholds were exceeded. The maximum individual cancer risk was calculated at a worker receptor who is closer to the emission source than a nearby resident. The health risk assessment showed that the primary risk drivers were arsenic, and to a lesser extent benzene and 1,3-butadiene. Pursuant to Rule 1402, Exide has prepared and submitted a risk reduction plan to the SCAQMD on August 28, 2013. The SCAQMD staff is currently reviewing the Risk Reduction Plan.

Regulatory Approach

There are two main regulatory paths that the SCAQMD staff could take to address the high health risks found in the 2013 health risk assessment for Exide: (1) Implement an approved Rule 1402 Risk Reduction Plan or (2) Amend Rule 1420.1. The Rule 1402 process is currently underway. Exide has submitted its Risk Reduction Plan in July and the plan is currently under review by SCAQMD staff. Once approved, Exide has approximately three years to reduce its health risk threshold below the Rule 1402 thresholds. The second approach is amending Rule 1420.1 to specify performance standards in order to reduce health risk. SCAQM staff has chosen to pursue both paths simultaneously. While the Rule 1402 regulatory path is underway, SCAQMD staff will amend Rule 1420.1 to specify technologically-based performance standards to reduce the health risk from arsenic, benzene and 1,2-butediene. SCAQMD staff considers this parallel approach to provide assurances that public health will be protected in the most effective and expeditious manner by: (1) establishing the lowest level of toxic emissions currently being

met by similar sources; and (2) meeting these limits in a more expeditious time frame than Rule 1402 provides.

The amendments for Rule 1420.1 are being conducted with input from a working group, open to the public, and follows traditional rulemaking procedures with a Public Workshop, environmental and socioeconomic analysis, a set hearing, and Public Hearing. By utilizing the rulemaking process, the SCAQMD staff is able to include additional mechanisms into the proposed amended rule that go beyond Rule 1402 and a risk reduction plan, such as, lower health risk thresholds, ambient monitoring, and other measures to ensure maximum public health protection.

The Lead-acid Battery Recycling Process and Arsenic, Benzene, and 1,3-butadiene Emission Points

Table 1-1 below shows arsenic, benzene and 1,3-butadiene emissions data from emissions source tests conducted from 2010 to 2012 at both Exide and Quemetco. The emissions data for Exide is based on their approved AB 2588 Health Risk Assessment which uses a combination of source test results, and in some cases is based on an the average of multiple source test results. It is important to note that some source tests were conducted prior to completion of emission controls needed to meet Rule 1420.1 point source lead requirements, thus it is expected that overall point source emissions have been reduced from what is shown in the table. The emissions data shown in the table for Quemetco represents emissions after full implementation of controls to comply with the 2010 adoption of Rule 1420.1 and risk reduction requirements under Rule 1402.

Table 1-1
Exide and Quemetco Point Source Emissions

Facilities	Arsenic	Benzene	1,3-Butadiene	Arsenic	Benzene	1,3-Butadiene
	Pounds per Hour			Pounds per Year[3]		
Exide Technologies[1]	0.049	1.239	0.374	425	10,858	3,276
Quemetco Inc[2]	0.001	0.040	0.002	7	351	16

[1]Emissions are based on an average of 2010 and 2012 source tests for point sources
[2]Emissions are based on a combination of source tests conducted in 2011 and 2012 for point sources
[3]Pounds per year are based on pounds per hour operating 24 hours per day and 365 days per year

PROJECT DESCRIPTION

The following is a summary of the proposed amendments to PAR 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Lead-Acid Battery Recycling Facilities. A copy of PAR 1420.1 with the specific details of the amendments can be found in Appendix A. Both the following and Appendix A constitute a robust project description.

Subdivision (a) – Purpose

Maintenance of the National Ambient Air Quality Standard for Lead would be added to the purpose. "The purpose of this rule is to also protect public health by reducing arsenic, benzene, and 1,3-butadiene exposure and emissions from these facilities" would be added to the purpose.

Subdivision (b) – Applicability

~~No change.~~ Rule 1407 would be added to the other applicable rules that owners or operators of large lead-acid battery recycling facilities may need to comply with in addition to PAR 1420.1.

Subdivision I – Definitions

Definitions for arsenic, benzene, ~~and~~ 1,3-butadiene, toxic air contaminant, and static differential furnace pressure would be added to the rule. Definitions for agglomerating furnace, maintenance activity, and total enclosure would be modified. The definitions for lead control device and lead point source would be removed and replaced with definitions for emissions control device and point source. In addition, refining kettles have been added to the definition of point source.

Subdivision (d) – General Requirements

The lead concentration limits in (d)(1) would be modified from 1.5 micrograms per cubic meter to 1.50 micrograms per cubic meter. The lead concentration limits in (d)(2) would be modified from 0.15 micrograms per cubic meter averaged over any 30 consecutive days to 0.150 micrograms per cubic meter averaged over any 30 consecutive days.

Arsenic would be added to the requirements in (d)(3). The reference to subdivision (f) in requirement (d)(3) would be clarified to be specifically (f)(1) and (f)(6~~4~~) through (f)(8~~6~~).

Requirement (d)(5) would be added. Requirement (d)(5) would require owners or operators of large lead-acid battery recycling facilities to submit Compliance Plan Schedule within 30 days of the adoption of PAR 1420.1 to the Executive Officer ~~to~~ for review and approval to ensure compliance with the January 1, 2015 ~~annual~~ total facility point source mass emission limits for arsenic, benzene and 1,3-butadiene specified in (f)(2). The compliance plan schedule would be subject to plan fees specified in Rule 306. Compliance plan schedule contents would be added as (d)(5)(A)(i) and (d)(5)(A)(ii). Complete permit applications for all construction and necessary equipment specified in the compliance schedule would be required to be submitted within 90 days of the adoption of PAR 1420.1. All construction would be required to be completed within 180 days of receiving Permit to Construct~~ion~~ approvals. The owners or operators of large lead-acid battery recycling facilities would not be subject to the requirements of (d)(5)(A) through (d)(5)(C) if the most recent approved source tests, conducted no earlier than January 1, 2011, show that the facility is meeting all of the emission limits specified in (f)(2).

Requirement (d)(~~7~~6) would be added. On and after February ~~January~~ 1, 2014, arsenic emissions would be restricted to those that would not contribute to ambient air concentrations of arsenic that exceed 10.0 nanograms per cubic meter averaged over a 24-hour time period as determined by monitors pursuant to subdivision (j) or at any SCAQMD-installed monitor. An exceedance of 10.0 nanograms per cubic meter averaged over a 24-hour period would be based on the average of two sample results on the same filter. A second analysis would be required if the first sample exceeds 10.0 nanograms per cubic meter.

Requirement (d)(7) would be added. If the ambient air concentration of arsenic ~~are~~ is determined to exceed 10.0 nanograms per cubic meter averaged over a 24-hour time period then the owner or operator would be required to notify the Executive Officer in writing within 72 hours of knowing or when they should have known about the exceedance; and comply with the monitoring and sampling requirements in paragraph (j)(10).

Requirement (d)(8) would be added. On or before July 1, 2014, owners or operators of large lead-acid battery recycling facilities would be required to implement a demonstration program to continuously monitor lead, arsenic and other metals emitted from a stack within their facility. No later than 90 days after PAR 1420.1 is adopted, a description of the multi-metals continuous monitoring system, identification of the stack where the monitor would be placed and implementation schedule for installation of the continuous monitoring system would be required to be submitted in writing to the Executive Officer for approval. ~~Curtail operations by at least 15 percent, until it is demonstrated that the ambient air concentrations of arsenic are below 10 nanograms per cubic meter averaged over a 24-hour time period for at least 30 consecutive days; and conduct ambient air quality monitoring of arsenic concentrations pursuant to paragraph (j)(10)~~.

Paragraph (d)(9) would be added, which details the approval process for the multi-metals continuous monitoring system.

Subdivision (e) – Total Enclosures

The title of subparagraph (e)(2) would be changed from Total Enclosure Lead Emissions Control to Total Enclosure Emissions Control. ~~Arsenic would be added to emissions control requirements for total enclosures (e)(2) and lead requirements would be clarified.~~ Requirements for venting total enclosures would be pollutant-specific. For example, gas streams which may contain lead would be vented to a lead emission control device and gas streams which may contain arsenic would be vented to an arsenic emission control device.

"Accuracy" would be replaced with "increment of measurement" in subparagraph (e)(4)I.

Subdivision (f) – ~~Lead and Arsenic~~ Point Source Emissions Controls

The word "Lead" would be removed from the title of the subdivision.

Lead, arsenic, benzene, and 1,3-butadiene point sources would be required to vent emissions from each lead, arsenic, benzene, and 1,3-butadiene point source to a lead, arsenic, benzene, or 1,3-butadiene emissions control device that meets all requirements of this subdivision. ~~Arsenic emissions control devices would be required for arsenic point sources in (f)(1).~~

Total facility mass emissions from all arsenic, benzene and 1,3-butadiene point sources at large lead-acid battery recycling facilities would be required to meet the following hourly emissions thresholds for the dates specified ~~the limits in (f)(2)~~:

- On or before 60 days from date of adoption of PAR 1420.1, ~~meet a facility-wide point source emission level of~~ the total emissions rate for a large lead-acid battery recycling facility would be required not to exceed 0.00285 pound per hour of arsenic ~~(equal to 25 pounds per year)~~; and
- ~~On or before~~ No later than January 1, 2015, the total emission rate for a large lead-acid battery recycling facility would be required not to exceed ~~meet the following final facility-wide point source emission levels~~;
    - arsenic – 0.00114 pound per hour ~~(equal to 10 pounds per year)~~;
- No later than January 1, 2015, the total emission rate for a large lead-acid battery recycling facility from all point sources excluding point sources from emission control devices on total enclosures would be required not to exceed:
    - benzene – 0.0514 pound per hour ~~(equal to 450 pounds per year)~~; and

  - 1,3-butadiene – 0.00342 pound per hour ~~(equal to 30 pounds per year);~~
- Only point sources that have a source test result of greater than one part per billion would be included in determining the total emission rate for benzene and 1,3-butadiene.
- The total facility point source mass emissions rates would be required to be determined based on the average of triplicate samples using the most recent SCAQMD-approved source test pursuant to subdivision (k).

Requirement (f)(3) would be added. No later than ~~June 30, 2014 60~~ 90 days after PAR 1420.1 is adopted, owners or operators of a large lead-acid battery recycling facility would be required to install, calibrate, operate, and maintain a differential pressure monitoring device, for ~~any~~ each smelting furnace, that has been approved pursuant to paragraph (f)(4). ~~Measures and records the differential pressure of the internal furnace pressure and the external atmospheric pressure under (f)(3). On or after June 30, 2014, e~~Each smelting furnace would be required to be operated ~~with an internal absolute pressure of not less than 0.02 inches of water column below the outside atmospheric pressure resulting in a minimum negative~~ such that static ~~pressure~~ differential furnace pressure of -0.02 inches of water column or more negative based on ~~15~~ 30 minute averages is maintained. Requirements for the monitoring devices would be presented in (f)(3)(A) through (f)(3)(I).

Subparagraph (f)(4) would be added. No later than 30 days after PAR 1420.1 is adopted, (f)(4) would require the owner or operator of a large lead-acid battery recycling facility to submit an application for a continuous furnace pressure monitoring (CFPM) monitoring plan for the monitoring device required in paragraph (f)(3). CFPM contents are identified in Appendix 3 of PAR 1420.1 and the CFPM plan is subject to fees specified in Rule 306. The approval process, resubmittal requirements and appeal process would be presented in (f)(5).

Requirements in (f)(6) through (f)(8) would be generalized from lead control to emissions control. ~~Arsenic would be added to (f)(5).~~

Requirement (f)(9) would be added. The owner or operator of a large lead-acid battery recycling facility would be required to comply with the curtailment requirements in subdivision (p) if the total facility mass lead emissions from all lead point sources exceeds the limit specified in subparagraph (f)(1)(A) and/or the total facility mass emissions from all arsenic point sources exceeds the limits specified in subparagraph (f)(2)(A) or (f)(2)(B).

Subdivision (g) – Compliance Plan

~~No change.~~ Beginning February 1, 2014, an ambient arsenic concentration of 8.0 nanogram per cubic meter averaged over a 24-hour time period trigger would be added to the lead concentration trigger in subdivision (g). The lead concentration trigger of 0.12 microgram per cubic meter averaged over any 30 consecutive days would be modified to 0.120 microgram per cubic meter averaged over any 30 consecutive days. The phrase "and arsenic" or "and/or arsenic" would be added after lead in regards to control devices, reduction measures and emissions discharged in subdivision (g).

A requirement to identify lead and/or arsenic reduction measures to be implemented relative to increasing ranges of exceedance levels of the ambient air concentration limits would be added as (g)(2)(A)(vii).

Whether the plan is likely to lead to avoiding future exceedances of the ambient air concentration levels set forth in paragraph (g)(1) would be added to the approval conditions for compliance plans in (g)(3). Not having an approved compliance plan after the second denial would be considered a volition of PAR 1420.1.

A new requirement under paragraph (g)(4) would be added to trigger implementation of measures under a compliance plan, if ambient air concentration of arsenic exceeds 10.0 nanograms per cubic meter, averaged over 24 hours.

A requirement for owners or operators to update the compliance plan 12 months from the adoption of PAR 1420.1 and annually thereafter, to update measures or identify new measures would be added as (g)(6).

An exceedance of 8.0 nanograms per cubic meter averaged over a 24-period would be based on the average of two sample results on the same filter. A second analysis would be required if the first sample exceeds 8.0 nanograms per cubic meter.

Subdivision (h) – Housekeeping Requirements
No change.

Subdivision (i) – Maintenance Activity
No change.

Subdivision (j) –Ambient Air Monitoring and Sampling Requirements

The requirements in paragraph (j)(1) would be expanded to specifically identify the existing sampling requirements as for lead and add arsenic sampling requirements.

The requirements in paragraph (j)(2) would be expanded to specifically identify the existing sampling requirements as for lead and add arsenic sampling requirements. Arsenic samples would be required to be collected as 24-hour, midnight-to-midnight, samples collected at least once every three calendar days, on a schedule approved by the Executive Officer.

The requirements in paragraph (j)(3) would be expanded to specifically identify the existing sampling requirements as for lead and add arsenic sampling requirements.

The requirements in paragraph (j)(4) would be expanded to specifically identify the existing sampling requirements as for lead and add arsenic sampling requirements. Methods for sampling arsenic would be specified.

Compliance with the curtailment requirements of subdivision (p) would be added to paragraph (j)(9) as a trigger for facilities exceeding an ambient lead concentration of 0.150 µg/m^3 averaged over any 30 consecutive days.

Paragraph (j)(10) would be added. On or after ~~January~~ February 1, 2014, if ambient air concentrations of arsenic that exceed 10.0 nanograms per cubic meter ~~ng/m^3~~ pursuant to (d)(6), then daily ambient air monitoring and sampling for 60 consecutive days at each sampling site that measured an exceedance would be required beginning no later than three calendar days after

the facility knew or should have known of the exceedance. The 60 consecutive-day period would restart for any subsequent period. Compliance with the curtailment requirements of subdivision (p) would also be required.

Subdivision (k) – Source Tests

Owners or operators would be required to conduct annual source tests of all arsenic point sources, and all benzene, and 1,3-butadiene points sources excluding emission control devices on total enclosures at least annually to demonstrate compliance with the control standards specified in subdivision (f) under (k)(2). The next source test for those point sources would be required to be performed no later than 24 months after the date of the most recent test if the results demonstrating compliance with the arsenic, benzene, and 1,3-butadiene emission standards of subdivision (f) demonstrate emissions below the following:

- 0.000860 pound of arsenic per hour; and
- 0.0386 pound of benzene per hour; and
- 0.00257 pound of 1,3-butadiene per hour

Pre-source test protocol requirements in (k)(4) ~~through~~ and (k)(7) would be updated to include arsenic, benzene, and 1,3-butadiene. Written results of source test that exceeds an emission standards under subdivision (f) would be required within seven days of notifications.

Three new source test methods were added to address source testing of benzene and 1,3-butadiene.

A new requirement under paragraph (k)(13) would require two source test for benzene and 1,3-butadiene emissions from all control devices on total enclosures. The first test would be required to be conducted by March 1, 2014 and the second by September 1, 2014. These source testes would be required to be completed within 72 hours or less.

Testing conducted by the facility, by the SCAQMD, or by a contractor acting on behalf of the SCAQMD or the facility to determine compliance with this rule would be required to be performed according to the most recent SCAQMD –approved test protocol for the same purpose or compounds.

References to sections that have been updated would be corrected to match the updated references.

Subdivision (l) – New Facilities

No change.

Subdivision (m) – Recordkeeping

Requirements in (m)(1)I would be generalized from lead control device to emissions control device.

Subdivision (n) – Reporting

Reporting requirements would be updated to include arsenic, benzene, and 1,3-butadiene. Requirements for all ambient air arsenic and wind monitoring for each month or more frequently would be added as (n)(1)(B).

Notification requirements would be specified for shutdown, turnaround and maintenance activity under (n)(2)(A)(i) through (n)(2)(A)(vi). Specific requirements for investigating unplanned shutdowns where the reason for the unplanned shutdown is not known within five days of the event would be added as (n)(2)(B).

References to sections that have been updated would be corrected to match the updated references.

Subdivision (o) – Lead Emission Rate Feasibility Study

The title "Lead Emission Rate Feasibility Study" would be added to (o). The lead concentration threshold would be changed from 0.12 micrograms per cubic meter to 0.120 micrograms per cubic meter. The existing requirements would be specified to pertain to first time events. Subsequent exceedances of ambient air concentrations of lead of 0.120 micrograms per cubic meter would not trigger another feasibility study.

Subdivision (p) – Curtailment Requirements

Subdivision (p) would be added to the rule. On and after February 1, 2014, the owner or operator of a large lead-acid battery recycling facility would be required to implement the following mandatory daily process curtailments if monitored ambient lead concentrations, as determined pursuant to paragraph (d)(2), and/or ambient arsenic concentrations, as determined pursuant to paragraph (d)(6), exceed the thresholds listed below in Table 1:

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

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

The process curtailments for exceedances of the ambient lead concentration thresholds in Table 1 would remain in effect until the monitoring results at each affected monitoring station are below 0.150 micrograms per cubic meter lead averaged over any 30 consecutive rolling for a period of 30 consecutive days, or the monitoring results at each affected monitoring station are at or below 0.120 nanograms per cubic meter for at least 10 consecutive days and no other monitor exceeds the thresholds specified in subdivision (d); and the process curtailments for exceedances of the ambient arsenic concentration thresholds in Table 1 would remain in effect until the monitoring results at each affected monitoring station are at or below 10.0 nanograms per cubic meter arsenic, averaged over a 24-hour time period, for a period of at least 30 days.

The owner or operator of a large lead-acid battery recycling facility would be required to implement the following mandatory daily process curtailments if the total facility mass emissions from all lead and/or arsenic point sources exceed the thresholds listed below in Table 2:

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

Effective Date	Air Contaminant	Total Facility Mass Emission Rate (lbs/hour)	Reduction in Feed Stock Charged to Reverberatory Furnace
On and after PAR 1420.1 is adopted	Lead	>0.045 – 0.0675	15%
		>0.0675 – 0.09	25%
		>0.09 – 0.1125	50%
		>0.1125	75%
No later than 60 days after PAR 1420.1 is adopted to December 31, 2014	Arsenic	>0.00285 – 0.00428	15%
		>0.00428 – 0.0057	25%
		>0.0057 – 0.00713	50%
		>0.00713	75%
On and after January 1, 2015	Arsenic	>0.00114 – 0.00171	15%
		>0.00171 – 0.00228	25%
		>0.00228 – 0.00285	50%
		>0.00285	75%

The process curtailments in Table 2 would remain in effect until the facility demonstrates compliance using the most recent SCAQMD-approved source tests conducted by the facility or the District, pursuant to subdivision (k).

Reductions in feed stock charged to the reverberatory furnace would be based on the daily average of materials charged to the reverberatory furnace over the previous 90 days of operation prior to when the facility knew or should have known of the exceedances.

The process curtailments in Table 1 and Table 2 would be required to begin within 48 hours of the time when the owner or operator receives sampling results indicating an exceedance of any lead and/or arsenic threshold listed in Table 1 or Table 2.

The owner or operator of a large lead-acid battery recycling facility may temporarily exceed the mandatory process curtailments specified in Table 1 of paragraphs (p)(1) and Table 2 (p)(2), only for the period of time required to perform source tests to demonstrate compliance with PAR 1420.1.

Subdivision (q) – Severability

Subdivision q would be added to the rule. If any provision of PAR 1420.1 is held by judicial order to be invalid, or inapplicable to any person or circumstance, such order would not affect the validity of the remainder of PAR 1420.1, or the validity or applicability of such provision to other persons or circumstances.

Appendix 1 – Content of Initial Facility Status Reports

No change.

Appendix 2 – Content of Ongoing Facility Status Reports
No change.

Appendix 3 – Continuous Furnace Pressure Monitoring (CFPM) Plan
The content requirements of the CFPM would be added as Appendix 3 of PAR 1420.1.

Additional changes would be made to improve readability.

EMISSIONS CONTROL TECHNOLOGIES

Several types of controls for arsenic, benzene, and 1,3-butadiene emissions are also currently used to control lead and gaseous emissions in the lead-acid battery recycling process. Emissions at large lead-acid battery recycling facilities can generally be categorized as either point source emissions or fugitive 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 arsenic and other metal particulates, is in contact with the ambient air, and can become airborne. It should be noted that point source emissions that are vented through a control device, but not captured and contained can become fugitive emissions.

Fugitive emissions at large lead-acid battery recycling facilities can be a major source of arsenic and other metal particulate emissions. Fugitives can accumulate in and around process areas, from point sources, raw material storage areas, on roof tops, and during maintenance operations to name a few. There are a variety of housekeeping and containment strategies that can be implemented to minimize fugitive emissions. Rule 1420.1 currently controls fugitive emissions through requirements for control strategies such as total enclosures, procedures for containment during maintenance activities, and a number of housekeeping provisions.

Point source emissions from the processes discussed in the previous section can be vented to one or more emission control devices listed below. It is imperative that the capture and collection efficiency of emissions, including the routing of these emissions to the appropriate emission control device, is designed, maintained, and operated properly in order to achieve the intended level of control described herein.

Baghouses and Filters

Baghouses operate by collecting particles on a fabric filter. Typically, they consist of fabric bags of tubular or envelope shapes. As an air stream flows through the bags, small particles are initially captured and retained on the fabric 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. Rule 1420.1 requires that filter bags be polytetrafluoroethylene or materials that are equally as effective for control of particulate emissions.

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 capture efficiency of arsenic particulates is anticipated to be slightly lower, since metals are found in greater amounts on smaller particles. Arsenic particulate removal efficiency is at least 98 percent for a baghouse with 99 percent efficiency for particulates. Organic and arsenic vapors are not captured by baghouses.

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.

Used in conjunction with a prefilter, high-efficiency particulate air (HEPA) filters can trap particles as small as 0.3 μm 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 degrees 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 arsenic emissions from lower temperature exhaust streams and fugitive 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. Rule 1420.1 requires filter media including HEPA and cartridge-type filters to be rated by the manufacturer to achieve a minimum of 99.97 percent capture efficiency for 0.3 micron particles.

Both Exide and Quemetco use baghouses or filter systems to control particulate arsenic emissions from most all operations in the lead-acid battery recycling processes. Examples include arsenic emissions coming from the battery breaking areas and all smelting, refining, and casting operations.

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 metal particulates such as lead and arsenic, 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 5 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 Basin. A venturi scrubber is another type of scrubber in which, 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. Exide currently uses a venturi scrubber.

Thermal Oxidizers

Equipment commonly used to control VOC emissions are thermal oxidizers (also referred to as direct flame incinerators, regenerative thermal oxidizers, or afterburners). Thermal oxidizers effectively destroy VOCs and some particulate matter (commonly composed of soot) emissions by raising the temperature of the material above its auto-ignition point in the presence of oxygen and maintaining it at high temperature to complete combustion to carbon dioxide and water. Direct flame incinerators operate using a combustion chamber fired by a flame maintained by a combination of auxiliary fuel (e.g., natural gas), waste gas compounds, and supplemental air is added when necessary. Waste gases pass through the flame (at temperatures typically ranging from 1,200 to 2,000 degrees Fahrenheit), where it is heated to its combustion temperature. Regenerative thermal oxidizers (RTO) operate under a similar principle, but utilize heat transfer media (typically a porous ceramic material) to recover waste heat energy from the exhaust gas stream. This heat is typically used to preheat the incoming waste gases, thereby reducing the amount of supplemental fuel required to heat the gas stream to combustion temperatures. Thermal oxidizers are highly effective methods of destroying VOCs, with efficiencies up to 99.99 percent. Quemetco currently utilizes a regenerative thermal oxidizer to control toxic organic emissions from the feed drying process.

Electrostatic Precipitators/Wet Electrostatic Precipitators

Electrostatic precipitators (ESPs) 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 (in a dry ESP). This technology can achieve 99 percent efficiency for total particulate matter as small as one micrometer. ESPs in lead-acid battery recycling operations are typically used downstream from other particulate controls such as baghouses, and treat exhaust streams with smaller arsenic particulates.

A wet ESP can be employed on gas streams that include oily and sticky particulates or gas streams that must be cooled to saturation in order to condense aerosols that were formerly in the gas phase. Wet ESPs use a water flushing system to remove the particles from the collecting surface. The gas stream is either saturated before entering the collection area or the collecting surface is continually wetted to prevent large chunks of material from forming. Quemetco currently uses a wet ESP downstream primary or secondary controls to further reduce their process emissions.

C H A P T E R 2

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 Amended Rule 1420.1
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive, Diamond Bar, CA 91765
Rule Contact Person:	Ed Eckerle, (909) 396-3128
CEQA Contact Person:	James Koizumi, (909) 396-3234
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive, Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	PAR 1420.1 would reduce arsenic, benzene, and 1,3-butadiene emissions produced by large lead-acid battery recycling facilities. Additionally, source testing, ambient air concentration monitoring, and recordkeeping requirements have been added to ensure continuous compliance of the emission reductions.
Surrounding Land Uses and Setting:	Large industrial/commercial facilities recycling lead-acid batteries
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 the significance of the 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: October 9, 2013 **Signature:** 

Michael Krause
Program Supervisor, CEQA Section
Planning, Rules, and Area Sources

DISCUSSION AND EVALUATION OF ENVIRONMENTAL IMPACTS

PAR 1420.1 establishes emission limits for arsenic and organic TACs, such as benzene and 1,3-butadiene. ~~Based on existing source tests, Quemetco is already achieving the PAR 1420.1 emission limits.~~ In October/November 2013, the SCAQMD staff source tested arsenic, benzene, and 1,3-butadiene emissions from Quemetco's wet electrostatic precipitator (ESP), regenerative thermal oxidizer (RTO), and baghouses. Results from these 2013 source tests showed elevated arsenic, benzene, and 1,3-butadiene emissions at Quemetco. There are a number of factors that could have contributed to the high emission levels found in the October/November 2013 source tests such as, for example, a feedstock that had an unusually high level of arsenic, maintenance of equipment or processes, proper operation of pollution control equipment, etc. Quemetco has shown on multiple occasions through emissions source testing that their existing pollution controls can achieve the PAR 1420.1 emission limit for arsenic, benzene, and 1,3-butadiene. The emission limits represent a performance standard that has and can be achieved with the existing pollution control equipment combined with proper operating and maintenance. As a result, the SCAQMD staff believes that no additional pollution control equipment is needed to meet the PAR 1420.1 emission limits at Quemetco.

To be conservative, SCAQMD staff identified four additional measures that could be implemented to reduce arsenic, benzene, and 1,3-butadiene emissions at Quemetco: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Items 1, 2, 3 will help to reduce arsenic emissions and item 4 will reduce benzene and 1,3-butadiene emissions. These measures would have electricity, water and wastewater and hazardous waste impacts that are addressed in Sections VI. Energy, VII. IX. Hydrology and Water Quality and XVI. Solid/Hazardous Waste. The increases in electricity, water and wastewater and hazardous waste would not result in significant adverse energy, hydrology and water quality or solid/hazardous waste impacts from the proposed project. Therefore, no mitigation, consideration of alternatives or recirculation is required.

The most recent approved source tests for Exide show they are not achieving the PAR 1420.1 emission limits. There are a variety of different engineering modifications and use of control equipment scenarios that Exide could use to achieve the emissions limits in PAR 1420.1. For the purpose of the CEQA analysis, it is assumed that Exide would install a new regenerative thermal oxidizer (RTO) on the reverberatory furnace feed dryer stack to reduce benzene and 1-3 butadiene emissions, and replace the existing scrubber with a new scrubber or install a new wet ESP to reduce arsenic emissions associated with the reverberatory and blast furnaces.

The RTO is expected to be installed without changes to the existing foundation. The old scrubber would be recycled and the new scrubber installed in the same location on the existing foundation. Therefore, no soil disturbance is expected from the RTO installation or scrubber replacement.

Because of space issues, the new wet ESP for the furnaces may be installed in the current location of a storm water retention pond. As such, the existing storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the affected facility.

PAR 1420.1 would also require the installation of differential pressure monitors, ambient arsenic monitoring, additional periodic source testing, reporting and recordkeeping. The installation of differential pressure monitors are not expected to require heavy construction equipment. Ambient arsenic monitoring already occurs and is not expected to generate any emissions or environmental impacts. Reporting and recordkeeping are expected to have negligible environmental impacts. PAR 1420.1 would require three additional source test events at both large lead-acid recycling facilities (a total of six additional source test events per year). Source testing may require a single additional gasoline vehicle round trip on the day of source testing.

In order to ensure a proper analysis of the potential impacts from the proposed project, the following environmental analysis include: the installation and operation of a new RTO, replacement and operation of a scrubber or installation and operation of a new wet ESP, the installation and operation of related support equipment, and the installation and operation of new wastewater storage tanks.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I.	**AESTHETICS.** Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
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

a) & b) No construction is expected at Quemetco from PAR 1420.1. Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. These operational affects would not result in visible changes at Quemetco.

Construction may be required at Exide. ~~PAR 1420.1 affects one large lead-acid battery recycling facility~~ Exide is located in the City of Vernon's M-2 heavy industrial/warehousing zone and within the Rendering Overly District, which allows operation of rendering plants, fertilizer plants and junk/salvage yards in addition to large lead-acid battery recycling facilities that are not located near scenic vistas, rock outcroppings, historical buildings or state scenic highways (DTSC, Exide Corporation hazardous Waste Facility Permit Draft Environmental Impact Report, SCH No. 93051013, June 2006). The only trees near where control technologies and related support equipment may be installed are located on the outside of the facility and, thus, would not be affected by the proposed project. New control technologies and related support equipment would be installed within the affected facility. New control technology for the furnaces may need to be installed in the current location of a storm water retention pond. As such, the existing

storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the affected facility. A new RTO may also be required to be placed on the reverberatory furnace feed dryer stack. The control technologies are expected to be similar in visual characteristics to the existing industrial equipment at the large lead-acid battery recycling facility. Therefore, the proposed project would not affect views of the trees from outside the affected facility. Therefore, PAR 1420.1 would not significantly affect scenic vistas or damage scenic resources.

c) PAR 1420.1 may require the replacement of an existing scrubber with a new scrubber or the installation of a wet ESP for the stack for the furnaces and a RTO on the reverberatory furnace feed dryer stack at Exide. The RTO is expected to be placed near the reverberatory furnace feed dryer stack. The new scrubber would be expected to be placed where the existing scrubber is removed. The installation of these control technologies may require the installation of additional ducting, blowers and other air handling support equipment. Because of space limitations, equipment associated with the wet ESP installed at the affected facility may be placed near the property boundary, which would be visible from the street, but would not change the existing visual character of the facility or the quality of the site and its surroundings. To make space for a new wet ESP, an existing storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the affected facility, but potentially visible from outside of the facility. However, the area is highly industrial, with rail staging areas, industrial storage, storage tanks and power lines visible from the streets in adjacent facilities, as well as stacks, ducting and power lines on the affected facility property currently visible from the streets. Therefore, while the control technology and additional equipment may be visible from outside of the affected property, it would not be inconsistent with views seen at adjacent facilities. Therefore, the proposed project would not add significant degradation to the existing visual character or quality of the site and its surroundings. On the contrary, with additional control technologies, emissions from visible particulate matter would be reduced and could provide more beneficial visual character.

d) The proposed project may require operation of new control equipment and associated support equipment at night at Exide. To make space for new control technology an existing storm water retention pond may need to be replaced with storm water storage tanks. The affected facility already operates at night and has lighting to support the existing operations. The surrounding area is industrial and other facilities also operate at night. Additional lighting may be required to illuminate areas around the new control equipment and associated support equipment. The lighting would be placed to illuminate the operations onsite and not directed off-site. Therefore, any additional lighting is expected to be similar to existing lighting onsite and at the industrial facilities nearby. Therefore, the proposed project is not expected to create a new source of substantial light or glare which would significantly adversely affect day or nighttime views in the area beyond current conditions.

Based upon the above considerations, the proposed project would not create new aesthetics impacts.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II.	**AGRICULTURE 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?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑

Significance Criteria

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

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

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

Discussion

II. a) &b) In general, the affected facility and surrounding industrial areas are not and are not located near areas zoned for agricultural use, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency. Therefore, the proposed project would not result in any construction of new buildings or other structures that would require converting farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Since the proposed project would not substantially change the facility or process at the facility, there are no provisions in PAR 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 resources would be altered by the proposed project.

IV. c) & d) The affected facility is located in an industrial area in the urban portion of Los Angeles County that is not near forest land. Therefore, the proposed project is not expected to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g)) or result in the loss of forest land or conversion of forest land to non-forest use.

Since PAR 1420.1 would not affect the placement of affected equipment near farmland, the proposed project is not expected to result in converting farmland to non-agricultural use; or conflict with existing zoning for agricultural use, or a Williamson Act contract. Similarly, it is not expected that PAR 1420.1 would conflict with existing zoning for, or cause rezoning of, forest land; or result in the loss of forest land or conversion of forest land to non-forest use. Consequently, the proposed project would not create any significant adverse agriculture or forestry impacts. Since no significant agriculture or forestry resources impacts were identified, this topic need not be evaluated further.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐
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)?	☐	☐	☑	☐
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

To determine whether or not air quality impacts from the proposed project may be significant, impacts will be evaluated and compared to the criteria in Table 2-1.

Table 2-1
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 Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants [d]		
NO2 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3	
PM2.5 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	
SO2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 μg/m^3 (state)	
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) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average Quarterly average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal) 1.5 μg/m^3 (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
MT/yr CO2eq = metric tons per year of CO2 equivalents > = greater than

Discussion

III. a) The SCAQMD is required by law to prepare a comprehensive district-wide 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, area, mobile and indirect sources. These control measures are based on feasible methods of attaining ambient air quality standards. Pursuant to the provisions of both the state and federal CAAs, the SCAQMD is required to attain the state and federal ambient air quality standards for all criteria pollutants, including lead. PAR 1420.1 would not obstruct or conflict with the implementation of the AQMP because, arsenic, benzene, and 1,3-butadiene emission reductions are in addition to emission reductions in the AQMP. The SCAQMD adopted the 2012 Lead State Implementation Plan (SIP) for Los Angeles County on May 4, 2012, which relies upon Rule 1420.1 for lead emission reductions. Further, on November 5, 2010, the Governing Board approved the 2010 Clean Communities Plan (CCP). The CCP is an update to the 2000 Air Toxics Control Plan (ATCP) and the 2004 Addendum. The objective of the 2010 CCP is to reduce the exposure to air toxics and air-related nuisances throughout the district, with emphasis on cumulative impacts. The elements of the 2010 CCP are community exposure reduction, community participation, communication and outreach, agency coordination, monitoring and compliance, source-specific programs, and nuisance.

PAR 1420.1 would reduce arsenic, lead, benzene, and 1,3-butadiene emissions and therefore, be consistent with the goals of the AQMP, 2012 Lead SIP for Los Angeles County and 2010 CCP. Therefore, implementing PAR 1420.1 that further reduces arsenic, lead, benzene, and 1,3-butadiene emissions would not conflict or obstruct implementation of the 2012 Lead SIP for Los Angeles County, AQMP or 2010 CCP.

III. b) and f) ***Criteria Pollutants***

Construction Impacts

PAR 1420.1 establishes emission limits for arsenic and organic TACs, such as benzene and 1,3-butadiene. ~~Based on existing source tests~~With the exception of the last source test, Quemetco is already achieving the PAR 1420.1 emission limits. Compliance with PAR 1420.1 is expected through measures related to operation and maintenance. No construction is expected at Quemetco to comply with PAR 1420.1.

The most recent approved source tests for Exide show they are not achieving the PAR 1420.1 emission limits. There are a variety of different engineering modifications and use of control equipment scenarios that Exide could use to achieve the emissions limits in PAR 1420.1. For the purpose of the CEQA analysis, it is assumed that Exide would install a new RTO on the reverberatory furnace feed dryer stack to reduce benzene and 1-3 butadiene emissions, and replace the existing scrubber with a new scrubber or install a new wet ESP to reduce arsenic emissions associated with the reverberatory and blast furnaces.

Space is limited at Exide. The installation or replacement of equipment is expected to require the use of a crane. Modification of the air handling system, installation of the RTO and replacement of the existing scrubber with a new scrubber are not expected to require disturbance

of existing foundations (i.e., equipment is expected to be installed on existing foundations). Because the equipment is manufactured offside, the construction impacts are from the delivery of the equipment and operation of a crane to install them. The installation of wet ESP; however, may require the removal of an existing storm water retention pond, leveling of the area and installation of a new foundation for the new air pollution control equipment. In addition, the facility owners or operators would likely have to build new storm water storage tanks to replace the pond.

Construction emissions were estimated assuming that ~~one affected facility~~ Exide would need to demolish an existing storm water retention pond, import fill soil to level the area, install a new foundation and modify air handling systems, install storm water storage tanks, and install a wet ESP system. Since all phases must be entirely completed before the next phase can commence, there would be no overlap of construction phases for the construction of the wet ESP. Since a crane is needed to install the RTO, replace the existing scrubber or install a new wet ESP system, it is expected that a single crane would be used for all pollution control systems. In addition, because of the size of the facility and the need to complete on construction phase before the next could begin, there would be no overlap in the construction phases for the proposed project.

Three areas at the affected facility have previously been identified with soil contaminated with metals, primarily arsenic and lead at the facility. Trichloroethylene (TCE), tetrachloroethylene (PCE) and other volatile organic compounds (VOCs) contamination were also identified at one of the soil areas also contaminated with metals. A soil vapor extraction (SVE) system was installed to remediate TCE, PCE and VOCs from the soil.[1] With the exception of potentially replacing the storm water retention pond with storm water storage tanks to provide room for air pollution control, no excavation is expected. ~~No soil contamination has been identified under the storm water retention pond.[1] If soil contamination were found during construction, it would be during the demolition phase. However, since the storm water retention pond has double containment and a leak detection system, so contaminated soil is not expected.~~

Rule 1420.1 also includes requirements that maintenance activities, which would include that removal of ground pavement, concrete or asphalt must be conducted in a partial enclosure using wet suppression, increased sampling and construction restrictions during high wind conditions. These provisions should control fugitive dust.

If soil is contaminated with VOC, the facility owners/operators would be required to prepare a SCAQMD Rule 1166 VOC Contaminated Soil Mitigation Plan. The mitigation plan would require that VOC emissions from the contaminated soil be minimized. Because demolition is expected to last less than a month and a SCAQMD Rule 1166 VOC Contaminated Soil Mitigation Plan would be required to be followed if VOC contaminated soil is found, no significant adverse impacts are expected from VOC emissions associated with contaminated soil.

If soil contamination was identified, it is the typical procedure that the contaminated soil would be removed to be treated. The treatment of the contaminated soil is not expected to be different than other portions of the demolition phase, i.e., it would be removed and treated off-site, so emissions are expected to be similar. However, to ensure that peak day emissions were

[1] ~~Personal communication with the Department of Toxic Substance Control on October 2, 2013~~ Interim Corrective Measure Workplan for Exide Technologies, Inc., http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_dNOE.pdf

identified, it was assumed that that the demolished material/soil was contaminated and sent to either to the Chemical Waste Management Kettleman Hills Landfill or the Clean Harbors Buttonwillow Landfill for treatment and disposal. In either case, haul trucks transporting contaminated soil would travel from the facility to the district boundary at the I-5 freeway.

Criteria pollutant peak daily emissions from construction related to PAR 1420.1 are presented in Table 2-2 and further detailed in Appendix B. The emission estimates included construction equipment used during the phase (e.g., paver during paving) and on-road vehicles transporting workers, vendors, and material removal and delivery. All daily criteria pollutant emissions from each construction phase were estimated to be below the SCAQMD significance thresholds for construction. Because the construction phases do not overlap, the daily emissions are not additive. Therefore, since daily criteria pollutant emissions from construction related to PAR 1420.1 are not expected to exceed the significance thresholds, construction impacts from the project are not significant for criteria pollutant emissions.

Table 2-2
PAR 1420.1 Peak Daily Construction Emissions in SCAQMD

Construction Phase	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOx, lb/day
Demolition	29	75	5.2	3.0	4.4	0.04
Fill	28	73	7.5	3.4	6.4	0.1
Building	16	36	1.6	1.4	3.7	0.1
Paving	19	29	1.8	1.6	1.1	0.02
Significance Threshold, lb/day	550	100	150	55	75	150
Exceed Significance?	No	No	No	No	No	No

Hauling contaminated demolished material/soil found during demolition of the existing storm water retention pound would be the only construction phase that may generate criteria pollutant emissions outside of the district. Haul trucks transporting contaminated soil would travel up the I-5 through the San Joaquin Valley Air Pollution Control District's (SJVAPD's) jurisdiction. The number of trips by haul trucks from PAR 1420.1 related construction in SJVAPD's jurisdiction would be substantially less than the 1,506 trips per day threshold from industrial projects that would require quantifying emissions in accordance with the SJVAPD's Small Project Analysis Level Guidance Document (http://www.valleyair.org/transportation/CEQA%20Rules/ SPALTables61912.pdf). Therefore, it is determined that construction related criteria pollutant emissions in the SJVAPD's jurisdiction would be less than significant for adverse construction air quality impacts in accordance with the standards and significance thresholds of that area.

Operational Impacts

Quemetco

Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency

of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Operating an additional cell or increasing voltage would not result in new emissions from the wet ESP because the wet ESP and associate equipment are electric. Cleaning out the sumps would not generate new emissions since the wastewater system is enclosed. Reducing the temperature in the dryers would only reduce emissions, since less natural gas would be consumed. No additional haul truck trips are expected. Therefore, PAR 1420.1 is not expected to increase emissions from Quemetco.

Exide

The modified air handling systems and replacement scrubber or new wet ESP that may be needed to comply with PAR 1420.1 are not expected to generate criteria pollutants. The modified air handling systems and air pollution control equipment is expected to be powered by electricity, so no new combustion emissions would be generated. Modifications to the air handling system and operation of a replacement scrubber or new wet ESP would reduce PM emissions in addition to TACs.

The RTO on the reverberatory furnace feed dryer stack would generate criteria pollutants from the combustion of natural gas. Criteria pollutant emissions estimated from the RTO are presented in Table 2-3 and detailed in Appendix B.

Differential pressure monitors are required to comply with PAR 1420.1 which may potentially lead to an increase of NOx emissions. There is potential for the formation of NOx, but the quantity of NOx that may be formed cannot be readily calculated in the absence of having sufficient information on the design of the furnace ventilation and burner systems. Parameters needed to attempt to calculate NOx include furnace dimensions and temperature gradient, air flow rate, and natural gas flow rate and/or emission specifications for furnace burner. However, since both affected facilities are in the Regional Clean Air Incentives Market (RECLAIM) Program and would be required to offset any potential NOx emission increases there would be no NOx emission increases as a result of PAR 1420.1.

The SCAQMD staff revised PAR 1420.1 to extend the averaging period for differential pressure monitors from 15 minutes to 30 minutes. Increasing the averaging period for this monitoring requirement will not increase emissions as both facilities since both facilities will be required to meet the emission limits established under PAR 1420.1 and the ambient arsenic requirement.

PAR 1420.1 would require three additional source test events at both large lead-acid recycling facilities (a total of six additional source test events per year). Additional source testing would require an additional gasoline-fueled vehicle round trip to the facility on the day of sources testing. It is unlikely that both facilities may source test on the same day; therefore, only one additional gasoline-fueled vehicle round trip is expected on any given day. Criteria pollutant emissions estimated from the additional gasoline-fueled vehicle trip are presented in Table 2-3 and detailed in Appendix B.

The affected facility currently sends operational hazardous waste to the Allied Waste La Paz County Landfill in Arizona. The proposed project may require one additional haul truck trip to the Allied Waste La Paz County Landfill per year (see Section XVI – Solid/Hazardous Waste of this document). Criteria emissions based on a 193 mile round trip from the I-10 district boarder to the affected facility is present in Table 2-3. The criteria emissions from operation would be

less than the SCAQMD's mass daily operational significance thresholds; therefore, PAR 1420.1 is not expected to result in significant adverse operational criteria pollutant emission impacts.

Table 2-3
SCAQMD Operational Criteria Pollutant Emissions

Description	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOx, lb/day
Regenerative Thermal Oxidizer	6.9	2.8	1.5	1.5	1.4	0.12
~~Source Test Trip~~	~~0.16~~	~~0.014~~	~~0.0042~~	~~0.0018~~	~~0.018~~	~~0.00033~~
Source Test Trip	0.99	0.082	0.025	0.011	0.11	0.0020
Spent Metal Disposal Trip	1.5	7.0	0.21	0.15	0.30	0.014
~~**Total Operational Emissions**~~	~~**8.6**~~	~~**9.8**~~	~~**1.7**~~	~~**1.7**~~	~~**1.7**~~	~~**0.13**~~
Total Operational Emissions	**9.4**	**9.9**	**1.7**	**1.7**	**1.8**	**0.14**
Significance Threshold	550	55	150	55	75	150
Exceed Significance?	No	No	No	No	No	No

Haul trucks transporting spent lead and arsenic would travel 32.5 miles across the I-10 through the Mojave Desert Air Quality Management District's (MDAQMD's) jurisdiction to the Arizona border. The single additional daily trip by haul trucks from PAR 1420.1 related operation in MDAQMD's jurisdiction would generate criteria pollutant emissions that are less than the MDAQMD's significance thresholds (Table 2-4). Therefore, it is determined that operational related criteria pollutant emissions in the MDAQMD's jurisdiction would be less than significant for adverse operational criteria pollutant emission impacts in the accordance with the standards and thresholds for that area.

Table 2-4
MDAQMD Operational Criteria Pollutant Emissions

Description	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOx, lb/day
Daily Emissions, lb/day	0.3	1.2	0.04	0.02	0.05	0.002
Annual Emissions, ton/year	0.0001	0.0006	0.00002	0.00001	0.00003	0.000001
MDAQMD Daily Significance Threshold, lb/day	*548*	*137*	*82*	*82*	*137*	*137*
MDAQMD Annual Significance Threshold, ton/year	*100*	*25*	*15*	*15*	*25*	*25*
Exceed Significance?	No	No	No	No	No	No

MDAQMD, Table 6 – Significant Emissions Thresholds, California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, August 2011.

III. c) ***Cumulatively Considerable Impacts***

Based on the foregoing analysis, project-specific air quality impacts from implementing PAR 1420.1 would not exceed air quality significance thresholds (Table 2-1), cumulative impacts are not expected to be significant for air quality. SCAQMD cumulatively significance thresholds are the same as project-specific significance thresholds. Therefore, potential adverse impacts from implementing PAR 1420.1 would not be "cumulatively considerable" as defined by CEQA

Guidelines §15064(h)(1) for air quality impacts. Per CEQA Guidelines §15064(h)(4), the mere existing of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable.

III. d) *Toxic Air Contaminants*

Construction

Construction is only expected at Exide. Construction TAC emission may be generated from two sources: diesel exhaust emissions from heavy-duty trucks and from construction equipment and potential TAC emissions from contaminated soil.

Diesel exhaust particulate is considered a carcinogenic and chronic TAC. Since construction is expected to last less than two years and carcinogenic health risk is estimated over a 40 year exposure period for off-site occupational receptors and a 70 year exposure period for sensitive receptors, diesel exhaust particulate from construction is not expected to generate significant adverse health risk impacts.

Three areas at the affected facility have previously been identified with soil contaminated with metals, primarily arsenic and lead at the facility. Trichloroethylene (TCE), tetrachloroethylene (PCE) and other volatile organic compounds (VOCs) contamination were also identified at one of the soil areas also contaminated with metals. A soil vapor extraction (SVE) system was installed to remediate TCE, PCE and VOCs from the soil. With the exception of potentially replacing the storm water retention pond with storm water storage tanks to provide room for air pollution control, no other excavation is expected. No soil contamination has been identified under the storm water retention pond.[2] The storm water retention pond has double containment and a leak detection system. The storm water retention ponds are expected to be dried and cleaned before demolition, so no contamination from the surface of the pond is expected. If soil contamination were found during construction, it would likely be during the demolition phase. If contaminated soil were found during construction, construction would be stopped and additional testing would be done to determine the type and extent of contamination.

The existing Rule 1420.1 contains requirements for maintenance activity in subsection (i), which includes I(17)(e) resurfacing, repair, or removal of ground, pavement, concrete or asphalt. The maintenance requirements in subsection state:

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;

[2] Personal communication with the Department of Toxic Substance Control on October 2, 2013

(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 > 25 mph. Maintenance work may be continued if it is necessary to prevent the release of lead emissions.

Therefore, based on the requirements of existing of Rule 1420.1 for maintenance activities, which would not be altered by the propose project, adverse lead or arsenic emission impacts from contaminated soil during construction are not expected.

If soil is contaminated with VOC (including TACs that are VOC), the facility owners/operators would be required to prepare a SCAQMD Rule 1166 VOC Contaminated Soil Mitigation Plan. The mitigation plan would require that VOC emissions from the contaminated soil be minimized. Because demolition is expected to last less than a month and a SCAQMD Rule 1166 VOC Contaminated Soil Mitigation Plan would be required to be followed if VOC contaminated soil is found, significant adverse impacts from VOC TAC emissions associated with contaminated soil are also not expected.

Therefore, based on the previous discussion, PAR 1420.1 is not expected to generate significant adverse TAC impacts from construction.

Operations

Direct Health Risk Reductions from PAR 1420.1

PAR 1420.1 would establish emission limits for arsenic, benzene, and 1,3-butediene, which is expected to reduce overall TAC emissions associated with large lead-acid battery recycling facilities. Paragraph (f)(2) of the proposed amended rule requires the owner or operator of a large lead-acid battery recycling facility to vent emissions from all arsenic, benzene, and 1,3-butadiene point sources to an emission control device.

Quemetco

Quemetco has historically met the health risk requirements of Rules 1402 and AB 2588. In October/November 2013, the SCAQMD staff source tested arsenic, benzene, and 1,3-butadiene emissions from Quemetco's wet electrostatic precipitator (ESP), regenerative thermal oxidizer (RTO), and baghouses. Results from these 2013 source tests showed elevated arsenic, benzene, and 1,3-butadiene emissions at Quemetco. There are a number of factors that could have contributed to the high emission levels found in the October/November 2013 source test such as, for example, a feedstock that had an unusually high level of arsenic, poor maintenance of equipment or processes, improper operation of pollution control equipment, etc. Quemetco has shown on multiple occasions through emissions source testing that their existing pollution controls can achieve the PAR 1420.1 emission limit for arsenic, benzene, and 1,3-butadiene. The emission limits represent a performance standard that has and can be achieved with the

existing pollution control equipment combined with proper operating and maintenance. Initial health risk calculations performed by SCAQMD staff have shown that the elevated arsenic, benzene, and 1,3-butadiene emissions from the 2013 source tests at Quemetco may result in a health risk that is above the 25 in one million health risk action level set by AB2588. SCAQMD staff has asked Quemetco to prepare a health risk assessment. PAR 1420.1 is expected to have the benefit of reducing adverse health risk impacts.

Exide

The proposed amended rule includes an interim compliance date for total facility point source emissions of arsenic because arsenic is the primary driver for the health risk impacts reported in the health risk assessment for Exide (90 percent for MICR, 100 percent of chronic hazard index, and 99 percent of acute hazard index). The interim standard for the total facility point source emissions of arsenic is 0.00285 pounds per hour (25 pounds per year) and is required to be met no later than 60 days after adoption of PAR 1420.1. The final total facility point source mass emission standards is 0.00114 pounds per hour (10 pounds per year) for arsenic, 0.0514 pounds per hour (450 pounds per year) for benzene, and 0.00342 pounds per hour (30 pounds per year) for 1,3-butadiene and required to be met no later than January 1, 2015. These emission rates represent approximately a 98 percent reduction in arsenic, 95 percent reduction in benzene, and 99 percent reduction in 1,3-butadiene based on Exide's emission rates from their 2013 health risk assessment.

Exide prepared a health risk assessment per the AB 2588 program in February 2012. Due to approvals and conditions to perform additional source tests for emission sources at Exide, the SCAQMD modified and approved the health risk assessment in March 2013. The approved health risk assessment reported a maximum individual cancer risk of 156 in one million, a non-cancer chronic hazard index of 63, a non-cancer acute hazard index of 3.8, and a cancer burden of 10 triggering risk reduction requirements under Rule 1402. The maximum individual cancer risk is at a worker receptor. The health risk assessment showed that the primary risk drivers were arsenic, and to a lesser extent benzene and 1,3-butadiene. Pursuant to Rule 1402, Exide has prepared and submitted a risk reduction plan to the SCAQMD on August 28, 2013. The SCAQMD is reviewing the risk reduction plan.

In addition, the SCAQMD staff modeled the impacts of the proposed emission rates in order to ensure compliance with Rule 1402 limits. Modeling results showed a maximum individual cancer risk of less than 10 in one million would occur for both facilities when the final standards are met. Therefore, PAR 1420.1 is expected to have the benefit of reducing adverse health risk impacts from the facility of 146 in one million (156 in one million to 10 in one million)

Secondary Health Risk Impacts from PAR 1420.1

Quemetco

Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Operating an additional cell or increasing voltage would not result in new emissions

from the wet ESP because the wet ESP and associate equipment are electric. Cleaning out the sumps would not generate new emissions since the wastewater system is enclosed. Reducing the temperature in the dryers would only reduce emissions, since less natural gas would be consumed. No additional haul truck trips are expected. Therefore, PAR 1420.1 is not expected to increase emissions from Quemetco.

Exide

Operation of modified air handling systems and the replacement scrubber or new ESP that may be needed to comply with PAR 1420.1 are not expected to generate any TAC emissions. The modified air handling systems, replacement scrubber or new wet ESP are expected to be powered by electricity, so no new combustion emissions would be generated. Modifications to the air handling system, replacement scrubber or new wet ESP would reduce TAC emissions.

The RTO would generate TAC emissions from the combustion of natural gas. TAC emissions (benzene, formaldehyde, and polycyclic aromatic hydrocarbons**)** from the RTO on the reverberatory furnace feed dryer stack were estimated using default natural gas external combustion emission factors from those listed on the SCAQMD's annual emission reporting forms. The closest sensitive receptor is a residential receptor 1,400 meters to the north of the facility. The closest worker receptor is 300 meters to the north east of the facility. TAC emissions related to natural gas combustion in the RTO would be several orders of magnitude less than the screening values presented in Permit Package L of the SCAQMD Risk Assessment Procedures for Rules 1401 and 212 Version 7.0, December 2012 (see Table 2-5). Therefore, health risk from natural gas combustion in the RTO would be less than significant for toxic air contaminant impacts.

TACs collected in the storm water are expected to be non-volatile (i.e., metals). The existing storm water retention pond is not covered, so storing storm water in storage tanks that are covered may reduce TACs that are emitted as fugitive dust when the storm water evaporates from the existing storm water retention pond.

Table 2-5
SCAQMD Health Risk from Natural Gas Combustion
by the Regenerative Thermal Oxidizer

Pollutant	CAS No.	TAC ton/yr	TAC, lb/hr	Cancer/Chronic Screening Level at 100 meters, lb/yr	Acute Screening Level at 100 meters, lb/hr	Significant?
Benzene	71432	5.26E-05	1.20E-05	8.92E+00	3.96E+00	No
Formaldehyde	50000	1.12E-04	2.56E-05	4.25E+01	1.47E-01	No
PAHs	1151	2.63E-06	6.02E-07	7.69E-03	N/A	No

Cancer/chronic and acute screening levels from Table-1A of Permit Package L of the Risk Assessment Procedures for Rules 1401 and 212 Version 7.0, December 2012

Spent arsenic and lead are already transported for treatment offsite. The additional arsenic and lead captured by new air pollution control systems would be returned to the recycling process,

which is the same as the arsenic and lead captured by the existing scrubber system. However, some of the arsenic and lead becomes spent arsenic and lead and is eventually sent offsite. The additional spent arsenic and lead would be sent offsite with the spent arsenic and lead currently captured by the existing scrubber. The additional spent arsenic and lead may require an additional truck trip annually (see Section XVI. Solid/Hazardous Waste). The receptors from a moving vehicle change as the vehicle travels, so any health risk impacts are expected only from truck emissions from idling and travel on-site are similar in characteristics to those of a stationary source. Based on the short travel distance on-site, the state heavy-duty truck idling restriction of 15 minutes per event, and emission factors from EMFAC2011, approximately 0.004 pounds of diesel exhaust PM per day would be emitted during the single trip made per year ((15 min/hr x 7.16075 g/hr)/(453.50 g/lb)/(60 min/hr) = 0.004 lb/trip) , which is a several orders of magnitude less than the screening value for diesel exhaust particulate of 1.39 pounds per day at 100 meters presented in Permit Package L of the SCAQMD Risk Assessment Procedures for Rules 1401 and 212 Version 7.0, December 2012. Therefore, toxic air contaminant impacts from one additional heavy-duty truck trip per year are expected to be negligible.

Therefore, since the health risk values from secondary TAC emissions related to PAR 1420.1 are less than the significance thresholds for health risk, and PAR 1420.1 is expected to lower existing health risk from 156 in one million to 10 in one million, the proposed project is not expected to be significant for adverse operational TAC emission impacts.

Based on the above discussion PAR 1420.1 is not expected be significant for exposing sensitive receptors to substantial concentrations.

III. e) ***Odor Impacts***

Quemetco

Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Operating an additional cell or increasing voltage would not result in new emissions from the wet ESP because the wet ESP and associate equipment are electric. Cleaning out the sumps would not generate new emissions since the wastewater system is enclosed. Reducing the temperature in the dryers would only reduce emissions, since less natural gas would be consumed. No additional haul truck trips are expected. Therefore, PAR 1420.1 is not expected to increase emissions from Quemetco. Therefore, no change in odor impacts is expected at Quemetco.

Exide

Construction is expected to occur on-site at one PAR 1420.1 facility. Also, the affected facility is an industrial facility where heavy-duty diesel equipment (sweepers) and trucks already operate. Therefore, the addition of several pieces of construction equipment and haul trucks is not expected to generate diesel exhaust odor greater than what is already present.

Operation of the modified air handling system, replacement scrubber or new wet ESP at Exide is not expected to generate any new odors. Neither a replacement scrubber nor a new wet ESP

would include a new combustion system and both would be designed to reduce TAC emissions from large lead battery recycling operations, which may potentially further reduce odors.

The existing storm water retention pond is not covered, so storing storm water in storage tanks that are covered may reduce any odors from fugitive dust compared to when the storm water evaporates from the existing storm water retention pond.

The RTO on the reverberatory furnace feed dryer stack would generate new natural gas emissions, but the additional natural gas emissions from the 8.58 million BTU per hour burner on the RTO is not expected to generate a noticeable increase in odor when compared to existing natural gas emissions from the furnaces, and refinery kettles dryers. In addition, the RTO would control benzene and 1,3-butadiene emissions; thereby reducing odors associated with these TACs.

The affected facility is an industrial facility where heavy-duty diesel equipment (sweepers) and trucks already operate. One additional heavy-duty diesel truck trip per year is not expected to generate a noticeable increase in odor.

Therefore, PAR 1420.1 is not expected to generate significant adverse odor impacts.

III. g) and h) ***Greenhouse Gas Impacts***

Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of greenhouse gas (GHG) emissions in the atmosphere. The six major types of GHG emissions are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). The GHG emissions absorb longwave radiant energy emitted by the earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect."

The current scientific consensus is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHG emissions in the atmosphere due to human activities. Events and activities, such as the industrial revolution and the increased consumption of fossil fuels (e.g., combustion of gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHG emissions. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHG emissions (CEC, 2004). Further, approximately 80 percent of GHG emissions in California are from fossil fuel combustion (e.g., gasoline, diesel, coal, etc.).

GHGs are typically reported as CO2 equivalent emissions (CO2e). CO2e is the amount of CO2 that would have the same global warming potential (relative measure of how much heat a greenhouse gas traps in the atmosphere) as a given mixture and amount of greenhouse gas. CO2e is estimated by the summation of mass of each GHG multiplied by its global warming potential (global warming potentials: CO2 = 1, CH4 = 21, N2O = 310, etc. www.arb.ca.gov/cc/facts/conversiontable.pdf).

Construction

No construction is expected at Quemetco. Based on the same assumptions made for the criteria pollutant estimates at Exide, approximately 800 metric tons of CO2e would be generated from all construction activity including: demolition, fill, paving and construction of air handling and air pollution control systems and storm water storage tanks. Amortized over 30 years as prescribed by the Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans[3] adopted by the SCAQMD Governing Board in December 2008, approximately 27 metric tons of CO2e emissions per year (see Appendix B) would be generated from construction activities over the life of the project.

Operation

Quemetco

Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Operating an additional cell or increasing voltage would not result in new emissions from the wet ESP because the wet ESP and associate equipment are electric. Cleaning out the sumps would not generate new emissions since the wastewater system is enclosed. Reducing the temperature in the dryers would only reduce emissions, since less natural gas would be consumed. No additional haul truck trips are expected. Therefore, PAR 1420.1 is not expected to increase emissions from Quemetco.

Exide

The operation of the air handling system, replacement scrubber or new wet ESP is not expected to generate greenhouse gases as the equipment control emission with no secondary emissions impacts. The operation of storm water storage tanks in place of the existing storm water retention ponds is not expected to generate any additional greenhouse gases beyond what was generated by the existing ponds. The combustion of natural gas in the RTO for the reverberatory furnace feed dryer stack would generate 717 metric tons of CO2e per year (see Appendix B).

PAR 1420.1 would require three additional source test events at both large lead-acid recycling facilities (a total of six additional source test events). One additional truck trip per year may be needed to transport spent arsenic and lead to a hazardous waste disposal facility. One additional truck round trip per year from the affected facility to the I-10 district boundary and six gasoline-fueled vehicle round trip would generate ~~0.67~~ 0.75 metric tons of CO2e emissions in the district, and 0.1 ton per year (249 pounds per day) in the MDAQMD.

Total GHG Emissions

PAR 1420.1 may result in the generation of 27 amortized metric tons of CO2e construction emissions per year and 718 (717 + ~~0.67~~ 0.75) metric tons of CO2e operational emissions per

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

year. The addition of 745 metric tons of CO2e emissions is less than the SCAQMD significance threshold of 10,000 metric tons per year for CO2e from industrial projects.

PAR 1420.1 may result in the generation of 0.1 ton per year (249 pounds per day) of CO2e operational emissions in the MDAQMD, which is less than the MDAQMD GHG thresholds of 100,000 tons per year and 548,000 pounds per day (MDAQMD, Table 6 – Significant Emissions Thresholds, California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, August 2011).

Therefore, PAR 1420.1 is not expected to generate GHG emission, either directly or indirectly, that may have a significant impact on the environment no conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG gases.

Conclusion
Based upon these considerations, the proposed project would not generate significant adverse construction or operational air quality impacts and, therefore, further analysis is required or necessary.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
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?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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)	Conflict 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), e) & f) In general, the affected ~~facility~~ facilities and surrounding industrial areas currently do not support riparian habitat, federally protected wetlands, or migratory corridors because they are long developed and established foundations used for industrial purposes. 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 facility. 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 PAR 1420.1 is expected to reduce arsenic, lead, benzene, and 1,3-butadiene emissions from operations at the affected facility, which would improve, not worsen, present conditions of plant and animal life, since these TAC emissions would be captured destroyed or disposed of properly before they impact plant and animal life. PAR 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.

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 is only expected to affect ~~one~~ existing large lead-acid battery recycling ~~facility~~ facilities located in an industrial areas. PAR 1420.1 is designed to reduce arsenic, lead, benzene, and 1,3-butadiene emissions which would also reduce emissions both inside and outside the boundaries of the affected ~~facility~~ facilities and, therefore, more closely in line with protecting biological resources. 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 PAR 1420.1 would occur at existing established 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 because all activities needed to comply with PAR 1420.1 would take place at long developed and established facilities. 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 I.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and, therefore, no further analysis is required or necessary.

		Potentially Significant Impact	Less Than Significant With Mitigation	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 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) Any air pollution control equipment and supporting equipment would be placed within the boundary of an existing established large lead-acid battery recycling facility. The existing large lead-acid battery recycling ~~facility is~~ facilities are located in an areas zoned as industrial, which ~~has~~ have already been greatly disturbed. No construction is expected at Quemetco. To make space for new control technology an existing storm water retention pond may need to be replaced with storm water storage tanks at Exide. Since the air pollution control equipment at Exide would be placed, either on existing foundations or over the area which was disturbed previously to install the existing storm water retention pond, PAR 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 formal cemeteries. Finally, because the proposed project would involve construction activities in previously disturbed areas on-site at industrial facilities, 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 on the above discussion, the proposed project is not expected to create any significant adverse effect to a historical resource as defined in §15064.5; cause a new significance impact to an archaeological resource as defined in §15064.5; directly or indirectly destroy a unique paleontological resource, site, or feature; or disturb any human including those interred outside formal cemeteries.

Based upon these considerations, significant adverse cultural resources impacts are not anticipated and, therefore, no further analysis is required or necessary.

		Potentially Significant Impact	Less Than Significant With Mitigation	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) PAR 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. PAR 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.

PAR 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 equipment at the affected facility. 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, PAR 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.

VI. b), c) & d) PAR 1420.1 may increase electric use associated with modified air handling systems and new air pollution control equipment. Natural gas fuel would be consumed by the new RTO. Diesel fuel would be consumed by construction equipment. Gasoline fuel would be consumed by construction workers and source testers during operation. The following sections evaluate the various forms of energy sources affected by the proposed project.

Electricity Impacts

Quemetco

Based on the most rescent source tests, if their results prove to be respresentative, the voltage in the cells of the wet ESP at Quemetco may need to be increased from 27 kilovolts to 35 kilovolts to comply with the arsenic concentration limits in PAR 1420.1. Quemetco currently uses four out of the five cells in their wet ESP. All five cells may be operated to reduce arsenic emissions,

The use of four cells in the wet ESP uses 21.6 kilowatts of electricity (4 cells x 27 kV x 0.2 kW/cell*KV). The use of all five cells at 35 kilovolts would require 35 kilowatts of electricity (f cells x 35 kV x 0.2 kW/cell*KV). An increase of 13.4 kilowatts would result in an additional 13.4 kilowatt-hours of electricity use in one hour and 0.1 gigawatt-hours per year (13.4 x 24 hours x 365 x gigawatt-hr/1,000,000 kilowatt-hr).

The California Energy Commission (CEC) staff reports that Southern California Edison (Edison) consumed 99,875 total gigawatt-hours in 2008 with a peak hourly consumption of 23,181 megawatt-hours in 2008. The annual 0.1 gigawatt-hours consumed by using an additional cell and increasing the voltage in the cells of the wet ESP at Quemetco would be 0.0001 percent of the 2008 consumption of 99,875 gigawatts and the peak consumption of 13.4 megawatt-hours would be 0.06 percent of the peak 23,181 megawatt–hours consumption. Therefore, SCAQMD staff concludes that the amount of electricity required to meet the incremental energy demand associated with PAR 1420.1 would be sufficient and would not result in a significant adverse electricity energy impact from Quemetco.

Exide

SCAQMD staff electricity estimates for the new wet ESP at the ~~affected facility~~ Exide were based on permit information for ~~an~~ existing wet ESP at Quemetco ~~the other large lead-acid battery recycling facility~~. The current air handling system at ~~the facility that may need an air pollution control system to comply with PAR 1420.1~~Exide generates approximately 220,000 standard cubic feet per minute of air flow. This is twice the amount of air flow that the existing wet ESP at ~~the other facility~~ Quemetco was designed to handle. Therefore, it was assumed that the new wet ESP system would need to be twice the size of the existing wet ESP at Quemetco ~~the other facility~~. Based on these assumptions 1,400 kilowatts ~~per hour~~ would be need to run the

new ESP system. The wet ESP system would consume 1,400 kilowatt-hours of electricity in one hour and 12.8 gigawatt-hours per year (1,400 x 24 hours x 365 x gigawatt-hr/1,000,000 kilowatt-hr).

The California Energy Commission (CEC) staff reports that Los Angeles Department of Water and Power (LADWP) consumed 25,921 ~~gigawatts~~ total gigawatt-hours in 2008 with a peak hourly consumption of 5,717 ~~megawatts per hour~~ megawatt-hours in 2008. The ~~1,400 kilowatts per hour~~ annual 12.8 gigawatt-hours required to run the new air pollution control system at the affected facility would be 0.05 percent of the 2008 consumption of 25,921 gigawatts and the peak consumption of 1.4 megawatt-hours would be 0.02-percent of the peak 5,717 ~~gigawatts per~~ kilowatt–hours consumption. Therefore, SCAQMD staff concludes that the amount of electricity required to meet the incremental energy demand associated with PAR 1420.1 would be sufficient and would not result in a significant adverse electricity energy impact from Exide.

~~It is uncertain whether pumps associated with moving storm water in and out of the storm water storage tanks would be larger than those that currently move storm water in and out of the existing storm water retention pond.~~ The existing storm water containment pond is not permitted and cannot be used to store storm water. At this time, an above-ground storage tank and piping system is currently used to treat storm water. ~~It is assumed that~~ The electricity used by the pumps associated with ~~the~~ replacement storm water storage tanks would be similar to the electricity used by the six pumps associated with the existing temporary storm water used by Exide currently~~retention pond~~, since the amount of stormwater is not expected to change due to the proposed project. Thus, no new electricity demand is anticipated as a result of the replacement of the storm water retention pond with storage tanks.

Natural Gas Impacts

Quemetco

Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. No additional natural gas use is expected at Quemetco from PAR 1420.1. Using an additional cell or increasing the voltage of the cells in the wet ESP would not result in additional natural gas usage. Cleaning out sumps does not require additional natural gas usage. Reducing the temperature in the kilns would not require additional natural gas usage.

Exide

Natural gas use (0.14 million therms per year) for the new RTO on the reverberatory furnace feed dryer stack was estimated based on the estimated rating of 1.58 million BTU per hour. The most recent annual non-residential natural gas consumption for Los Angeles County on the CEC website is for the 2011 calendar year. Approximately 1,752 million therms were consumed in the Los Angeles County in 2011. The use of 0.14 million therms of natural gas per year by the new RTO unit is less than a percent (0.0079%) of the total 1,752 million therms of natural gas consumed by Los Angeles County; therefore, SCAQMD staff concludes that the amount of natural gas required to meet the incremental energy demand associated with PAR 1420.1 would

be sufficient and would not result in a significant adverse natural gas energy impact (see Table 2-6).

Table 2-6
Total Projected Natural Gas Demand from PAR 1420.1

Description	Daily Usage
Natural Gas Consumption by RTO, mmtherm/year	0.14
2011 Non-Residential Natural Gas Consumption in Los Angeles County, mmtherm/year	1,752
Percentage of Fuel Supply	0.0079
Significant?	**No**

California Energy Commission, 2013, http://www.ecdms.energy.ca.gov/gasbycounty.aspx

Diesel Impacts

Construction Diesel Use
Construction is only expected at Exide. Approximately 152 gallons of diesel fuel on a peak day would be expected to be consumed by construction equipment and delivery trucks. According to the 2012 AQMP, 235 million gallons of diesel is consumed per day in Los Angeles County. Since 152 gallons of diesel per day is far less than one percent (0.00007 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
One additional truck trip per year to dispose of additional spent metal would use four gallons of diesel at Exide. According to the 2012 AQMP, 235 million gallons of diesel is consumed per day. Since four gallons of diesel per day is far less than one percent (0.000002 percent) of the diesel available, the proposed project is not considered to have a significant adverse diesel fuel use impact from construction.

Gasoline Usage

Construction Gasoline Use
Construction is only expected at Exide. Ten construction worker trips are expected on a peak day on a given day. Based on a 20 mile round trip, and a 10 mile per gallon fuel efficiency, approximately 40 gallons of gasoline would be used on a peak day. The 2012 AQMP states that 235 million gallons of gasoline are consumed per day in Los Angeles County. An additional 40 gallons of gasoline consumed on a peak day (0.00002 percent of the daily consumption) is not expected to have a significant adverse impact on gasoline supplies.

Operational Gasoline Use
Additional source testing would require an additional gasoline-fueled vehicle trip to the affected facility on the day of sources testing. Based on a 20 mile round trip, and a 10 mile per gallon fuel efficiency, approximately four gallons of gasoline would be used on the source test day. The 2012 AQMP states that 235 million gallons of gasoline are consumed per day in Los Angeles County. An additional 40 gallons of gasoline consumed on a peak day (0.000002

percent of the daily consumption) is not expected to have a significant adverse impact on gasoline supplies.

Based upon these considerations, significant adverse energy impacts are not anticipated and, therefore, no further analysis is required or necessary.

		Potentially Significant Impact	Less Than Significant With Mitigation	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?	☐	☐	☐	☑
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) PAR 1420.1 would require the construction of control technology and support equipment at one of two existing large lead-acid battery recycling facilities located in the district. No construction is expected at the other affected facility. The RTO on the reverberatory furnace feed dryer stack to control benzene and 1,3-butadiene is expected to be installed without changes to the existing foundation, and therefore, is not expected to result in any geology and soil impacts.

The affected facility may replace the existing scrubber with a new scrubber or install a wet ESP to control arsenic emissions. The old scrubber would be recycled and the new scrubber installed in the same location on the existing foundation; therefore, no geology and soil impacts are expected from replacement of the scrubber.

To make space for a new wet ESP, the existing storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the affected facility. Therefore, all construction activities would occur on-site at these existing facilities. Changes to operations would include operation and maintenance of the new control technology and support equipment as well as the operation and maintenance of the storm water storage tanks if they are installed.

Because Southern California is an area of known seismic activity, existing facilities are expected to conform to 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 affected facility that may need to install new air pollution equipment to comply with PAR 1420.1 has a small portion of the facility that is located in an area where there has been historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions

indicated a potential for permanent groundwater displacements in the event of an earthquake.[4] The liquefaction zone bisects the property from the most western end of the property by the Union Pacific and Santa Fe Road to the north down to the southwest corner of the storm water retention pond, which may need to be replaced with storm water storage tanks to provide space for air pollution equipment. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction. PAR 1420.1 does not require a specific means of control technology or specify placement of the control technology; however, due to ~~spacial~~ spatial needs of the wet ESP, it is anticipated that the ~~pound~~ pond area would be most reasonable. The owners/operators of the affected facility that may need air pollution control equipment to comply with PAR 1420.1 would need to follow the Uniform Building Code requirements about building structures in areas potentially subject to liquefaction, if any air pollution control equipment or replacement equipment such as storage tanks is placed over the areas identified as subject to liquefaction. The liquefaction conditions, however, is an existing condition and there has not been a historical problem at the existing facility. In addition, changes due to PAR 1420.1 will not directly cause or worsen the existing liquefaction possibility.

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 affected facility already exists, PAR 1420.1 is not expected to increase exposure to existing earthquake risk.

VII. b) Construction related to PAR 1420.1 may require earthmoving to prepare foundations for a wet ESP at Exide. PAR 1420.1 requires the encapsulation of all facility grounds to prevent lead contamination (i.e., paving or asphalting of all surfaces). Therefore, all disturbed surfaces are expected to be re-compacted and re-paved after construction is finished. All construction is expected to follow the Uniform Building Code. Therefore, no significant soil erosion or significant loss of topsoil, significant unstable earth conditions or significant changes in geologic substructures are expected to occur at the affected facility as a result of implementing the proposed project.

VII. c) Since the proposed project would affect an existing facility whose soil has already been disturbed, it is expected that the soil types present at the affected facility would not be further susceptible to expansion or liquefaction other than is already existing. Furthermore, subsidence and liquefaction is not anticipated to be a problem since any excavation, grading, or filling activities are expected to follow the Uniform Building Code. Additionally, the affected areas are not envisioned to be prone to landslides, instability, or have unique geologic features since the affected existing facility is located in industrial areas in a flat area.

VII. d) & e) Since PAR 1420.1 would affect soils at an existing established facility located in a highly developed industrial zone, it is expected that people or property would not be exposed to expansive soils or soils incapable of supporting water disposal. The affected facility has an existing wastewater treatment system that would continue to be used, and these systems are expected to have the capacity to support this proposed project. Sewer systems are available to handle wastewater produced and treated by the affected facility. Therefore, PAR 1420.1 would

[4] The Exide Corporation Hazard Waste Facility Permit Draft Environmental Impact Report, SCH No. 93051013 June 2006

not require the installation of new septic tanks or alternative wastewater disposal systems at the affected facility. As a result, PAR 1420.1 would not require operators to utilize septic systems or alternative wastewater disposal systems. Thus, the proposed project would not adversely affect soils normally associated with a septic system or alternative wastewater disposal system.

Based upon these considerations, significant adverse geology and soil impacts are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, 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 use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
g)	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?	☐	☐	☐	☑
h)	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) & b) PAR 1420.1 may increase the amount of arsenic and lead disposed of by capturing additional arsenic and lead emissions through control technology, but the increased amount of arsenic and lead captured would be the arsenic and lead that currently is emitted into the air. Thus, the capture of these arsenic and lead emissions would reduce arsenic and lead exposure to the public and environment.

Spent arsenic and lead are already transported for treatment offsite and out of the Basin. The additional arsenic and lead captured by new air pollution control systems would be returned to the recycling process, which is the same process as the arsenic and lead captured by the existing scrubber system. However, some of the arsenic and lead resulting from new control technology becomes spent arsenic and lead and is eventually sent offsite. No additional haul truck trips are expected to be required for Quemetco to comply with PAR 1420.1. The additional spent arsenic and lead may require only one additional truck trip annually (see Section XVI. Solid/Hazardous Waste), so no new significant hazards are expected to the public or environment through its routine transport, use and disposal. The addition of one new truck trip per year carrying spent arsenic and lead is not expected to result in a significant hazard to the public or the environment through the routine transport or risk of upset (e.g., accident), because the spent arsenic and lead would be transported in solid form in vehicles that are clearly marked along roads that are paved. Any arsenic or lead spilled during a traffic accident is expected to be contained and disposed of by emergency responders using existing standard operating procedures.

The additional arsenic and lead that may be controlled by a new air pollution control system would be captured in water cycled through the system. Arsenic and lead in water are not considered volatile. All wastewater systems would require secondary containment in the case of an upset to prevent the release of the arsenic and lead containing water. Therefore, a replacement scrubber or new wet ESP system is not expected to create a significant hazard to the public or environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment

The RTO would use natural gas combustion to reduce benzene and 1-3, butadiene. The emissions from natural gas combustion in the RTO are analyzed in the Section III. Air Quality and Greenhouse Gas Emissions. No significant adverse air quality or GHG emission impacts were identified from the combustion of natural gas in the RTO. The RTO is expected to be a commercial unit that is rated at 1.58 million BTU per hour. Because it is a commercial unit with a low burner rating and the nearest receptors are over 100 meters away from the facility (300 meter from worker receptors and 1,400 feet from residential receptors), the RTO is not expected to create a new significant hazard to the public or environment through reasonably foreseeable upset conditions involving the release of hazardous materials related to natural gas into the environment.

Therefore, PAR 1420.1 is not expected to create a significant hazard to the public or environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment.

VIII. c) No schools are located within a quarter mile of the affected facility. Therefore, PAR 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). Neither PAR 1420.1 affected facility is on the Cortes List as presented in the ENVIROSTOR database (http://www.calepa.ca.gov/sitecleanup/corteselist/SectionA.htm and http://www.calepa.ca.gov/sitecleanup/corteselist/default.htm). In addition, hazardous waste is expected to be disposed properly offsite so the proposed project would not increase a hazard at the affected site or the public and environment offsite. Hazardous wastes from the existing facilities are required to be managed in accordance with applicable federal, state, and local rules and regulations. Accordingly, significant hazards impacts from the disposal/recycling of hazardous materials are not expected from the implementation of PAR 1420.1.

VIII. e) The affected ~~facility is~~ facilities are not near any airports or private airstrips. The closest airport or airstrip is the Hawthorne Municipal Airport, which is 9.6 miles from the affected facility. PAR 1420.1 would result in the reduction of arsenic, lead, benzene and 1,3-butadiene emissions. Secondary TAC emissions from the proposed project 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 the affected facility that could create safety hazards at local airports or private airstrips. Therefore, PAR 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. f) Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of the public (surrounding local communities), and 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 existing affected ~~facility~~ facilities already ~~has an~~ have emergency response plans in place. The addition of air pollution control equipment and possible replacement of the storm water retention pond with storage tanks is not expected to require modification of the existing emergency response plan at the affected facility. Thus, PAR 1420.1 is not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII. g) The proposed project ~~is~~ affects facilities located in a highly developed area and no adjacent to wildland, so potential for a wildland fire from the proposed project does not exist.

VIII. h) 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 proposed project would not change the existing requirements and permit conditions.

The modifications to existing ducting, replacement of the existing scrubber with a new scrubber or installation of a new wet ESP at Exide would not involve increase fire risk because it would not involve flammable materials. The water in the new scrubber or wet ESP reduces the risk of fire from furnace emissions. However, the RTO would combust natural gas. The RTO is expected to be a commercial unit that is rated at 1.58 million BTU per hour. Because it is a commercial unit with a low burner rating and the nearest receptors are over 100 meters away from the facility (300 meter from worker receptors and 1,400 feet from residential receptors), the risk of fire hazards from the RTO is expected to be not significant if any.

The proposed project would also 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 affected ~~facility~~ facilities (specifically because such areas could allow the accumulation of fugitive arsenic or lead dust), the existing rule 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 the affected ~~facility~~ facilities associated with the proposed project.

Based upon these considerations, significant adverse hazards and hazardous materials impacts are not anticipated and, therefore, no further analysis is required or necessary.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a)	Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	☐	☐	☑	☐
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, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	☐	☐	☑	☐
d)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑	☐
e)	Place housing or other structures 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, which would impede or redirect flood flows?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f)	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, or inundation by seiche, tsunami, or mudflow?	☐	☐	☑	☐
g)	Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑	☐
h)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑	☐
i)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑	☐

Significance Criteria

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

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.

- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion
No construction is expected at Quemetco for PAR 1420.1. The RTO on the reverberatory furnace feed dryer stack at Exide is expected to be installed without changes to the existing foundation and would not use or generate any water; therefore, no hydrology or water quality impacts are expected from installation of this unit.

IX. a) PAR 1420.1 would not alter any existing wastewater treatment requirements of the Los Angeles Sanitation District and Regional Water Quality Control Board or otherwise substantially degrade water quality that the requirements are meant to protect.

Exide
Although the amount of water used by the new air pollution control equipment at the ~~affected facility~~ Exide may increase and storm water may need to be stored in storage tanks if the storm water retention pond at the affected facility is removed to install new air pollution control equipment, all storm water and wastewater from the facility would still be required to be treated by the existing wastewater treatment facility onsite.

Wastewater from new air pollution control equipment (replacement scrubber or new wet ESP) would be kept within an enclosed system and treated in the existing wastewater treatment system on-site. The additional arsenic and lead captured by the new air pollution device using an enclosed water system would be removed from the resultant wastewater by the existing on-site wastewater treatment system.

Storm water now held in a storm water retention pond may need to be stored in new storm water storage tanks, if the storm water retention pond is removed to provide space to install the new wet ESP. No change in the amount of storm water or concentration of pollutants is expected from storing storm water in storage tanks rather than in a retention pond. Pollutants are removed from the storm water by the existing on-site wastewater treatment system.

Discharge concentrations are currently and would continue to be limited by the Industrial Wastewater Discharge Permit.[5] The Hazardous Waste Facility Permit states that any wastewater that does not meet the discharge concentrations set by the Los Angeles Sanitation District in the Industrial Wastewater Discharge Permit would be recycled through the treatment plant until the discharge criteria are met or discharged as hazardous waste.[6] Since wastewater from the facility is treated in an on-site wastewater treatment facility, is heavily regulated, and enforced, no change in the water quality of the discharge is expected.

Quemetco
Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement.

[5] Personal communication with Los Angeles Sanitation District on June 28, 2013.
[6] Exide Technologies, Hazardous Waste Facility Permit, Attachment "A", 2006, dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_dPermit.pdf.

Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. The additional sump clean outs at Quemetco would result in additional water use and waterwater generation. However, an additional sump clean out is not expected to affect water quality, because all storm water and wastewater from the facility would still be required to be treated by the existing wastewater treatment facility onsite. The additional sump clean out may also decrease the pollutant concentration in the wastewater treated onsite during each sump clean out, because the sumps would be cleaned out three times a year instead of the current twice a year frequency, thereby reducing the amount of contamination collected in the sump from six months to four months.

IX. b) PAR 1420.1 would not require the use of groundwater and all water would be treated in the wastewater treatment on-site at each facility then directed into the sanitary sewer. Therefore, it would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

IX. c) & d) PAR 1420.1 may require the replacement of the storm water containment pond with storm water tanks at ~~one affected~~ the Exide facility to provide room for new air pollution control. The replacement system would be designed to collect the storm water that is currently directed to the retention pond and route it to new storm water storage tanks. Since the amount of storm water would not change and the existing system already directs the storm water to a single location at the facility (i.e., retention pond), which would be redirect to storage tanks, the proposed project is not expected to have significant adverse effects on any existing drainage patterns, or increase the rate or amount of surface runoff water that would exceed the capacity of existing or planned storm water drainage systems at Exide.

Since there would be no change to processes that are not covered by structures, no change to storm water collection or treatment is expected at Quemetco from PAR 1420.1. Therefore, PAR 1420.1 is a project that is not expected to have significant adverse effects on any existing drainage patterns, or to cause an increase the rate or amount of surface runoff water that would exceed the capacity of existing or planned storm water drainage systems at Quemetco.

IX. e) & f) PAR 1420.1 does not include or require any new or additional construction activities to build additional housing that could be located in 100-year flood hazard areas. Similarly, sources affected by the proposed project are typically located at existing commercial or industrial facilities. Consequently, PAR 1420.1 is not expected to result in placing housing in 100-year flood hazard areas that could create new flood hazards. Therefore, PAR 1420.1 is not expected to generate significance impacts regarding placing housing in a 100-year flood zone.

For the same reasons as those identified in the preceding paragraph, PAR 1420.1 is not expected to create significant adverse risk impacts from flooding as a result of failure of a levee or dam or inundation by seiches, tsunamis, or mudflows because the proposed project does not require levee or dam construction, and the affected facility is located on flat land far from the ocean.

IX. g) No additional water or waste water treatment facilities are expected within or beyond the PAR 1420.1 affected facility boundaries and an expansion is not necessary as the battery recycling activity is not expected to change from current operating levels. Construction related

to the replacement of the storm water retention ponds with storm water storage tanks may occur to provide space for air pollution control systems, but that would occur as a result of complying with TAC emission reduction not any need for new water or wastewater treatment.

Based on the analysis in this environmental checklist, PAR 1420.1 is not expected to result in the construction of new water or waste water treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.

IX. h)
Construction Impacts

Exide
The RTO on the reverberatory furnace feed dryer stack would be installed without changes to the existing foundation, so no water would be needed for dust suppression or construction. ~~The affected facility~~ Exide may replace the existing scrubber with a new scrubber to control arsenic emissions. However, the old scrubber would be recycled and the new scrubber would be installed in the same location on the existing foundation; therefore, no water for dust suppression or construction is expected from replacement of the scrubber.

Water is expected to be used for dust suppression during construction, if the storm water retention pond is removed to provide space for a wet ESP. The disturbed area is expected to be approximately one acre in size. One acre is 43,560 square feet. Assuming one gallon per square foot and watering three times daily, approximately 130,681 gallons of water per day would be used. The use of 130,681 gallons of water per day is less than the SCAQMD's significance threshold of 262,820 gallons per day of potable water and total water demand of more than five million gallons per day. Thus, sufficient water supplies are expected to be available to serve the project from existing entitlements and resources without the need for new or expanded entitlements. Therefore, PAR 1420.1 is not expected to be significant for water demand during construction at Exide.

Quemetco
No construction would be required at Quemetco.

Operational Impacts

Quemetco
Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to fivecells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. ~~One facility affected by Rule 1420.1 Quemetco currently operates an existing wet ESP, which is already in compliance with the requirements of PAR 1420.1.~~ No increase in water use is expected by increasing voltage in wet ESP cells. The wet ESP requires approximately 14.6 gallons of water per minute. The use of an additional cell would result in

18.25 gallons of water per minute (14.6 gallons of water per minute x 5 cells/4 cells), which is 3.65 gallons per minute of additional water (18.25 gal/min – 3.67 gal/min).

~~One facility affected by Rule 1420.1 currently operates an existing wet ESP, which is already in compliance with the requirements of PAR 1420.1.~~ No increase in water use is expected by increasing voltage in wet ESP cells. Based on the permit application, the wet ESP requires approximately 14.6 gallons of water per minute. The use of an additional cell would result in 18.25 gallons of water per minute (14.6 gallons of water per minute x 5 cells/4 cells), which is 3.65 gallons per minute of additional water (18.25 gal/min – 3.67 gal/min). As a worst-case, it was assumed that twice the flow rate (2 x 3.65 gal/min = 7.4 gal/min) would be needed. The sumps are part of the recirculation system for the wet ESP; therefore, 10,656 gallons of water (7.4 gal/min x 60 min/hr x 24 hr/day) may needed during a sump clean out.

Exide

~~The other Rule 1420.1 facility~~ Exide may need to replace the existing scrubber with a replacement scrubber or install a new wet ESP to comply with PAR 1420.1. The size of the replacement scrubber is not known at this time. The existing scrubber has an influent and effluent flow rate of 25 to 30 gallons per minute. As a worst-case, it was assumed that twice the flow rate would be needed. Therefore, the replacement scrubber would need 30 gallons of water per minute more than the existing scrubber uses (43,200 gallons of water per day). Based on the air flow rate requirements, a new wet ESP system at the facility that may need additional air pollution control would likely be twice the size as the existing wet ESP at the other facility, which is 14.6 gallons of water per minute. Therefore, the new wet ESP would require approximately 29.2 gallons of water per minute. Therefore, the worst case would be 43,200 gallons of additional water per day from the replacement scrubber.

The additional use of 53,856 gallons of water per day (10,656 gallons of water per day + 43,200 gallons of water per day) (~~30~~ 37.8 gallons of water per minute) is less than the significance threshold of 262,820 gallons per day of potable water and total water demand of more than five million gallons per day. Therefore, sufficient water supplies are expected to be available to serve the project from existing entitlements and resources without the need for new or expanded entitlements. Therefore, PAR 1420.1 is not expected to be significant for operational water demand.

IX. i) ~~One facility affected by Rule 1420.1~~

Quemetco

Quemetco currently operates an existing wet ESP. Quemetco cleans out their sumps twice a year. Permitted and actual wastewater use was provided by the telephone conversation with the Los Angeles Sanitation District on January 3, 2014. The peak wastewater discharge rate allowed by Quemetco's Industrial Wastewater Discharge Permit is 320 gallons per minute. The average daily wastewater discharge rate allowed by Quemetco's Industrial Wastewater Discharge Permit is 283,000 gallons per day. Quemetco has reported peak wastewater discharge rates between 250 gallons per minute and 318 gallons per minute between 2011 and 2013. Quemetco has reported daily average wastewater discharge rates between 222, 928 gallons per day and 264,093 gallons per day between 2011 and 2013.

PAR 1420.1 may result in a peak wastewater discharge rate of 325.4 gallons per minute (318 gal/min + 7.4 gal/min), which is greater than the peak wastewater discharge rate allowed by

Quemetco's Industrial Wastewater Discharge Permit of 320 gallons per minute. According to the Los Angeles County Sanitation District a facility is allowed to discharge up to 25 percent over their permitted limit before a change is required to their permit, which would be 400 gallons per minute. Since the peak wastewater discharge rate of 325.4 gallons per minute is less than 400 gallons per minute, the peak wastewater discharge rate is not considered significant. PAR 1420.1 may result in an average daily wastewater discharage rate 274,749 gallons per day (10,565 gal/day + 264,093 gallons per day), which is less than the average daily wastewater discharage rate allowed by Quemetco's Industrial Wastewater Discharge Permit of 283,000 gallons per day. Since the additional volume of water generated by using the additional cell is within the permitted limits of Quemetco's Industrial Wastewater Discharge Permit, PAR 1420.1 is not expected to adversely affect Quemetco's wastewater discharge. Since the permit wastewater discharge rates are in volume per minute and volume per day. The additional sump clean out would result in the same impacts on one additional day per year.

Exide

~~The other facility affected by Rule 1420.1~~ Exide may need to replace an existing scrubber with a new scrubber or install a new wet ESP to comply with PAR 1420.1. The size of the replacement scrubber is not known at this time. The existing scrubber has an influent and effluent flow rate of 25 to 30 gallons per minute. As a worst-case, it was assumed that twice the flow rate would be needed. Therefore, the replacement scrubber could generate 30 gallons of wastewater per minute more than the existing scrubber generates (43,200 gallons of wastewater per day). Based on the air flow rate requirements, a new wet ESP system at the facility that may need additional air pollution control would likely be twice the size as the existing wet ESP at the other facility. Therefore, the new system could generate approximately 29.2 gallons of wastewater per minute.

Therefore, maximum wastewater discharge rate of the wastewater system at the facility that may need additional air pollution control is estimated at 30 gallons of wastewater per minute (43,200 gallons of wastewater per day) based on the wastewater discharge rates of replacement scrubber. The wastewater system at the PAR 1420.1 affected facility treats both process water and storm water before it is discharged to the sanitary sewer system.

The affected facility has an Industrial Wastewater Discharge Permit with a maximum 310,000 gallons per day limit. The daily wastewater peak discharge rate for the fiscal year 2011/2012 was 132,630 gallons per day based on the annual surcharge statement submitted by the company. The peak discharge rate of 236 gallons per minute is based on the average of the ten highest 30-minute peak flow periods (Personal communication with Los Angeles Sanitation District, 2013).[7]

An increase of 30 gallons of wastewater discharged per minute would increase the peak discharge rate to 266 gallons of wastewater discharged per minute (30 gallons per minute + 236 gallons per minute), which would be less than the maximum permitted wastewater discharge rate of 300 gallons per minute for the existing wastewater system. The addition of 43,200 gallons per day of wastewater discharged (30 gallons of wastewater discharged per minute) would result in an average facility wastewater discharge rate of 175,830 gallons per day, which would be less than the permit maximum wastewater discharge rate of 310,000 gallons per day, so no change to current permit is required.

[7] Personal communication with Los Angeles Sanitation District on June 28, 2013.

If the proposed project does require a wastewater discharge rate that exceeds the 310,000 gallons per day limit, the Los Angeles County Sanitation District deems that a secondary peak permit could be required to allow discharge during non-peak hours.[5] Significance for industrial wastewater discharge is determined by its impact to the affected sewer system. The Los Angeles Sanitation District provided that there is not any hydraulic overloading of the sewer system downstream of the PAR 1420.1 affected facility.[5] However, wastewater flow can also affect relief or repair work, but no relief or repair work in the near future was identified by the Los Angeles Sanitation District. Based on the existing sewer system used by the PAR 1420.1 affected facility, the Los Angeles Sanitation District believes that an additional 300 gallons per minute can be accommodated by the existing sewer system. (Personal communication with Los Angeles County Sanitation District, 2013).

Therefore, based on the above analysis, there would be adequate capacity to serve the proposed project's projected demand addition to the provider's existing commitments.

Based upon these considerations, significant adverse hydrology and water quality impacts are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
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?	☐	☐	☐	☑

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) PAR 1420.1 would require the construction of control technology and associated supporting equipment at one of two existing large lead-acid battery recycling facilities in the district. No construction is expected to occur at the other affected facility. All construction activities would occur on-site. To make space for new control technology an existing storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the boundaries of Exide ~~the affected facility~~. Changes to operations would

include operation of the control technology and associated supporting equipment to reduce arsenic, lead, benzene, and 1,3-butadiene 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. Construction and operation of new control technology would occur within the boundaries of an existing large lead recycling facility in an area that is zoned for industrial 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 arsenic, lead, benzene, and 1,3-butadiene impacts from large lead recycling facilities. Operations at the affected facility would still be expected to comply, and not interfere, with any applicable land use plans, zoning ordinances.

Based upon these considerations, significant adverse land use and planning impacts are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
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 PAR 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. The air pollution control

equipment and the new storm water storage tanks would not remove any mineral resources of value to the region and the residents of the state.

Based upon these considerations, significant adverse mineral resources are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent 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 temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d) 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 use airport or private airstrip, 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) & c) 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.

Existing operational noise generated from lead acid battery recycling in the City of Vernon would be subject to the City of Vernon Noise Element of the General Plan and/or the City of Vernon Municipal Code. Table 2-7 summarizes these requirements.

Table 2-7
City of Los Angeles Noise Requirements

Requirement	Construction Limit (dBA)
Noise Element of the General Plan of the City of Vernon	60-70 dBA CNEL or less – considered "normally compatible" for residential land use. 70-80 dBA CNEL – considered "normally compatible" for industrial use".
City of Vernon Municipal Code Chapter 26, §26.4.1-6	Requires that noise levels generated by construction equipment within a residential zone not exceed 75 dBA.

The proposed project affects ~~an existing facility~~ Exide in the City of Vernon and actions taken to comply with PAR 1420.1 would not generate excessive noise levels outside the boundaries of the affected facility, 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. Air pollution control equipment, such as RTOs, scrubbers, wet ESPs, as well as, wastewater storage tanks are not typically noise generating equipment.

Construction-Related Noise

No construction would occur at Qumetco. Exide may require construction of an RTO, wet ESP or replacement of an existing scrubber. The existing storm water retention pond may need to be replaced with storage tanks to provide space to install the wet ESP. Table 2-8 presents construction noise levels from typical construction equipment. The ~~affected facility~~ Exide operations currently include diesel truck traffic to deliver recycled batteries and ship recycled lead product. Based on Table 2-8, paver noise levels are around 85 dBA at 50 feet. Construction

would increase the noise levels to around 85 dBA at 50 feet from the center of construction activity. The facility may need to install air pollution control equipment and the closest residences are about 1,400 meters north of the facility. Using the standard of an estimated six dBA reduction for every doubling in distance, the noise levels at the closest residence would be indistinguishable from background. At a distance of 1,400 meters (4,593 feet), the noise impacts are negligible. For example, at the highest level in Table 2-8 (85 dBA), the sound would be reduced to below the municipal code of (75 dBA) at 200 feet away and General Plan level (70 dBA) at 400 feet away. In general, given ambient noise levels near the affected facility, 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 2-8
Construction Noise Sources

Equipment	Typical Range (decibel)	Analysis Value (decibel)
Cranes	75-89	83
Front Loader	73-86	82
Generator Sets	71-83	81
Pavers	85-88	85
Scraper, Graders	80-93	80
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 the existing lead-acid battery recycling operations. Employees and equipment at the existing affected facility 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. Control technology, such as, RTOs, scrubbers and wet ESPs are not expected to generate noise greater than the existing lead-acid battery recycling operations. 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. 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. The existing wet ESP at ~~one PAR 1420.1 affected facility~~ Quemetco cannot be heard offsite over the existing noise generated, so a new wet ESP at ~~the other PAR 1420.1 affected facility~~ Exide is not expected to generate noise above existing background noise as well. Reducing the temperature of kilns, using an additional cell or increasing the voltage in the cells of the wet ESP at Quemetco is not expected to generate additional noise. Cleaning sumps already occurs at Quemetco so no additional noise is expected by requiring additional sump cleaning. Therefore, PAR 1420.1 is not expected to generate new significant adverse operational noise.

XI. b)

Construction-Related Vibration

The Federal Transit Administration (FTA) has published standard vibration levels and peak particle velocities for construction equipment operations (FTA, 2006). The approximate velocity level and peak particle velocities for large construction equipment are listed in Table 2-9. Groundborne vibration is quantified in terms of decibels, since that scale compresses the range of numbers required to describe the oscillations. The FTA uses vibration decibels (abbreviated as VdB) to measure and assess vibration amplitude. Vibration is referenced to one micro-inch/sec (converted to 25.4 micro-mm/sec in the metric system) and presented in units of VdB. Based on the activities and equipment which would be used during control technology construction phases, the construction equipment source levels are estimated to range between 58 VdB and 100 VdB at a distance of 25 feet. When analyzing ground-borne vibration, the FTA recommends using an estimated six VdB reduction for every doubling of distance.[8] Using the FTA methodology, the groundborne vibration levels at the closest worker receptor (300 meters or 984 feet) would be negligible (see Table 2-9). The predicted vibration during construction activities can be compared to the FTA ground-borne vibration impact level of 72 VdB for residences and buildings where people normally sleep. Levels of vibration below the FTA ground-borne vibration impact level are considered less than significant by the FTA. Therefore, because the vibration from construction activities affecting workers and residences is less than the FTA vibration impact level, no significant vibration impacts are expected during the construction period.

Table 2-9
Construction Vibration Sources

Equipment	Approximate Peak Particle Velocity at 25 Feet (inch/second)	Approximate Velocity Level at 25 Feet (VdB)
Bulldozer, Large	0.089	87
Bulldozer, Small	0.003	58
Jackhammer	0.035	79
Loaded Truck	0.076	86

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 Vibration

Vibration is also a by-product of the existing lead-acid battery recycling operations. Employees and equipment at the existing affected ~~facility~~ facilities currently perform activities which create vibration, such as, raw material processing (battery breaking/crushing, charger preparation, rotary drying, sweating), smelting (furnaces), refining and casting, and truck loading/unloading. Control technology, such as, RTOs, scrubbers and wet ESPs; however, are not expected to generate vibration, as equipment is secured and bolted to the foundation. Therefore, the PAR 1420.1 is not expected to generate new significant adverse operational vibration.

[8] Office of Planning and Environment Federal Transit Administration, Transit Noise and Vibration Impact Assessment , FTA-VA-90-1003-06, 2006.

XI. d) The affected ~~facility is~~ facilities are not located near any airports or private airstrips. The closest airport or airstrip is the Hawthorne Municipal Airport, which is 9.6 miles from Exide ~~the affected facility~~. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels within two miles of a public use airport or private airstrip.

Based upon these considerations, significant adverse noise impacts are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of people or existing housing, 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) No construction is expected at Quemetco. PAR 1420.1 would require the installation of control technology and support equipment at Exide ~~one of two existing large lead-acid battery recycling facilities in the district~~. To make space for a new wet ESP an existing storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the affected facility. The RTO on the reverberatory furnace feed dryer stack to control benzene and 1,3-butadiene is expected to be installed without changes to the existing foundation. The affected facility may replace the existing scrubber with a new scrubber to control arsenic emissions. The old scrubber would be recycled and the new scrubber installed in the same location. Therefore, all construction and operation would 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 permanent 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 PAR 1420.1. It is expected that any construction activities at the affected facility would use construction workers from the local labor pool in Southern California. Any new equipment is expected to be operated by qualified existing employees at the affected facility. As such, PAR 1420.1 would not result in changes in population densities or induce significant growth in population.

XIII. b) Because the proposed project affects construction and operation of control equipment at one existing lead-acid battery recycling facility, PAR 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 adverse population and housing impacts are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	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) 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) PAR 1420.1 would not involve the use of new flammable or combustible materials.

Quemetco

Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Using an additional cell or increasing voltage is not expected to increase fire hazards in the wet ESP. In addition, water used in the wet ESP would reduce fire hazards. Cleaning out the sumps would not increase fire hazards. Reducing the temperature in the dryers may reduce fire hazards, since less natural gas would be consumed. As a result, no new fire hazards or increased use of hazardous materials would be introduced at Quemetco that would require additional emergency responders such as police or fire departments or additional demand from these resources. Thus, no new demands for fire or police protection are expected from PAR 1420.1 at Qumetco.

Exide

The RTO is expected to be a commercial unit that is rated at 1.58 million BTU per hour. Because it is a commercial unit with a low burner rating and the nearest receptors are over 100 meters away from the facility (300 meters from worker receptors and 1,400 meters from residential receptors); therefore, the risk of fire hazards from the RTO is expected to be minimal. As a result, no new fire hazards or increased use of hazardous materials would be introduced at Exide ~~the existing affected facility~~ that would require additional emergency responders such as police or fire departments or additional demand from these resources. Thus, no new demands for fire or police protection are expected from PAR 1420.1 at Exide.

XIV. c) As noted in the "Population and Housing" discussion, implementation of the proposed project would not require employees from outside the region for construction because construction workers from the local labor pool in southern California would be used. Similarly, no new permanent employees would be required to comply with PAR 1420.1 because the control equipment is expected to be operated by qualified existing employees. As a result, PAR 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 as a result of PAR 1420.1.

XIV. d) Because the proposed project involves requirements that are similar to existing operations already in place at an existing facility and the facilities are already heavily regulated, PAR 1420.1 is not expected to require the need for additional government services. Permits for the air pollution control equipment required to comply with PAR 1420.1 are expected to be issued by existing permit staff. Enforcement of PAR 1420.1 is expected to be performed by the existing SCAQMD inspectors for these facilities. 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 adverse public services impacts are not anticipated and, therefore, no further analysis is required or necessary.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV.	**RECREATION.**				
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	☐	☐	☐	☑

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV. a) & b) As previously discussed under "Land Use," there are no provisions in PAR 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 would be altered by the proposed project. Further, implementation of PAR 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 the above considerations, significant adverse recreation impacts are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	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 Department of Resources Recycling and Recovery (CalRecycle). 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. PAR 1420.1 would generate additional waste from the disposal of spent arsenic and lead captured by new control technology that is discussed in further detail in the following paragraphs.

Construction

Construction is only expected at Exide. PAR 1420.1 may result in the replacement of an existing scrubber with a new scrubber. The replaced scrubber is expected to be recycled. Any parts of the scrubber that are not recycled are expected to be decontaminated and disposed in a Class III landfill. The 2012 AQMP estimated that an average 20,235 tons of solid waste were disposed of per day at Class III landfills in Los Angeles County and 243 million tons of remaining permitted Class III landfill capacity is available. Therefore, there is expected to be sufficient capacity for the non-recycle portions of the scrubber that are disposed of as solid waste since it is only one piece of equipment.

PAR 1420.1 may result in the demolition of existing surfaces and site preparation and grading for foundations for a new wet ESP at an existing affected facility. Construction solid waste is expected from the proposed project. Approximately, 8,150 cubic yards of material (two acres of area approximately two yards deep) would result from the demolished storm water retention pond, if a wet ESP is installed. Construction material is not expected to be contaminated, since the surfaces are required to be cleaned daily according to the existing Rule 1420.1.

Based on the 2012 AQMP there is approximately 116,796 tons per day of landfill space available in the district. Therefore, the addition of 8,150 cubic yards of material (8,150 yd3 x 150 lb/ft3 x 27 ft3/yd3 x ton/2,000 lb)/16.3 days = 1,013 ton/day) of demolished material (0.8 percent of the

daily capacity available) is not expected to be a significant adverse impact to solid waste impact from the construction phase of the proposed project. In addition, most of the demolition material from the storm water retention pond is expected to be concrete, which can be recycled. Therefore, the amount of material disposed would be much less than 1,013 tons per day.

Three soil areas at the affected facility have been identified as contaminated with metals, primarily arsenic and lead at the facility. If contamination were found during construction, it would likely be during the demolition phase. Construction would be stopped and additional testing would be done to determine the type and extent of contamination. Since the storm water retention pond has double containment and a leak detection system, contaminated soil is not expected. If any contaminated soil found, it would need to be disposed of according to the existing Rule 1420.1 or Rule 1166. However, since soil contamination is speculative at this time, no qualitative analysis has been prepared.

Control Technology Requirements

The additional arsenic and lead recovered from the wastewater treatment system would be placed into the lead-acid battery recovery process to be recycled; therefore, most of the arsenic and lead from the wastewater treatment system would not be disposed at solid waste landfills. However, spent arsenic and lead that is not recycled would be sent off-site for disposal. Therefore, it is not expected that PAR 1420.1 would substantially change hazardous waste handling but may increase disposal volumes.

Quemetco

Based on past source tests, it is expected that Quemetco can achieve the emission limits of PAR 1420.1 with their existing equipment with proper operation and maintenance. However, to be conservative, the SCAQMD staff analyzed four measures that Quemetco could implement. Quemetco may: 1) Increase operation of the existing cells used for the wet ESP from four to five cells; 2) Increase the voltage in the wet ESP from 27 to 35 kilovolts; 3) Increase the frequency of replacing sump water from two to three times per year; and 4) Reduce the temperature in the feed dryer. Additional arsenic as a hazardous waste may be generated by using all five cells or increasing the voltage of the cells in the wet ESP or cleaning out the sumps and additional time per year. Thirty one pounds of arsenic emissions was reported in 2013 by Quemetco, this is 23.6 pounds greater than the 7.4 pounds of arsenic report by Quemetco in 2011/2012. The density of arsenic is 357.53 lb/ft3. Therefore, the increased volume of hazardous metals captured would be between 0.07 cubic feet of arcenic per year based on a reduction of 23.6 pounds of arsenic emissions per year. The additional 0.07 cubic feet per year of arsenic is not expected to require an additional haul truck trip.

The US Ecology facility in Beatty, Nevada 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 130,000 cubic yards available annually. The additional 0.07 cubic feet per year of arsenic from Quemetco would be 0.00005 percent of the annual capacity of the US Ecology facility. Therefore, the increase in hazardous waste disposal from Quemetco is expected to be less than significant for operational hazardous waste disposal.

Exide

Hazardous solid waste from the affected facility is currently sent to Allied Waste La Paz County Landfill in Parker, Arizona. The Allied Waste La Paz County Landfill has approximately

20,000,000 cubic yards of capacity remaining for the 50 year life expectancy (400,000 cubic yards per year).

In 2010, the arsenic emission rate reported in the annual emissions inventory report for the affected facility was 3.6 pounds per year with a total reported metal emission rate of 622 pounds per year. In 2011, the arsenic emission rate reported in the annual emissions inventory report was 1,202 pounds per year with a total reported metal emission rate of 1,768 pounds per year. In 2012, the arsenic emission rate reported in the annual emissions inventory report was 197 pounds per year with a total reported metal emission rate of 458 pounds per year. Assuming that PAR 1420.1 would reduce arsenic and metal emission rates to those reported in 2010~~.~~, ~~T~~the annual emissions inventory report values are presented in Table 2-10. Based on the difference between the metal emission rates of the highest year (2011) and lowest year (2012) approximately 1,146 pounds of year (1,768 to 622 pounds per year) would be captured at the affected facility.

Table 2-10
Metal Emissions for Reporting Years 2010 to 2012

Reporting Year	Arsenic Emissions, lb/yr	Total Metal Emissions, lb/yr
2010	3.6	622
2011	1,202	1,768
2012	197	458

Metals caught by air pollution control devices are returned to the recycling process. However, to be conservative, it was assumed that all 1,146 pounds of metal emission captures would be sent to hazardous waste landfills. Arsenic and lead emissions make up approximately 98 to 99 percent of the metal emissions reported in the annual emissions inventory report for the affected facility. Using the densities of arsenic and lead as boundaries (lead: 707.93 lb/ft3, arsenic: 357.53 lb/ft3), the volume of hazardous metals captured would be between two to four cubic feet of metal per year based on a reduction of 1,410 pounds of metal emissions per year. The addition of two to four cubic feet of metal sent to hazardous waste disposal facilities per year would be 0.001 percent of the 400,000 cubic yards of hazardous waste capacity available annually at the Allied Waste La Paz County Landfill. Therefore, the increase in hazardous waste disposal from PAR 1420.1 is expected to be less than significant for operational hazardous waste disposal from Exide.

XVI. b) Existing affected facility operators currently dispose of spent arsenic and lead from wastewater treatment systems. It is assumed that facility operators at the affected facility comply with all applicable local, state, or federal waste disposal regulations.

Implementing PAR 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 required or necessary.

Based upon these considerations, significant adverse solid/hazardous waste impacts are not anticipated and, therefore, no further analysis is required or necessary.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC.	Would the project:				
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
b)	Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards 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)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑

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.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a) & b) As noted in the "Discussion" sections of other environmental topics, compliance with PAR 1420.1 is expected to require construction activities for control equipment only at Exide. PAR 1420.1 was estimated to need 19 haul trucks and need seven construction worker trips on a peak construction day (during the fill phases). 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 with the exception of disposal of spent arsenic and lead at Exide. The additional disposed of spent arsenic and lead may result in an additional haul truck trip per year from Exide. However, the additional of one new off-site trip is not expected to result in transportation/traffic impacts.

PAR 1420.1 would result in the addition of three automobile trips to each facility each year. The addition of one automobile trip on a source day trip is not expected to result in result in transportation/traffic impacts.

XVII. c) The affected ~~facility is~~ facilities are ~~not~~ near any airports or private airstrips. The closest airport or airstrip is the Hawthorne Municipal Airport, which is 9.6 miles from Exide ~~the affected facility~~. 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, since no new structures or equipment are expected to enter air space used by aircraft. Thus, PAR 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 the affected ~~facility~~ facilities is consistent with surrounding land uses and traffic/circulation in the surrounding areas of the affected ~~facility~~ facilities. Thus, the proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the affected ~~facility~~ facilities. Emergency access at the affected ~~facility~~ facilities 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 PAR 1420.1 involves short-term construction activities and operational of control equipment is not expected to increase vehicle trips, 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. f) The affected ~~facility~~ 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 PAR 1420.1 compliance activities would occur on-site, PAR 1420.1 would not hinder compliance with any applicable alternative transportation plans or policies.

Based upon these considerations, significant adverse transportation/traffic impacts are not anticipated and, therefore, no further analysis is required or necessary.

	Potentially Significant Impact	Less Than Significant With Mitigation	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, PAR 1420.1 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because any construction and operational activities associated with affected sources are expected to occur entirely within the boundaries of existing developed facilities in areas that have been greatly disturbed and that currently do not support any species of concern or the habitat on which they rely. PAR 1420.1 is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past.

XVIII. b) Based on the foregoing analyses, PAR 1420.1 would not result in significant adverse project-specific environmental impacts. Potential adverse impacts from implementing PAR 1420.1 would not be "cumulatively considerable" as defined by CEQA Guidelines §15064(h)(1) for any environmental topic because there are no, or only minor incremental project-specific impacts that were concluded to be less than significant. Per CEQA Guidelines §15064(h)(4), the

mere existing of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable. SCAQMD cumulative significant thresholds are the same as project-specific significance thresholds. Therefore, there is no potential for significant adverse cumulative or cumulatively considerable impacts to be generated by the proposed project for any environmental topic.

XVIII. c) Based on the foregoing analyses, PAR 1420.1 are not expected to cause adverse effects on human beings for any environmental topic. As previously discussed in items I through XVIII, the proposed project has no potential to cause significant adverse environmental effects.

APPENDIX A

PROPOSED AMENDED RULE 1420.1

In order to save space and avoid repetition, please refer to the latest version of Proposed Amended Rule 1420.1 located elsewhere in the Governing Board Package. The version of Proposed Amended Rule 1420.1 that was circulated with the Draft EA and released on October 10, 2013 for a 30-day public review and comment period ending November 8, 2013 was identified as PAR 1420.1a, September 20, 2013. Original hard copies of the Draft EA, which include the draft version of the proposed amended rule listed above, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

ASSUMPTIONS AND CALCULATIONS

Table B-1
Demolition Emissions

Storm Water Retention Pond Demolition		8,150	cubic yards
Demolition Schedule	**16**	**days**[a]	

Equipment Type[a,b]	**No. of Equipment**	**hr/day**	**Crew Size**
Concrete/Industrial Saws	1	7.0	9
Excavators	2	7.0	
Tractors/Loaders/Backhoes	2	7.0	
Rubber Tired Dozers	1	4.0	

Construction Equipment Emission Factors

	CO	**NOx**	**PM10**	**PM2.5**	**VOC**	**SOx**	**CO2**	**CH4**	**NO2**
Equipment Type[c]	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Concrete/Industrial Saws	0.402	0.526	0.041	0.038	0.092	0.001	59	0.008	0.000
Excavators	0.529	0.830	0.043	0.039	0.114	0.001	120	0.010	0.000
Tractors/Loaders/Backhoes	0.374	0.498	0.034	0.031	0.073	0.001	67	0.007	0.000
Rubber Tired Dozers	1.101	2.381	0.099	0.091	0.284	0.002	238	0.026	0.000

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	1,013

Construction Vehicle (Mobile Source) Emission Factors[h]

	CO	**NOx**	**PM10**	**PM2.5**	**VOC**	**SOx**	**CO2**	**CH4**	**NO2**
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Automobile	4.12E-03	3.41E-04	1.04E-04	4.41E-05	4.50E-04	8.22E-06	0.73	2.01E-05	4.83E-06
Heavy-Duty Truck[d]	3.98E-03	1.81E-02	5.40E-04	3.85E-04	7.84E-04	3.64E-05	3.76	3.64E-05	2.56E-04

Table B-1 (Continued)
Demolition Emissions

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day[i]	One-Way Trip Length[j] (miles)
Automobile	**9**	**20**
Heavy-duty Truck	17	70

Incremental Increase in Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Construction Emissions (lb/day)

Equipment Type	CO lb/day	NOx lb/day	PM10 lb/day	PM2.5 lb/day	VOC lb/day	SOx lb/day	CO2 lb/day	CH4 lb/day	NO2 lb/day
Concrete/Industrial Saws	2.82	3.68	0.29	0.27	0.64	0.00	409.67	0.06	0.153
Excavator	7.40	11.62	0.60	0.55	1.60	0.02	1673.49	0.14	0.483
Tractors/Loaders/Backhoes	5.24	6.97	0.48	0.44	1.02	0.01	934.38	0.09	0.290
Rubber Tired Dozers	4.40	9.52	0.40	0.36	1.14	0.01	951.25	0.10	0.396
Total	**19.9**	**31.8**	**1.76**	**1.62**	**4.40**	**0.04**	**3968.80**	**0.40**	**1.32**

Incremental Increase in 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	PM2.5[m] lb/day
Material Handling (Demolition)[l]	61	1.09	0.23
Material Handling (Debris)	61	1.09	0.23
Total		**2.18**	**0.46**

Table B-1 (Concluded)
Demolition Emissions

Incremental Increase in 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	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Automobile	1.48	0.12	0.037	0.016	0.162	0.003	262	0.007	0.002
Haul Truck	9.5	43	1.3	0.915	1.9	0.087	8,938	0.087	0.610
Total	**9.5**	**43**	**1.3**	**0.915**	**1.9**	**0.087**	**8,938**	**0.087**	**0.610**

Total Incremental Localized Emissions from Construction Activities

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2e
Sources	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	metric ton/day
Emissions	**29**	**75**	**5.2**	**3.0**	**4.4**	**0.044**	**100**
Significance Threshold[n]	***550***	***100***	***150***	***55***	***75***	***150***	
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	

Notes:

a) The storm water retention area is about an acre in area. RS Means, Building Cosntruction Cost Data, 15th Annual Edition, 2002, Western Edition – 33 to 200 cubic yards per day for 7" – 24" rod reinforced concrete. Verage would be 116 cubic yards, which was doubled (two excavators).

b) Estimated construction equipment assumed to operate one eight-hour shift per day.

c) Emission factors estimated using OFFROAD2011

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. Density of concrete 150 pound per cubic foot. (8,150 yd3 x 150 lb/ft3 x 27 ft3/yd3 x ton/2,000 lb)/16.3 days = 1013 ton/day

h) Emission factors estimated using EMFAC2011 for the 2014 fleet year.

i) Assumed 30 cubic yd truck capacity [(1013 ton/day x 2,000 lb/ton x cyd/4,050 lb = 1251 cyd)/30 cyd/truck = 17 one-way truck trips/day, concrete debris density is assumed to be 4,050 lb/cyd]

j) Assumed trucks travel up 1-5 to district board on way to Buttonwillow or Kettleman. Workers are assumed to travel 20 miles to work.

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 significance thresholds

Table B-2
Fill Emissions

Filling Storm Water Retention Pond Area

Fill Schedule - 50 days[a]

Equipment Type[a,b]	No. of Equipment	hr/day	Crew Size
Rubber Tired Dozers	2	7.0	7
Tractors/Loaders/Backhoes	2	7.0	

Construction Equipment Emission Factors

Equipment Type[c]	CO	NOx	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Rubber Tired Dozers	1.101	2.381	0.099	0.091	0.284	0.002	238	0.026	0.099
Tractors/Loaders/Backhoes	0.374	0.498	0.034	0.031	0.073	0.001	67	0.007	0.021

Fugitive Dust Bulldozer Parameters

Vehicle Speed (mph)[d]	Vehicle Miles Traveled[e]
3	42

Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier[f]	Mean Wind Speed[g]	Moisture Content[h]	Dirt Handled[i]	Dirt Handled[j]
	mph		cy	lb/day
0.35	10	7.9	546	1,365,125

Table B-2 (Continued)
Fill Emissions

Construction Vehicle (Mobile Source) Emission Factors[k]

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Automobile	4.12E-03	3.41E-04	1.04E-04	4.41E-05	4.50E-04	8.22E-06	0.73	2.01E-05	4.83E-06
Heavy-Duty Truck	3.98E-03	1.81E-02	5.40E-04	3.85E-04	7.84E-04	3.64E-05	3.76	3.64E-05	2.56E-04

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One-Way Trip Length (miles)
Automobile	7	20
Heavy-duty Truck[l]	19	40

Incremental Increase in Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Construction Emissions (lb/day)

Equipment Type	CO	NOx	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Rubber Tired Dozers	15.41	33.34	1.38	1.27	3.98	0.03	3,329	0.36	1.39
Tractors/Loaders/Backhoes	5.24	6.97	0.48	0.44	1.02	0.01	934	0.09	0.29
Total	**20.7**	**40.3**	**1.9**	**1.7**	**5.0**	**0.0**	**4,264**	**0.4**	**1.7**

Table B-2 (Continued)
Fill Emissions

Incremental Increase in Fugitive Dust Emissions from Construction Operations

Equations:
Grading[m]: PM10 Emissions (lb/day) = 0.60 x 0.051 x mean vehicle speed$^{2.0}$ x VMTx (1 – control efficiency)
Material Handling[n] PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x dirt handled (lb/day)/2,000 (lb/ton) (1 – control efficiency)

	Control Efficiency	Unmitigated PM10[o]	Unmitigated PM2.5[o]
Description	%	lb/day	lb/day
Earthmoving	61	4.5	0.947
Material Handling	61	0.11	0.023
Total		**4.6**	**0.970**

Incremental Increase in 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	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Haul Truck	1.1150	5.0699	0.1513	0.1077	0.2196	0.0102	1,051	0.0102	0.0718
Water Truck	6.0528	27.5221	0.8213	0.5846	1.1919	0.0553	5,708	0.0554	0.3897
	7.168	**32.592**	**0.973**	**0.692**	**1.411**	**0.065**	**6,760**	**0.066**	**0.462**

Total Incremental Localized Emissions from Construction Activities

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2
Sources	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	metric ton/year
Emissions	**28**	**73**	**7.5**	**3.4**	**6.4**	**0.111**	**265**
Significance Threshold[p]	***550***	***100***	***150***	***55***	***75***	***150***	
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	

Table B-2 (Concluded)
Fill Emissions

Notes:

a) Based on assumption that each bulldozer can move 35 cubic yards of soil per hour and one acre of area with a depth of 20 feet.
b) Estimated construction equipment assumed to operate one eight-hour shift per day.
c) Emission factors estimated using OFFROAD2011
d) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.
e) Two bulldozers traveling three miles per hour for seven hours per day.
f) 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
g) Mean wind speed – maximum of daily average wind speeds reported in 1981 meteorological data.
i) Assuming 546.05 cubic yards of dirt handled (4840 ft2 x 20 ft) x yd3/27 ft3)/ days)
j) Dirt handled, lb/day = (546.05 yd3 x 2,500 lb/yd3)
k) Emission factors estimated using EMFAC2011 for the 2014 fleet year.
l) Assumed 30 cubic yd truck capacity for 546.05 cy of dirt [(546.05 cy x truck/30 cy) = 19 one-way truck trips/day].
m) USEPA, AP-42, July 1998, Table 11.9-1, Equation for Site Grading ≤ 10 µm
n) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12
o) Includes watering at least three times a day per Rule 403 (61% control efficiency)
p) SCAQMD CEQA significance thresholds

Table B-3
Paving Emissions

Asphalt Paving of Foundation		
Construction Schedule	**12**	**days**[a]

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Pavers	1	7.0	10
Cement and Mortar Mixers	4	6.0	
Rollers	1	7.0	
Tractors/Loaders/Backhoes	1	7.0	

Construction Equipment Combustion Emission Factors

	CO	**NOx**	**PM10**	**PM2.5**	**VOC**	**SOx**	**CO2**	**CH4**	**NO2**
Equipment Type[b]	lb/hr	lb/hr	lb/hr		lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Pavers	0.526	0.810	0.056	0.052	0.143	0.001	78	0.013	0.000
Cement and Mortar Mixers	0.042	0.055	0.002	0.002	0.009	0.000	7	0.001	0.000
Rollers	0.401	0.616	0.042	0.039	0.091	0.001	67	0.008	0.000
Tractors/Loaders/Backhoes	0.374	0.498	0.034	0.031	0.073	0.001	67	0.007	0.000

Construction Vehicle (Mobile Source) Emission Factors[c]

	CO	**NOx**	**PM10**	**PM2.5**	**VOC**	**SOx**	**CO2**	**CH4**	**NO2**
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Automobile	4.12E-03	3.41E-04	1.04E-04	4.41E-05	4.50E-04	8.22E-06	0.73	2.01E-05	4.83E-06
Heavy-Duty Truck	3.98E-03	1.81E-02	5.40E-04	3.85E-04	7.84E-04	3.64E-05	3.76	3.64E-05	2.56E-04

Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One-Way Trip Length (miles)**
Worker	10	20
Delivery Truck[d]	3	40

Table B-3 (Continued)
Paving Emissions

Incremental Increase in Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Construction Emissions (lb/day)

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Equipment Type	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Pavers	3.68	5.67	0.39	0.36	0.1	0.00	51	0.01	0.00
Cement and Mortar Mixers	9.63	14.78	1.01	0.93	0.6	0.01	469	0.06	0.00
Rollers	0.29	0.39	0.02	0.02	0.0	0.00	0	0.00	0.00
Tractors/Loaders/Backhoes	2.62	3.48	0.24	0.22	0.0	0.00	0	0.00	0.00
Total	**16**	**24**	**1.66**	**1.52**	**0.70**	**0.01**	**520**	**0.06**	**0.00**

Incremental Increase in 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	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Worker	1.649	0.137	0.0415	0.0177	0.1801	0.0033	291.3421	0.0080	0.0019
Delivery	0.956	4.346	0.1297	0.0923	0.1882	0.0087	901.2773	0.0087	0.0615
Total	**2.604**	**4.482**	**0.1712**	**0.1100**	**0.3683**	**0.0120**	**1192.619**	**0.0168**	**0.0635**

Total Incremental Combustion Emissions from Construction Activities

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2eq
Sources	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	metric ton/year
Emissions	**19**	**29**	**1.8**	**1.6**	**1.1**	**0.0**	**9.4**
Significance Threshold[e]	***550***	***100***	***150***	***55***	***75***	***150***	
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	

Table B-3 (Concluded)
Paving Emissions

Notes:

a) Estimated construction equipment assumed to operate one eight-hour shift per day.
b) Emission factors estimated using OFFROAD2011
c) Emission factors estimated using EMFAC2011 for the 2014 fleet year.
d) Assumed three deliver truck trips per day.
e) SCAQMD CEQA significance thresholds

Table B-4
Structure Building Emissions

Construction of Wet Electrostatic Precipitator

Construction Schedule 200 days

Equipment Type[a]	No. of Equipment	hr/day	Crew Size
Cranes	3	4.0	10
Forklifts	2	6.0	
Tractors/Loaders/Backhoes	2	8.0	

Construction Equipment Combustion Emission Factors

Equipment Type[b]	CO lb/hr	NOx lb/hr	PM10 lb/hr	PM2.5	VOC lb/hr	SOx lb/hr	CO2 lb/hr	CH4 lb/hr	NO2 lb/hr
Cranes	0.431	1.028	0.044	0.041	0.120	0.001	121	0.011	0.043
Forklifts	0.221	0.355	0.018	0.016	0.050	0.001	54	0.004	0.015
Tractors/Loaders/Backhoes	0.374	0.498	0.034	0.031	0.073	0.001	67	0.007	0.021

Construction Vehicle (Mobile Source) Emission Factors[c]

	CO lb/mile	NOx lb/mile	PM10 lb/mile	PM2.5 lb/mile	VOC lb/mile	SOx lb/mile	CO2 lb/mile	CH4 lb/mile	NO2 lb/mile
Automobile	4.12E-03	3.41E-04	1.04E-04	4.41E-05	4.50E-04	8.22E-06	0.73	2.01E-05	4.83E-06
Heavy-Duty Truck	3.98E-03	1.81E-02	5.40E-04	3.85E-04	7.84E-04	3.64E-05	3.76	3.64E-05	2.56E-04

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One-Way Trip Length (miles)
Worker	10	20
Heavy-duty Truck[d]	3	40

Table B-4 (Continued)
Structure Building Emissions

Incremental Increase in Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Construction Emissions (lb/day)

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Equipment Type	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cranes	5.2	12.3	0.53	0.49	1.4	0.02	1,451	0.13	0.51
Forklifts	2.7	4.3	0.21	0.20	0.60	0.01	652	0.05	0.18
Tractors/Loaders/Backhoes	6.0	8.0	0.54	0.50	1.17	0.01	1,068	0.10	0.33
Total	**13.8**	**24.6**	**1.3**	**1.2**	**3.2**	**0.04**	**3,171**	**0.29**	**1.02**

Incremental Increase in 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	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Flatbed Trucks	1.59	7.2	0.216	0.154	0.314	1.45E-02	1,502	0.0146	0.1026
Water Trucks	0.96	4.3	0.13	0.092	0.19	9.00E-03	901	0.009	0.062
Total	**2.5**	**11.6**	**0.35**	**0.25**	**0.50**	**2.35E-02**	**2,403**	**0.024**	**0.165**

Total Incremental Combustion Emissions from Construction Activities

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2eq
Sources	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	metric ton/year
Emissions	**16**	**36**	**1.6**	**1.4**	**3.7**	**0.1**	**540**
Significance Threshold[e]	***550***	***100***	***150***	***55***	***75***	***150***	
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	

Table B-4 (Concluded)
Structure Building Emissions

Notes:

a) Estimated construction equipment assumed to operate one eight-hour shift per day.
b) Emission factors estimated using OFFROAD2011
c) Emission factors estimated using EMFAC2011 for the 2014 fleet year.
d) Assumed three deliver truck trips per day.
e) SCAQMD CEQA significance thresholds

Table B-5
Operational Emission SCAQMD

Construction Vehicle (Mobile Source) Emission Factors

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Automobile	4.12E-03	3.41E-04	1.04E-04	4.41E-05	4.50E-04	8.22E-06	0.73	2.01E-05	4.83E-06
Heavy-Duty Truck[a]	3.98E-03	1.81E-02	5.40E-04	3.85E-04	7.84E-04	3.64E-05	3.76	3.64E-05	2.56E-04

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day[i]	One-Way Trip Length[j] (miles)
Automobile	1	20
Heavy-duty Truck	~~1~~ 6	193

Incremental Increase in 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	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
~~Automobile~~	~~0.16~~	~~0.014~~	~~0.0042~~	~~0.0018~~	~~0.018~~	~~0.00033~~	~~29~~	~~0.0008~~	~~4.83E-06~~
Automobile	0.99	0.082	0.025	0.011	0.11	0.0020	175	0.0048	4.83E-06
Haul Truck	1.5	7.0	0.209	0.148	0.30	0.0140	1,450	0.0141	0.099

Total Incremental Localized Emissions from Construction Activities

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2
Sources	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	metric ton/year
~~Emissions~~	~~**1.7**~~	~~**7.0**~~	~~**0.2**~~	~~**0.2**~~	~~**0.3**~~	~~**0.01**~~	~~**0.68**~~
Emissions	**2.5**	**7.1**	**0.2**	**0.2**	**0.4**	**0.02**	**0.75**
Significance Threshold[b]	***550***	***55***	***150***	***55***	***75***	***150***	***10,000***
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Table B-5 (Continued)
Operational Emission SCAQMD

Notes:
a) Emission factors estimated using EMFAC2011 for the 2014 fleet year.
b) SCAQMD significance thresholds

Table B-6
Operational Emission MDAQMD

Construction Vehicle (Mobile Source) Emission Factors

	CO	NOx	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Heavy-Duty Truck[a]	3.98E-03	1.81E-02	5.40E-04	3.85E-04	7.84E-04	3.64E-05	3.76	3.64E-05	2.56E-04

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day[i]	One-Way Trip Length[j] (miles)
Heavy-duty Truck	1	32.5

Incremental Increase in 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	PM10	PM2.5	VOC	SOx	CO2	CH4	NO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Haul Truck	0.3	1.2	0.035	0.025	0.05	0.0024	244	0.0024	0.017

Total Incremental Localized Emissions from Operational Activity

Sources	**CO**	**NOx**	**PM10**	**PM2.5**	**VOC**	**SOx**	**CO2**
Daily Emissions, lb/day	**0.3**	**1.2**	**0.04**	**0.02**	**0.05**	**0.002**	**249**
Annual Emissions, ton/year	**0.0001**	**0.0006**	**0.00002**	**0.00001**	**0.00003**	**0.000001**	**0.1**
Daily Significance Threshold, lb/day	***548***	***137***	***82***	***82***	***137***	***137***	***548,000***
Annual Significance Threshold, ton/yr[b]	***100***	***25***	***15***	***15***	***25***	***25***	***100,000***
Exceed Significance?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Notes:
a) Emission factors estimated using EMFAC2011 for the 2014 fleet year.
b) n) SCAQMD significance thresholds

Table B-7
Thermal Oxidizer Operational Emissions

Annual Emission Reporting Default Emission Factors for External Combustion Equipment

Fuel Type (fuel unit)	VOC, lb/mmscf	Rule 1147 NOx, lb/mmbtu	SOx, lb/mmscf	CO, lb/mmscf	PM, lb/mmscf	CO2, lb/mmscf	N2O, lb/mmscf	CH4, lb/mmscf
Natural Gas/ Other Equipment	7	0.073	0.6	35	7.5	120,000	0.64000	2.3

Annual Emission Reporting (AER) defaulting emission factors from B1 external combustion equipment for all criteria pollutants exempt NOx.
Exide is a RECLAIM facility so BACT would be required for the thermal oxidizer under Rule 2005; therefore, Rule 1147 NOx emissions limit was used.
CO2, N2O and CH4 emission factors from AP-42 Table 1.4-2, July 1998

Thermal Oxidizer Criteria Pollutant Emissions

Natural Gas Rating, mmbtu/hr	Conversion, btu/scf	Natural Gas Usage, mmscf/hr	Op Time, hr/day	ROG, lb/day	NOx, lb/day	SOx, lb/day	CO, lb/day	PM, lb/day
1.58	1,050	0.00150	24	0.3	2.8	0.02	1.3	0.3

Natural gas rating based on engineering estimate.

Thermal Oxidizer Greenhouse Gas Emisisons

Natural Gas Usage, mmscf/yr	CO2, metric ton/year	N2O, metric ton/year	CH4, metric ton/year	CO2e, metric ton/year
13.1	716	0.00	0.01	717

Table B-7 (Concluded)
Thermal Oxidizer Operational Emissions

Thermal Oxidizer Toxic Emissions

TAC Code	Pollutant	Cas No.	<10 Mmbtu/Hr, lb/mmscf	TAC, lb/yr	TAC ton/yr	TAC, lb/hr	Screen Level at 100 meters, lb/yr	Screen Level at 100 meters, lb/hr
2	Benzene	71432	0.008	1.05E-01	5.26E-05	1.20E-05	8.92E+00	3.96E+00
12	Formaldehyde	50000	0.017	2.23E-01	1.12E-04	2.56E-05	4.25E+01	1.47E-01
19	PAHs	1151	0.0004	5.26E-03	2.63E-06	6.02E-07	7.69E-03	

Screening levels from the Permit Package L of the Risk Assessment Procedures for Rules 1401 and 212 Version 7.0, December 2012

Table B-8
Vehicle Hauling Operational Emissions

CO, g/hr-veh	NOX, g/hr-veh	PM10, g/hr-veh	PM2.5, g/hr-veh	ROG, g/hr-veh	SOx, g/hr-veh
67.41757	73.66038971	7.16075	6.58789	38.69741	1.9709892

ARB, 2013, http://www.arb.ca.gov/msei/emfac2011_idling_emission_rates.xlsx.

Idling Time, min/trip	CO, lb/day	NOx, lb/day	PM, lb/day	ROG, lb/day	SOx, lb/day
15	0.037	0.0401	0.0039	0.00361	0.0211

Table B-9
Construction Equipment Fuel Use

Demolition

Equipment Type	No. of Equipment	Op Time, hr/day	Fuel Economy, gal/hr	Fuel Used, gal/day
Concrete/Industrial Saws	1	7.0		
Excavators	2	7.0	3.2	44.8
Tractors/Loaders/Backhoes	2	7.0	1.9	26.6
Rubber Tired Dozers	1	4.0	5.2	20.8
				92.2

Fill

Equipment Type	No. of Equipment	Op Time, hr/day	Fuel Economy, gal/hr	Fuel Used, gal/day
Rubber Tired Dozers	2	7.0	5.2	72.8
Tractors/Loaders/Backhoes	2	7.0	1.9	26.6
				99.4

Paving

Equipment Type	No. of Equipment	Op Time, hr/day	Fuel Economy, gal/hr	Fuel Used, gal/day
Cranes	3	4.0	3.52	42.24
Forklifts	2	6.0	0.96	11.52
Tractors/Loaders/Backhoes	2	8.0	1.9	30.4
				84.16

Structure Construction

Equipment Type	No. of Equipment	Op Time, hr/day	Fuel Economy, gal/hr	Fuel Used, gal/day
Pavers	1	7.0	2.8	19.6
Cement and Mortar Mixers	4	6.0		
Rollers	1	7.0	1.6	11.2
Tractors/Loaders/Backhoes	1	7.0	1.9	13.3
				44.1

Table B-10
Vehicle Fuel Use

Demolition

Vehicle	No. of One-Way, Trips/Day	One-Way Trip Length, miles	Fuel Economy, mpg	Fuel Used, gal/day
Automobile	9	20	10	36
Heavy-duty Truck	17	70	40	60

Fill

Vehicle	No. of One-Way, Trips/Day	One-Way Trip Length, miles	Fuel Economy, mpg	Fuel Used, gal/day
Automobile	1	20	10	4
Heavy-duty Truck	19	40	40	38

Paving

Vehicle	No. of One-Way, Trips/Day	One-Way Trip Length, miles	Fuel Economy, mpg	Fuel Used, gal/day
Automobile	3	20	10	12
Heavy-duty Truck	3	40	40	6

Structure Building

Vehicle	No. of One-Way, Trips/Day	One-Way Trip Length, miles	Fuel Economy, mpg	Fuel Used, gal/day
Automobile	3	20	10	12
Heavy-duty Truck	3	40	40	6

Operational

Vehicle	No. of One-Way, Trips/Day	One-Way Trip Length, miles	Fuel Economy, mpg	Fuel Used, gal/day
Automobile	1	20	10	4
Heavy-duty Truck	1	70	40	4

APPENDIX C

COMMENT LETTERS AND RESPONSE TO COMMENTS

Comment Letter #1
Philip B. Chandler, Dated October 15, 2013

October 15, 2013

Mr. Ed Eckerle
Planning, Rule Development and Area Sources
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and

Mr. James Koizumi
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COMMENTS ON PROPOSED AMENDED RULE 1420.1 AND RELATED CEQA COMPLIANCE

Dear Mr. Koizumi:

In the interests of disclosure, since the Department of Toxic Substances Control's (DTSC) Office of Legal Counsel (OLC) has indicated to me that it does not wholly subscribe to allowing me unabridged First Amendment rights, I hereby disclose that I work in the Brownfields and Environmental Restoration Program (BERP) at DTSC's Chatsworth office. However, this letter to you is written as a member of the concerned public not as a State of California employee.

Please note that I do not necessarily oppose the South Coast Air Management District (SCAQMD) Proposed Amended Rule 1420.1 (PAR). However, it does not solve all of the long-standing issues that SCAQMD has been ducking to the public's costs. This is worrisome. Similarly, some of the environmental elements associated with the draft EIR (dEIR) are quite troublesome---betraying a deliberate neglect of the environmental consequences of taking only a half-step. Neither is acceptable.

1-1

SCAQMD, through its permitting process, is responsible for hazardous wastes depositing and accumulating on the streets, soils, and roofs of the areas surrounding the two secondary lead smelters that it permits. Specifically, the SCAQMD permitted emissions settle out of the air and deposit on surfaces at and around the smelters. This deposited lead has been found by DTSC to have accumulated to hazardous waste levels. In other words, lead that SCAQMD has permitted to go past the site boundary in the ambient air at the low concentration of 1.5 µg/m3 [now 0.15 µg/m3], averaged over 30 consecutive days, has been found on the sidewalks and streets at concentrations in excess of the 1000 mg/kg hazardous waste level. [Title 22 CCR §66261.24] At Quemetco some lead concentrations were reported in DTSC soil sampling as over 5000 mg/kg in 2004. [http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/5665586709/August_23_2004_Approval_Letter_EM.pdf] and at Exide for example as 22, 000 mg/kg in DTSC soil sampling in November 2008 [http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/7895222306/2009%20Emergency%20Workplan%20Conditional%20Approval%20Letter.pdf]. SCAQMD required these facilities to use the U.S. EPA Hotspots Analysis Reporting Program (HARP), which in turn utilizes the U.S. EPA Industrial Source Complex- Short Term (ISCST3) dispersion model, to produce health risk assessments (HRAs).

DTSC does similarly. So, why if this protocol is so accurate in determining risk does lead accumulate on neighboring public and privately owned areas to levels that blow past the U.S.EPA Risk Screening Levels for lead and other constituents and even exceed hazardous waste levels. What is SCAQMD doing wrong?

DTSC has had Quemetco clean up its immediate off-site perimeter and seen that re-contaminate from 2004 to 2008. [http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/8940061807/Total_Metals_Analysis_Report.pdf] DTSC has had Exide do the same cleanup and also seen the cleaned areas recontaminate. Doesn't this tell SCAQMD something is wrong with their application of the HARP?

I challenge SCAQMD to provide an evaluation of the dispersion model that it uses, part of the HARP, and compare that with the actual, measured accumulations of lead in the soils, on the sidewalks, streets, and neighboring roofs around the smelters.

The objectives of PAR 1420.1 are stated as being "…to protect public health by reducing arsenic, benzene,and 1,3-butadiene emissions from large lead-acid battery recycling facilities by adding:

- Point source emission limits for arsenic, benzene and 1,3-butadiene;
- Compliance schedules;
- Arsenic ambient air quality concentration limits;
- Differential pressure requirements;
- Ambient arsenic monitoring;
- Additional periodic source testing; and
- Clarifying that all emissions are to be ducted to control equipment."

These objectives are insufficient and do not address the consequences of SCAQMDs permitted emissions of hazardous waste constituents.

SCAQMD recitation of its "history" for both Quemetco and Exide omitted some important things:

- SCAQMD states that "Quemetco Inc. prepared and submitted an AB 2588 Health Risk Assessment to the SCAQMD in December 2000. After several public meetings and various comments, the SCAQMD staff modified and approved the AB 2588 Health Risk Assessment in December 2005." BETWEEN 2004 and 2005 DTSC found lead around the entire perimeter of Quemetco at levels in excess of risk and even hazardous waste and required Quemetco to clean it up. SCAQMD further states that "The modified AB 2588 Health Risk Assessment reported a non-cancer hazard index of less than 1.0, a maximum individual cancer risk of 21.8 in one million, and a cancer burden of 1.15, which triggered risk reduction requirements under Rule 1402 because the cancer burden exceeded the rule limit of 0.5." and that "The AB 2588 Health Risk Assessment showed that the primary risk driver was arsenic." Pursuant to Rule 1402, Quemetco prepared a Risk Reduction Plan in April 2006, subsequently approved by the SCAQMD and implemented by Quemetco." SCAQMD ignored the reported off-site accumulation of lead. SCAQMD states that "The Risk Reduction Plan proposed installation of a wet electrostatic precipitator (ESP) to control particulates and metals including arsenic, and possible installation of a regenerative thermal oxidizer (RTO) to control organics. Quemetco opted to install both the wet ESP and RTO." It further states that "Based on a permit condition, Quemetco conducted source tests in January 2009, and prepared and submitted another Health Risk Assessment to demonstrate compliance with Rule 1402. The source tests and subsequent Rule 1402 Health Risk Assessment were based on the maximum throughput, as specified in their permit to operate. SCAQMD staff reviewed, modified, and approved as modified, the Quemetco Rule 1402 Health Risk Assessment

in February 2010." SCAQMD ignored the fact that DTSC examined the issue of re-contamination at Quemetco in 2012 and found lead again above health risk and hazardous waste levels.

- "In April 1999, SCAQMD approved Exide's AB 2588 Health Risk Assessment with a cancer risk of 2.3 in a million, and acute hazard index of 0.53, and a chronic hazard index of 0.04. The cancer risks were primarily due to arsenic and cadmium emissions and the non-cancer risks were primarily from lead emissions. In December 2006, SCAQMD requested that Exide submit an updated AB 2588 Health Risk Assessment because of their recently reported chlorinated dioxins and furans emissions, which were not considered in the previous AB 2588 Health Risk Assessment. Exide submitted the updated AB 2588 Health Risk Assessment in July 2007 and it estimated cancer risks to be 10.7 in a million (primarily from arsenic, lead, and polychlorinated dibenzofurans), non-cancer acute hazard index to be 0.1 (primarily from arsenic), and the non-cancer chronic hazard index to be 0.056 (primarily from cadmium, sulfuric acid, and hydrogen sulfide). In July 2010, SCAQMD determined that the source tests used to estimate toxic emissions from the facility and for the HRA were inadequate and required that a new series of source test be conducted. Exide conducted numerous source tests from September 2010 to October 2011 and a health risk assessment was submitted pursuant to the AB 2588 program in February 2012. Due to SCAQMD comments and additional source tests, Exide prepared and submitted a revised health risk assessment in January 2013. SCAQMD staff reviewed, modified, and approved as modified the health risk assessment in March 2013. The approved health risk assessment reported a maximum individual cancer risk of 156 in one million, a non-cancer chronic hazard index of 63,a non-cancer acute hazard index of 3.8, and a cancer burden of 10 triggering risk reduction requirements under Rule 1402 because all heath risk thresholds were exceeded. The maximum individual cancer risk was calculated at a worker receptor that is closer to the emission source than a nearby resident. The health risk assessment showed that the primary risk drivers were arsenic, and to a lesser extent benzene and 1,3-butadiene. Pursuant to Rule 1402, Exide has prepared and submitted a risk reduction plan to the SCAQMD on August 28, 2013. The SCAQMD staff is currently reviewing the risk reduction plan." DTSC sampled soils where lead was elevated and analyzed for and found dioxins and furans had also accumulated. SCAQMD might want to mention this.

- "The second approach is amending Rule1420.1 to specify performance standards in order to reduce health risk. SCAQM staff has chosen to pursue both paths simultaneously. While the Rule 1402 regulatory path is underway,SCAQMD staff will amend Rule 1420.1 to specify technologically-based performance standards to reduce the health risk from arsenic, benzene and 1,2-butediene. SCAQMD staff considers this parallel approach to provide assurances that public health will be protected in the most effective and expeditious manner by: (1)establishing the lowest level of toxic emissions currently being met by similar sources; and (2) meeting these limits in a more expeditious time frame than Rule 1402 provides. The amendments for Rule 1420.1 are being conducted with input from a working group, open to the public, and follows traditional rulemaking procedures with a Public Workshop, environmental and socioeconomic analysis, a set hearing, and Public Hearing. By utilizing the rulemaking process, the SCAQMD staff is able to include additional mechanisms into the proposed amended rule that go beyond Rule 1402 and a risk reduction plan, such as, lower health risk thresholds, ambient monitoring, and other measures to ensure maximum public health protection." The foregoing is simply not enough to address the airborne emission deposition and accumulation of the emitted constituents.

In its selected risk program SCAQMD relies on performance of atmospheric dispersion analyses using screening or representative meteorology on one or multiple facilities using the U.S. Environmental Protection Agency's atmospheric modeling software ISCST3 and BPIP. Either SCAQMD selectively ignores portion of the modeling that would address accumulation and deposition or the software is not sufficiently sophisticated to recognize accumulation of deposited airborne emissions as an issue. Either way, SCAQMD and DTSC have BOTH been aware of the issue at the smelters subject to proposed Rule 1420.1 since the late 1980's when drifted lead dust was observed on the sidewalks outside Exide and cited.

It is requested that SCAQMD revise the Proposed Amended Rule 1420.1 and to not certify a fatally flawed dEIR. The following needs to be undertaken:

- **Add a component to Rule 1420.1 that eliminates deposition/accumulation of ANY facility constituent emissions to levels above the 2012 USEPA Region 9 Regional Screening Levels (RSLs) and any subsequent revisions thereto.**
- **Add a component to Rule 1420.1 that establishes a deposition/accumulation monitoring program for ALL facility constituent emissions within the area emission deposition/accumulation** footprint. "Subdivision (a) – Purpose The purpose of this rule is to also protect public health by reducing arsenic, benzene, and 1,3- butadiene emissions from these facilities" would be added to the purpose."
- **Make specific changes to the environmental analysis in the dEIR, etc. to remove or clarify deceptive elements, and**
- **Re-notice the proposed Rule 1420.1 and dEIR with appropriate changes to reflect a more honest appraisal of the situation.**

1-2

It is requested that SCAQMD modify the proposed monitoring protocols for the secondary lead smelters. SCAQMD needs to face reality and routinely require more than ambient air monitoring. Specifically SCAQMD has itself performed this kind of monitoring in at Riverside Cement [http://www.aqmd.gov/RiversideCement/RiversideCement.html]. I ask that SCAQMD face up to its culpability at the two lead smelters and make airborne deposition/accumulation monitoring part of this Rule. I ask that a deposition/accumulation level be set, that at a minimum, matches the U.S. EPA's Regional Screening Level (RSL) for lead which, as of May 2013, is 400mg/kg for residential non-cancer risk in soil. More appropriately, SCAQMD should use California's Office of Environmental Health hazard Assessment's (OEHHA) residential California Human Health Soil Screening Level (CHSSL) for lead in soil, which as of September 2010, is 80 mg/kg. I further ask that **ALL** other emission constituents, including dioxins and furans, from the two smelters have similar deposition/accumulation levels set for them using the RSLs or CHHSLs. SCAQMD proudly states that "Since 1991, the SCAQMD has collected ambient air samples near facilities that use or process materials containing lead. Therefore I further ask that SCAQMD immediately commence to examine the deposition/accumulation potential around all of its permitted Air Toxic "Hot Spot" facilities---not just for lead but for all the Toxic Air Contaminants (TACs) that are permitted to be emitted. Please do not simply try to punt this issue to DTSC. That agency has failed in its responsibilities to adequately address and follow through in its permits on airborne emission deposition/accumulation monitoring despite its clear authorities to do so under Title 22 CCR §66264.700 et seq. DTSC routinely cites your permits in its permit as solely fulfilling its responsibilities. That is clearly wrong, but this proposed Rule puts SCAQMD up at bat and offers an opportunity for you to force the issue. Some resolution must be made in order to protect human health and the environment.

Thank you for your consideration.

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Response to Comment Letter #1
Philip B. Chandler, Dated October 15, 2013

Comments on the Draft EA and general CEQA comments from this letter are addressed here. Comments on the proposed amended rule are presented in the staff report.

Response to Comment 1-1
The comment states that PAR 1420.1 does not "solve all of the long standing issues." The comment states that "some of the environmental elements associated with the draft EIR (dEIR) are quite troublesome – betraying a deliberate neglect of the environmental consequences of taking only a half-step. However, the commenter does not identify or describe the "long standing issues" or "some of the environmental elements associated with the draft EIR (dEIR) are quite troublesome – betraying a deliberate neglect of the environmental consequences of taking only a half-step."

It is assumed that the "deliberate neglect of the environmental consequences of taking only a half-step" refers to the fact that the Draft Environmental Assessment (EA) only evaluated the existing proposed changes to Rule 1420.1, and did not evaluate the additional items that the commenter would like added to proposed project. It is incorrect to expect that the Draft EA would evaluate environmental impacts from actions that are not included as part of the proposed project. The Draft EA for PAR 1420.1 was appropriately prepared to analyze and disclose any and all potentially adverse environmental impacts from the entire proposed project (PAR 1420.1). The CEQA analysis of PAR 1420.1 was appropriately prepared pursuant to SCAQMD Rule 110 and the CEQA Guidelines. Therefore, SCAQMD staff believes that that all environmental consequences from the proposed project have been addressed.

Response to Comment 1-2
The commenter states that the Draft EIR is fatally flawed and contains deceptive elements, but does not specifically describe the flaws or deceptive elements. A Draft Environmental Assessment (EA) was appropriately prepared to analyze and disclose any and all potentially adverse environmental impacts from PAR 1420.1. The CEQA analysis of PAR 1420.1 was appropriately prepared pursuant to SCAQMD Rule 110 and the CEQA Guidelines. Therefore, the Draft EA is not fatally flawed nor does it contain deceptive elements.

A Draft EA was prepared according to CEQA Guidelines §§15084 through 15088 and §§15140 through 15155, and 15252. The contents of the Draft EA follows CEQA Guidelines, which includes a robust description of the project, location of the project, proposed finding that the project does not have a significant effect on the environment, and includes the initial study that evaluated 17 environmental areas (aesthetics, agricultural resources, air quality and greenhouse gas emissions, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, material resources, noise, population and housing, public services, recreation, solid/hazardous waste, and transportation/traffic) documenting the reasons to support the finding. No mitigation measures were needed since no potentially significant adverse effects were identified.

It appears that the commenter is requesting that health risk impacts from existing lead concentration in soils off-site of large lead-acid battery recycling facilities to be addressed in the Draft EA. The project objectives listed in the Draft EA for PAR 1420.1 are related to reducing arsenic, benzene, and 1,3-butadiene. Existing requirements for lead point sources, ambient air concentration requirements, enclosures, housekeeping, monitoring, recordkeeping, and notifications are retained in Rule 1420.1 and remained unchanged under the PAR 1420.1.

PAR 1420.1 may indirectly reduce lead emissions and correlated lead deposition, because of arsenic emission requirements, but no credit was taken for these benefits. There are no requirements in PAR 1420.1 that would directly or indirectly increase the lead emissions or the lead concentration in soils off-site of large lead-acid battery recycling facilities; therefore, there would be no adverse environmental impacts to soils off-site of large lead-acid battery recycling facilities from implementing PAR 1420.1.

Comment Letter #2
Exide Technologies, Dated October 29, 2013

EXIDE TECHNOLOGIES

Global Leader in Stored Electrical Energy

October 29, 2013

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VIA E-MAIL AND PERSONAL DELIVERY

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Re: Exide's Initial Comments to PAR 1420.1 Rulemaking

Dear Ms. Nakamura and Mr. Eckerle:

Exide Technologies hereby submits these initial comments to the proposed amendments to Rule 1420.1. Exide has been working diligently in recent months to reduce emissions and associated theoretical health risks related to operation of its facility, conducting several weeks of source tests under complete District oversight, and submitting a comprehensive Risk Reduction Plan (RRP) setting forth substantial projects that Exide will undertake in the coming 12-18 months. Exide continues to work with the District to address District concerns regarding source testing and the RRP. Exide understands the need to balance its operations with environmental and health protections, but is concerned that the District's proposed 1420.1 rule amendments establish unreasonable standards not supported by law. The proposed rule amendments do not take into account the fundamentally different methods of operation and production equipment utilized at the Quemetco facility and the Exide facility, essentially imposing a "one size fits all" approach mandating a particular control technology rather than focusing on the aspect that should be the most central – exposure and risk.

In general, the proposed rule amendments take a flawed, technology-based approach with regard to setting emissions limits. In effect, the amendments constitute a "backdoor" requirement that Exide either shut down its blast furnace or install a Wet Electrostatic Precipitator (WESP). Neither option is feasible. Shutting down the blast furnace would have significant adverse effects on Exide's North American battery operations, and Exide has already demonstrated that the WESP is technologically and economically infeasible for its basic production equipment configuration. Thus, under the amended rule, there is likely to be no feasible compliance solution for Exide. Exide opposes the rule as drafted because the District is improperly undertaking to control management of Exide's facility and the design of its pollution control equipment. Exide also believes the rule is not reasonably necessary to achieve the District's regulatory aims, and imposes economic burdens on Exide that are unjustified and unlawful.

Moreover, the technology-based approach results in unreasonable emission levels for organics without appropriately considering the different categories of sources within this

industry. If the concern is public health -- and it should be -- then the more prudent approach would be to create a risk-based rule that allows Exide to invest heavily in the plant by installing its proposed RRP measures (and working with the District on potential additional measures) that are expected to reduce risk to levels well below Rule 1402 standards.

Exide also has significant concerns regarding the ambient arsenic monitoring standards, the curtailment provisions, and the requirements on pressure monitoring. For instance, the proposed production curtailments have no foundation, the requirement for a multi-metals CEMS is vague, and there is no explanation as to why the pressure monitoring metric was selected or why pressure monitoring will be an effective indicator of emission performance. With regard to public notification issues, Exide is concerned that the requirement for third-party audits of "unplanned" events will lead to an endless cycle of investigations that will not provide the public with useful information. The rule should also make clear that public notification is only required for events that actually impact emissions, not routine maintenance events that take less than hour and do not involve the shutdown of any pollution control device.

In conclusion, though Exide believes this is a flawed rule, Exide remains willing to work with the District to pass a rule that protects public health and the environment in a reasonable manner.

The District's Overall Approach to the Rule is Flawed Because Emissions Limits Should Be Risk-Based, Not Technology-Based

A Risk-Based Standard Protects Public Health While Allowing Each Facility An Opportunity to Select the Method of Operation or Technology Required for Compliance

The District has stated that this is a technology-based standard (the District started making this comment in public before ever publicly considering any alternative approaches). Although Exide supports the District's efforts to reduce air emissions, the District's goals should be to reduce risk, rather than to impose technologies. The emissions limits in the proposed rule should be based upon risk goals. Risk goals, by definition, are limits that are necessary to protect public health. In contrast, a technology-based goal looks only to what is achievable through the latest technology, regardless of whether it is necessary to achieve levels consistent with public health protection, or whether the increment of risk reduction beyond what is necessary to protect public health comes at a justifiable cost.

Exide has already taken action to reduce risk under existing Rule 1402. By proposing to amend 1420.1 with technology-based standards, the District is imposing a compliance schedule that is not only more aggressive than 1402, but also largely only applies to Exide. [*See* Staff Report, p. 2-3, stating that the mass emissions rate is based on "emission controls used at the Quemetco facility"; *see also*, Draft Environmental Assessment, p. 2-4 and *passim*, which states that much of the rule impacts only Exide, and references all the projects that Exide (but not Quemetco) will need to complete]. This technology-based approach is unjustified, and the District provides insufficient analysis regarding the necessity for this rule.

To the extent that the District finds Rule 1402 insufficiently stringent, the better approach would be to amend 1402 or amend 1420.1 to set different risk standards applicable to Exide and Quemetco (and any secondary lead smelter in the future). For instance, Exide proposes that the District could cut in half the 1402 Action Risk Level (from 25/1,000,000 to 12.5/1,000,000 on the MICR and similar reductions to the HI and cancer burden) and the time allowed to meet the Action Risk Level in case of an exceedance (from 3 years to 18 months). This would be a dramatic reduction that would benefit public health while allowing the affected facilities a range of operational and control options to satisfy the risk standard. This is preferable to setting emissions limitations that are not related to actual risk.

A risk-based approach is in keeping with the District's prior procedure in setting emissions limits under Rule 1420.1. For example, the current stack emission rate limit was derived and established on the basis of dispersion modeling conducted by the District, which found that the 0.045 lb/hr facility-wide lead emission rate was necessary to achieve compliance with the National Ambient Air Quality (NAAQS) health-protective ambient standard of 0.15 ug/m^3 of lead. Emission levels for the proposed rule should be derived in the same or similar fashion. The District should establish an appropriate and health protective risk level, and then set the emissions standard based on what is necessary to achieve that standard.

The Proposed Rule Cannot Effectively Require a WESP Without Considering Critical Differences in the Two Affected Facilities

Although the proposed rule does not go so far as to explicitly require a particular technology to achieve compliance with the rule, the proposed technology-based changes de facto require implementation of a particular technology – WESP – because the emissions limits proposed by the rule are based upon what is achievable with the WESP at Quemetco. The regulated facilities should retain the ability to select the technologies they will implement in order to achieve compliance with the proposed emission limits. To impose emission standards that are achievable only by a particular technology effectively mandates use of that technology. In fact, EPA rejected WESP as MACT during its recent revision to the National Emission Standards for Hazardous Air Pollutants for this industry. See the preamble to the Proposed Rule for revising the NESHAP for Secondary Lead Smelting at 76 FR 97, May 19, 2011, page 29058. This conclusion by EPA was upheld by the United States Court of Appeals for the District of Columbia Circuit USCA Case #12-1129 on May 28, 2013 – see page 10 of the Decision. *Ass'n of Battery Recyclers, Inc. v. EPA*, 716 F.3d 667, 673-74 (D.C. App. 2013)

The proposed rule adds limitations on organic compounds that are again not based on the emission levels necessary to achieve specific risk outcomes but rather simply on the basis of requiring a "match" to what Quemetco's emissions have reportedly been. This is too simplistically justified and does not adequately consider the different physical setting of the facilities (Quemetco having residences much closer than Exide) and, more importantly, the differences in available space and the underlying production equipment at the two facilities. With careful consideration of these factors, Exide has already proposed significant projects in its RRP that are designed to reduce emissions and concurrent risk (and Exide will work with the District to address perceived deficiencies in the RRP).

In sum, the District cannot and should not set emissions limits via a "technology-based" standard that essentially compels Exide to use a WESP to meet Quemetco's standard when a WESP is not technologically or economically feasible for Exide. [*See* Exide Feasibility Study].

Without a Risk-Based Approach, Exide Has No Reasonable Compliance Alternatives

As currently written, without a risk-based target, the rule does not reasonably allow Exide to implement emissions-reduction alternatives to the emissions limits. With this rule, the District essentially forecloses the possibility that Exide can reach equivalent performance through implementation of its RRP projects. Pursuant to the District's October 24, 2013 letter taking action on Exide's RRP, Exide is analyzing whether alternatives other than those proposed in the RRP (such as a wet scrubber) may allow Exide to comply with the amended rule. However, given uncertainty regarding the District's approval of the recently-completed source tests (which followed AQMD protocols), Exide cannot at this time determine whether economically feasible alternatives exist to comply with the rule. The only options currently available appear to be: (i) install a WESP, which is infeasible, or (ii) shut down the blast furnace to achieve the improperly established organic emission limits, both of which could have a significant and adverse effect on Exide's North American battery operations.

Comments Regarding the Basis for the Rule and Emissions Limits

The Preliminary Staff Report States that the Rule is For Public Health Protection, But the Basis for the Rule is Unclear

The original 1420.1 was a rule intended to achieve the National Ambient Air Quality Standard (NAAQS) for lead of 0.15 ug/m3 on a 90 day average (1420.1 reduced the average to 30 days). In addition to being a NAAQS rule, the District initially asserted that 1420.1 was also a Best Achievable Retrofit Control Technology (BARCT) Rule for lead. However, the District then eliminated the description of 1420.1 as a BARCT rule in later staff comments, apparently no longer considering 1420.1 a BARCT Rule. [November 2010 1420.1 Staff Report]. Because there is no NAAQS for arsenic, 1, 3 butadiene or benzene, these amendments are presumably not a NAAQS requirement. As such, what is the basis for the proposed amendments? Is it BARCT? Best Available Control Technology for Toxics (T-BACT)? An Air Toxics Control Measure? Or something else? This is a fundamental question. Without a basis, Exide cannot properly comment on the rule, and is denied its full due process rights to respond and comment.

The District Must Provide a BARCT Analysis, Considering Facility-Specific Economic Impacts.

Based on its own analysis, Exide believes that, even though not stated in the Preliminary Staff Report, this is a BARCT rule (or a BARCT for toxics/T-BARCT rule). BARCT is defined as follows: "An air emission limitation that applies to existing sources and 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.

The District has not provided any BARCT evaluation. First, the District has not provided an analysis of control technology that it believes can achieve the maximum degree of reduction. The District claims this is a technology-based rule, but provides no analysis concerning feasibility for Exide of the emissions standards or technology that it seeks to impose. Second, the District has no evaluation of control effectiveness specific to Exide (one of only two business currently impacted by this Rule). Third, the District has no analysis concerning cost-effectiveness, which must be conducted in a top-down fashion starting with the most effective control technology and must consider site-specific concerns such as: (i) physical limitations, (ii) operational characteristics of the equipment at Exide, (iii) equipment costs, (iv) installation costs, (v) annual operating costs, and other factors that must all be analyzed to generate an evaluation of cost-effectiveness per ton of pollutants reduced.

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].

If This is a T-BACT Rule, The District Should So State and Perform a T-BACT Analysis

Exide believes this is a BARCT rule as set forth above. However, there is language in the Draft Environmental Assessment suggesting that the rule amendments are intended to "requir[e] health risks to be lowered to levels equivalent to Rule 1401." [Draft Environmental Assessment, 1-1]. Rule 1401 is a New Source Review rule that applies only to "new, relocated, and modified permit units." Rule 1401 does not apply to Exide and any attempt by the District to force Exide to comply (whether directly or indirectly) with Rule 1401 and/or related T-BACT or risk requirements is unjustified and legally improper.

If the District does assert that this is a T-BACT rule, then Exide objects to that classification and demands that the District explain its rationale and perform the necessary analysis to determine T-BACT, which is defined as follows: "The most stringent emissions limitation or control technique which: (i) has been achieved in practice for such permit unit category or class of source; or (ii) any other emissions limitation or control technique, including process and equipment changes of basic and control equipment, found by the Executive Officer to be technologically feasible for such class or category of sources, or for a specific source."

Importantly, under T-BACT, like under BARCT, the District must make a determination by permit unit or source category, and cannot analyze Exide and Quemetco together because the two facilities operate using fundamentally different equipment to process reverberatory furnace slag (blast furnace vs. electric arc furnace). The District must assess whether the rule imposes limits that are technologically feasible for Exide to achieve, taking into account Exide's unique operations and existing control equipment.

If This is an Air Toxics Control Measure (ATCM), The District Should So State and Perform an ATCM Analysis

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.

Section (f)(1) Regarding Point Source Emission Controls is Flawed

The added language in section (f)(1) is vague and can be misinterpreted. Without further detail and analysis it is impossible for Exide to determine or project the potential cost of compliance with this proposed rule and it is equally impossible for the District to conduct a proper economic analysis. In particular, the modified language states that emissions from EACH arsenic point source must be vented to an arsenic emission control device. Verbal statements made by District staff at the October 9, 2013 working group meeting indicated that staff felt that "arsenic control device," while nowhere defined in the proposed rule, should be a device that also controls gaseous forms of arsenic. Such an interpretation makes a great deal of difference and the proposed rule language does not support such. Not all point sources that emit some level of arsenic involve a substantial potential for unfilterable forms of arsenic. That is, for some point sources of arsenic, mechanical filtration of the particulate forms (with baghouses and/or HEPA filters) of arsenic is entirely appropriate and sufficient. Of great note is that on an annual basis, the amount of arsenic emitted from point sources at Quemetco that only perform mechanical filtration is roughly equivalent to the amount coming from the WESP-controlled point source. Is the District now saying with (f)(1) that this situation at Quemetco would not satisfy the new proposed rule? The point is that if (f)(1) is going to be emphasized and interpreted in the fashion indicated verbally by staff on October 9, much more consideration and specificity is needed. There must either be *de minimis* levels or other means to distinguish amongst arsenic-emitting point sources before vaguely setting up an interpretation that any "arsenic emission control device" must control for gaseous forms of arsenic.

While maintaining its objections to the "technology-based" rulemaking approach in general, Exide adds that if that basis is used to settle on a 10 lb/year arsenic emission limit facility-wide, the facilities should be free to select whatever mix of control technologies each feels is appropriate to meet that limit. This added section (f)(1) language, as interpreted and described by staff, mandates the use of controls targeting potentially gaseous forms of arsenic where such controls may well not be necessary to achieve the emission limit. In this way the District is departing from its early statements in this proceeding that it would not be mandating technology per se, but rather just mandating emission rates consistent with the performance of what it believes to be the

best technology. If (f)(1) is interpreted as now being described by staff, the District would, in fact, be mandating either WESP or wet scrubbing on a wide range of stacks.

Section (f)(2) Emissions Limits Should Be Determined By Category Of Source.

The rule proposes one standard of emissions limits for all secondary lead smelters governed by the rule, regardless of the processes by which those smelters operate. The District states that the emissions limits in section (f)(2) of the rule are "technology based" and based on the lowest achieved in practice annual emissions from Quemetco (Preliminary Staff Report 2-3).

The establishment of organic emission limits for all secondary lead smelters on the basis of performance of a single facility does not appropriately consider the subcategories of sources in the industry. Furthermore, both BACT and BARCT require that the District set emissions limits based on each source or category of source. The District must consider "impacts by each class or category of source." H&S Code § 40406.

It is inappropriate to characterize all smelters as one source or category of source. In fact, as noted in the Staff Report comments, smelting of the slag produced by a reverberatory furnace (common to both facilities) can be achieved by either blast furnace (Exide) or electric arc furnace (Quemetco). These two processes are entirely different and distinct from each other, rendering it inappropriate to establish one set of emissions standards that would apply to both processes.

In development of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for this industry, EPA applied the same emission criteria for lead specifically, and as a surrogate for other toxic metals like arsenic, to all facilities regardless of furnace technology. But, importantly, EPA imposed different emission limits on organic emissions on a subcategory basis in accordance with furnace type in recognition that they have inherently different emission characteristics. EPA at the federal level has no expectation that a blast furnace should have organic emissions as low as an electric arc. And, EPA consciously chose, therefore, not to mandate as MACT for existing OR NEW sources that the furnace processing reverb slag must be an electric arc instead of a blast furnace. That is, not only does EPA NOT mandate that existing units be replaced with a different type, the EPA does not even say NEW units have to be of a particular type. See Table 2 to 40 CFR 63 Subpart X in which different limits for organic HAPs are assigned to different furnace types with the highest limits being granted to blast furnaces, recognizing their inherent nature to generate more organic emissions. See also Docket item EPA-HQ-OAR-2011-0344-0042 which presents the approach by which EPA determined and assigned these organic limits to different "furnace groups," or categories.

Given the vast differences between the method by which smelting of reverberatory furnace slag occurs in a blast furnace (Exide) as compared to an electric arc furnace (Quemetco), the District should promulgate emissions standards based on the type of emissions source. The District's proposed rule is unprecedented and not legally justified in that, by imposing Quemetco's performance standard on Exide, the District is effectively requiring Exide to stop operating its blast furnace.

The District Should Take Into Account Emissions Variability

The District does not account for the range of emissions that have been measured over time from the same stacks with their current control technology in place. For a true "technology-based" standard, the emission limits should be based upon the statistical performance across a number of testing events to establish upper confidence limits, properly accounting for process variability as is done in the development of federal MACT standards. To simply take the latest results and add a 25% buffer does sufficiently compensate for variability during source testing. To the extent the District will adopt technology-based emissions limits in subsection (f)(2), the limits should be determined based on the statistical performance across a number of testing events to establish upper confidence limits, properly accounting for process variability as is done in the development of MACT standards. Presently, the emissions limits proposed by the rule were derived from a multiple of the tested performance in a single point in time at the Quemetco facility. This approach is far too simplistic and lacks sufficient rigor in light of the progress that has been made in this area of calculation in the federal MACT arena.

The Proposed Rule Goes Beyond What Is Necessary To Protect Public Health.

The proposed rule would set more stringent emissions limits than are necessary to protect public health. Although the District has authority to set more stringent limits, it must do so subject to a finding of necessity under Health & Safety Code § 40727. The District's necessity finding is not supported by the evidence.

First, there is no evidence to support the District's conclusion that the amendments to the rule are necessary because of prior elevated arsenic emissions at Exide. [Preliminary Staff Report, ES-1]. Following existing law, Exide has taken significant actions in the past few months to reduce emissions and associated risks. The District can seek further improvement via existing AQMD Rules -- indeed, the District has already cited Rule 1402 in demanding that Exide submit a revised Risk Reduction Plan. This demonstrates that the existing rules work and there is no necessity for rule amendments.[1]

Second, although the proposed rule purports to "further protect" public health, it does so without any analysis of the incremental cost of going to that "further" level. As stated in these Comments, the District must analyze Exide's compliance cost.

The District Should Consider Cost Of Compliance When Implementing Emissions Standards Greater Than What Is Necessary To Protect Human Health.

The stated purpose of the proposed rule is to "further protect[] public health by adding to the scope of the rule the reduction of the exposure and emissions of toxic air contaminants... from large lead-acid battery recycling facilities. (Staff Report, p. 2-1.) The emissions limits in the proposed rule seek to achieve emissions standards below those levels that are necessary to protect human health. Exide does not disagree with the District's goal to reduce emissions to protect public health. However, if the District

[1] For the reasons set forth herein, the amended rule is also insufficiently clear as many provisions are vague, and the rule may be in conflict with Federal and State law. [Cal. H&S Code 40727].

decides to implement more protective standards it should consider whether the benefit to public health from a marginal reduction to risk is justified by the extraordinary cost of compliance. The District has performed no economic analysis whatsoever. Whether as a BARCT, T-BACT or other rule, the District should consider Exide's cost of compliance.

First, because the emissions limits in the rule are based on Quemetco's very different technology, the District should consider the economic impact of forcing Exide to abandon its blast furnace in order to comply. The loss of the blast furnace at Vernon would force Exide to choose between two alternatives, both of which are likely to be economically unsustainable. Exide would either have to replace the blast furnace with an electric arc furnace (at high capital cost) to process the slag generated by its Vernon reverberatory furnace or containerize and ship that slag to a different smelter out of state for processing (significantly increasing material handling costs and the generation of fugitive dust from multiple handling and transfer steps). Without the existing blast furnace, the entire Vernon plant may become unsustainable economically and the facility may be forced to shut down, which in turn would have significant adverse effects on Exide's North American battery operations. The District must consider this economic impact.

Second, because the District's rule is based on emissions achieved by Quemetco's control technology, the District must consider the technical and economic feasibility of installing the same technology (WESP) at Exide. Exide has already established that a WESP is technically and economically infeasible. [*See* Exide Feasibility Study]. As stated in its Risk Reduction Plan, the WESP has a very high cost and Exide has physical space limitations rendering WESP installation impossible. Even if a WESP could be installed at Exide, based on EPA cost estimates and information presented in the Feasibility Study, a WESP would cost at least $30 million and provide only a marginal risk reduction benefit over the much more cost-effective projects set forth in Exide's Risk Reduction Plan.

In short, the District does not consider the "availability and cost-effectiveness of alternatives" to the 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].

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]. Exide requests that the District conduct this analysis.

Compliance Schedule

Subsection (d)(5)(A) would require regulated facilities to submit a Compliance Schedule within 30 days of the rule adoption date describing how the final performance standards for arsenic, benzene, and 1,3-butadiene will be achieved by January 1, 2015. Subsection (d) then continues by setting forth the specific information that must be provided in the Compliance Schedule. Given the amount of information that must be included, 30 days is too short of a timeframe to properly analyze what will be required to comply with the rule. The District should allow regulated facilities 90 days to prepare and submit the Compliance Schedule.

Likewise, the permit application timing in subsection (d)(5)(B) should be extended to 120 days after adoption.

Ambient Standard & Monitoring Requirements

First, while Exide supports the District's 10.0 ng/m3 ambient arsenic limit and believes it can comply, Exide is concerned that the standard will take effect on January 1, 2014. In order to be consistent with the effective date of the mass emission rate limits, Exide proposes that the arsenic ambient standard take effect on January 1, 2015. As the District is aware and as set forth in the Risk Reduction Plan, Exide is undertaking multiple capital projects in 2014 that are designed to have emission-reduction impacts. Exide should be allowed to complete these projects before the new arsenic ambient standard takes effect. Recall that the District adopted the 1420.1 lead ambient standard in late 2010 and it took effect in January 2012, affording the affected facilities just over 1 year to take necessary steps to comply. Similar timing should be adopted here.

Second, subsection (j)(4) should specify the sample analysis method to be used for arsenic. Without such a method, this part of the rule will be subject to continuous dispute and uncertainty.

Third, monitoring should occur in areas where there are actual population exposure scenarios, meeting all EPA monitor siting criteria and meeting the definition of "ambient air." Conducting monitoring within the perimeter of the facility does not meet the definition of ambient air and gives an inaccurate portrayal of potential exposure to the community.

Finally, the District has added (d)(7) to require multi-metals CEMS if measured ambient arsenic exceeded 10 ng/m^3 on a single day. This provision is ambiguous. Does the District mean that this new (d)(7) provision would require the installation of such a CEMS on EVERY arsenic point source at the facility, just the largest arsenic point source, or some other subset? These units are exceptionally expensive and this vaguely stated

requirement has not been sufficiently developed. To not provide such detail could lead to the interpretation that installation of these uncertified units on every point source is triggered. At BOTH subject facilities this would involve a large number of stacks. The District must explain the meaning and rationale for this provision.

Curtailment

In October 2013, the District issued revised amendments to the rule that included multiple pages regarding production curtailment in the event of a mass emissions or ambient air exceedance for lead or arsenic. Exide has several comments to section (p) of the rule:

- Late Amendments Require Explanation: The curtailment provisions were very recently added on October 15, even after the District issued the initial rule amendments. There is nothing regarding curtailment (or any of the other late changes) in the staff report. The affected facilities deserve a fair and reasonable opportunity to understand the District's basis for these late additions and comment as appropriate.

- Rule Needs a Waiver Clause: As the Hearing Board noted in the 2008 proceedings regarding Exide, depending on the circumstances, production curtailment may not solve the issue that lead to the emissions increase. [Case 3151-18, Findings and Decision pp. 15-17] An exceedance of either the ambient or mass emission rate standard may also be related to an outside cause not within one of the affected facilities' reasonable control. As such, consistent with Exide's Compliance Plan and as a matter of fairness and due process, the rule should contain a waiver provision such as: "An affected facility may avoid the mandatory curtailments set forth in section (p) by seeking a waiver from the Executive Officer. Such request for waiver must be supported by substantial and credible evidence that the facility is not the cause of the exceedance or that the facility has definitely identified and corrected the cause of the exceedance. The foregoing shall not prevent the affected facility from seeking relief from these requirements upon application to the Hearing Board."

- Lead Ambient Standard Curtailment: The original Rule 1420.1 established the need for a Compliance Plan in the event that a facility exceeded an ambient air concentration of 0.12 ug/m3 over a 30-day average. Exide submitted a Compliance Plan under the rule and the District approved it. The Compliance Plan includes specific curtailment provisions. The rule amendments effectively trump Exide's Compliance Plan by imposing curtailment requirements beyond those in the negotiated Compliance Plan. Specifically, Exide objects to extending the curtailment period for a lead exceedance in section (p)(1)(A) to 30 rolling calendar days below 0.150 ug/m3. The existing 15 day requirement in the Compliance Plan has been sufficient to ensure prompt compliance with the NAAQS and 1420.1.

- Arsenic Ambient Curtailment: As set forth in Section F above, Exide requests that the proposed arsenic ambient standard take effect on January 1, 2015, meaning the associated curtailment provisions should take effect at the same time. In addition, to be consistent with language for lead in Exide's

Compliance Plan, the curtailment period should last until the affected facility demonstrates ambient results below the arsenic standard for 15 consecutive days.

- Arsenic and Lead Mass Emission Rate Curtailment: On what basis did the District determine the curtailment levels proposed for an exceedance of the mass emission rates for arsenic or lead? There is nothing in the staff report to explain this significant new provision. The affected facilities cannot fairly comment on this change. In addition, the fact that curtailment must remain in place until the next round of source testing is onerous, as source tests are difficult to schedule, plan and get approved (and they require close cooperation with the District), meaning curtailments could last almost indefinitely, which is prejudicial.

Compliance Plan Requirement

The original 1420.1 required the affected facilities to submit one Compliance Plan if they reached a 0.120 ug/m3 30-day average "trigger." This requirement was reasonable and helped assure that the affected facilities had proper plans in place to avoid exceedances of the NAAQS and 1420.1. The District now proposes an amendment that a new Compliance Plan must be submitted each time there is an exceedance of the 0.120 "trigger" for lead or the new arsenic standard. A Compliance Plan is intended to be an overall document that guides facility compliance efforts. Requiring a new Plan every time the facility goes over 0.120 ug/m3 (which importantly is NOT a 1420.1 or NAAQS violation) establishes a regime whereby the affected facilities may have to submit a plethora of "Compliance Plans" even though they did not violate any emissions standard. As written, the rule may even require a Compliance Plan to be submitted every single day (*i.e.*, "each time") an affected facility is above 0.120 on a 30-day average (or over the arsenic ambient standard). This is an onerous requirement both for the facilities and for the District, which will have multiple Plans to review. There will be no certainty over what "Plan" must be followed. Rather than requiring a new Compliance Plan "each time" there is an exceedance, a reasonable compromise would be to require that the affected facility submit one report within 45 days as to the cause and corrective actions taken (or that will be taken) to address any actual exceedance of the lead or arsenic ambient standard.

Pressure Monitoring

Subsection (f)(3) requires pressure monitoring of the furnace relative to the outside atmosphere. There is no discussion, however, justifying the selection of this metric over other mechanisms nor is there any explanation why this metric is an indicator of emission performance. The first paragraph of (f)(3) states that the performance standard should be that "the monitoring device shall be maintained at equal or greater absolute quantity of measured negative static pressure than recorded in the most recent District-approved source test used for compliance with this rule. First, such a statement does not consider the possibility that emissions during testing might meet the required (f)(2) emission standards with the furnace pressure at a slightly positive non-negative pressure. Second, the proposed rule as worded does not specify either the averaging period for the metric or for use in considering the parameter values during the testing periods. It is not appropriate to mandate that the furnace pressure always be more negative in every future 15 minute period than the most negative 15-minute value

observed during all testing. It is more appropriate to limit future values to remain below the average value observed across the testing periods.

Third, this approach, with correction, might be appropriate; however, the further specification in (f)(3)(B) is contradictory to the basic concept of comparison to testing data and is arbitrary in its selection. No basis or discussion is given justifying the selection of the (f)(3)(B) 0.02 inches water negative pressure value nor the 15-minute averaging period. It has not been determined through testing that any particular value or any level of pressure below 0 is required to achieve compliance with the underlying emissions standards proposed by the rule. Fourth, specification of a particular negative pressure value for reverberatory furnaces may well be counter-productive in terms of metallurgical performance, draft management, and management of generation of other pollutants such as NOx. Reverberatory furnaces are targeted to typically operate at a nominal pressure of nearly neutral for all metallurgical purposes. Thus, it is not desirable to draw in excess air into the furnace.

As to static pressure, it is premature and presumptive to state that measuring static pressure within any smelting furnace is either a reliable parameter or a feasible approach. The District should provide an explanation of this requirement.

Source Testing

Subsection (k)(7) would require source testing at 80% of permitted capacity. It would be more representative of actual conditions and thus, better predictive of actual risk to require that source testing occur at at least 80% of the mean operating rate, as measured (demonstrated) over the highest 90-day period during the previous 365 days.

Notification Requirements.

Subsection (n)(2) would require notification to "the public" within one hour of any unplanned shutdown of any emission control device subject to the rule. The rule should be revised as follows. First, notification distribution should be limited to those companies and individuals within an impacted area (i.e. the maximum exposed resident or within 500 yards). Based on the staff report for the original 1420.1 in 2010, it was clear that the intent was to provide notice to those members of the public in "close proximity" to the facilities in order that they may "plan their lifestyle to minimize . . . exposure." [2010 Staff Report, 2-14 and A-33]. As explicitly stated by AQMD in 2010, this rule was never intended to be as broad as the District may now be interpreting it and as drafted the notification rule is vague as to who must be notified. Second, the rule should specify that notification to the District should be made through a single point of contact. Third, the rule should make clear that public notice is not required for events lasting less than one hour and those that do not result in the shutdown of a lead control device or result in emissions. [2010 Staff Report, 2-14 and A-33].

Subsection (n)(2)(B) should be eliminated. This subsection would require audits, inspections, and investigations by independent third party. This rule would open companies to an endless cycle of independent third parties without any qualifying or limiting parameters. As drafted, the rule does not include any criteria, or any required expertise that the third party must possess in order to conduct the investigation. It does not state who will pay for the investigation. The rule does not require concurrence from the facility being investigated and does not include any performance standard for the

third party report. In addition, as this is not a Department of Toxic Substances Control (DTSC) rule, there is no explanation for why the DTSC should obtain a copy of the report. Finally, the requirement that the supposedly "independent" third party must be approved by the Executive Officer casts doubt on the meaning of the term "independent." There are no criteria established for how the Executive Officer will make his or her determination on "independence" or how the Executive Officer will conduct his or her review of the report. The affected facility is also prejudiced with no specifically identified right to challenge or appeal the designation of the "independent" third party, that party's report or any District decision that may result.

Penalties

The District has added a provision that failing to comply with any provision of the rule "will result" in a violation for each day of non-compliance. As worded, the District may be seeking to grant itself powers beyond what the legislature has approved. Because the District already has certain enforcement powers under the Health & Safety Code, the basis and necessity for this provision is unclear and the provision may operate in an unfair or prejudicial manner. First, this provision restricts any reasonable discretion on the part of the agency, for instance in situations where a third party caused any alleged violation. Second, the affected facility should not be subject to an automatic daily penalty in certain situations, such as where there is a need for source testing to confirm compliance with the mass emission rate.

Pace of Rulemaking

Exide is concerned not just with the substance of the rule, but also the extraordinary pace of rule development and anticipated passage. The District released a first draft of the rule in late September 2013, released a revised version in October (with no revised staff report), released a massive CEQA document in October, has not prepared any other needed documents (such as the socioeconomic analysis), and yet still proposes an adoption date of December 6, 2013. This is a highly complicated rule that substantially impacts Exide. The comment periods and the proposed adoption date (and the sometimes almost immediate effective date of the rule) is premature and should be extended at least 12 months. It is inappropriate and legally prejudicial (and a denial of due process) to rush a rule of this magnitude, especially considering the following:

The District has released two different versions of the rule (the second released on October 15) but did not issue a new staff report or extend the comment period. Many of the revisions in the second iteration were very significant (such as multiple pages on curtailment). Exide deserves a reasonable, due process, opportunity to comment on the rule and any subsequent staff reports, and expects reasonable future opportunities to comment.

The District has yet to release any socioeconomic impact analysis. This will likely be a significant document that will require public comment.

The District released a CEQA "Draft Environmental Assessment" on October 9, 2013, but nothing about the document was stated publically until October 23, 2013. This document will likely result in significant public comment. Upon initial review, Exide is concerned that the District's CEQA analysis fails to adequately account for various environmental impacts that may result as the result of rule passage. Given the timing,

2-1

there is no reasonable opportunity to review and comment on the CEQA analysis and then have the District make any required changes before rule adoption.

2-1 Cont

The speed of this rule allows for insufficient public comment and review. There is simply insufficient time to provide for meaningful discussion, especially if there are material revisions to the rule. [H&S Code § 40726]

Some of the more problematic areas of the "potentially" proposed rule that we are forced to comment against are available in no more detail than as entries in PowerPoint slides from working group meetings stating aspects that the District will be "adding" to the proposed rule, presumably in early November at the time of actual proposal. To have to comment only against ideas like this having no specificity of rule language is inappropriate. These issues are highly detailed and meaningful comments can only be generated in light of actual detailed proposed rule language and a corresponding staff report.

The District did not publish a notice of potential changes to Rule 1420.1 as required by H&S Code 40923. Therefore, to pass the rule amendments in such an expedited fashion, the District must either explain the necessity and rationale for doing so, or take a step back and develop an approach that allows for due process and an appropriate opportunity to be heard.

Regulatory Taking

Because of the high costs of complying with the rule as it is currently formulated, the enactment of the rule may result in a shut down of Exide's operations at Vernon. The Vernon facility has operated as a battery recycling facility since the 1920s, and Exide has no other use for the property within its existing business operations. The plant is of considerable economic importance to Exide's overall U.S. operations. In recent years, Exide has spent millions of dollars in pollution control upgrades requested or required by AQMD, with the expectation that these expenditures would allow the facility to continue operations into the future. The proposed rule is not reasonably necessary to address AQMD's stated concerns about health, particularly in light of other available risk reduction measures that Exide has offered to implement at a far less substantial cost. The rule is likely to cause Exide's business operations at the facility to become economically infeasible, and prevent Exide from obtaining a reasonable return on its investment in the property, and on the recent investments in air quality improvements that Exide has made. Under these circumstances, the rule as applied to Exide may constitute an unlawful regulatory taking of private property.

* * * *

Exide appreciates the District's consideration of these comments and reserves the right to provide further comment to this rule as appropriate.

Response to Comment Letter #2
Exide Technologies, Dated October 29, 2013

Comments on the Draft EA and general CEQA comments from this letter are addressed here. Comments on the proposed amended rule are presented in the staff report.

Response to Comment 2-1

The commenter claims that although the Draft EA was released on October 9, 2013, nothing about the document was stated publically until October 23, 2013. A Notice of Completion was published in the Los Angeles Times on October 10, 2013, the start of the public comment period on the Draft EA and the complete document was available online the same day at http://www.aqmd.gov/ceqa/aqmd.html. An electronic version of the notice of completion was sent by email to Exide representatives: Mr. Ed Mopas, Mr. John Hogarth and Ms. Vanessa Colman on October 9, 2013.

The commenter states it is concerned that the District's CEQA analysis fails to adequately account for various environmental impacts that may result as the result of rule passage in the Draft EA. They state that a reasonable opportunity to review and comment on the CEQA analysis and then have the District make any required changes before rule adoption is not provided.

The commenter does not state what environmental effects are not adequately accounted for in the Draft EA. A Draft EA was prepared according to CEQA Guidelines §§15084 through 15088, §§15140 through 15155, and §15252. The contents of the Draft EA follows CEQA Guidelines and includes a robust description of the project, location of the project, proposed finding that the project does not have a significant effect on the environment, and includes the initial study that evaluated 17 environmental areas (aesthetics, agricultural resources, air quality and greenhouse gas emissions, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, material resources, noise, population and housing, public services, recreation, solid/hazardous waste, and transportation/traffic) documenting the reasons to support the finding. No mitigation measures were needed or project alternatives required since no significant adverse effects were identified.

The 30-day public comment period on the Draft Environmental Assessment for PAR 1420.1 ended on November 8, 2013. Thus, the commenter fails to support the claim that there has been insufficient opportunity to comment.

Comment Letter #3
Sheppard Mullin Richter & Hampton, LLP, Dated November 7, 2013

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File Number: 18NJ-179728

November 7, 2013

VIA E-MAIL AND FACSIMILE

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Re: Comments To Draft Environmental Assessment For Proposed Amended Rule 1420.1

Dear Mr. Koizumi:

This firm represents Exide Technologies, Inc. ("Exide"). We submit these comments to the SCAQMD's ("District") Draft Environmental Assessment ("EA") prepared in support of Proposed Amended Rule 1420.1 ("Project" or "Proposed Rule"). As stated in Exide's letter of October 29, 2013 to the District, the Proposed Rule is not necessary to achieve the District's regulatory aims and imposes discriminatory economic burdens on Exide that are unjustified, unlawful and which threaten the viability of Exide's continuing operations in Vernon. 3-1

In addition to the concerns raised in Exide's prior letter, the Proposed Rule would cause significant direct and indirect environmental impacts. The EA erroneously concludes otherwise by failing to comply with the procedural and substantive mandates of California's Environmental Quality Act ("CEQA"). Specifically, the District has failed to proceed in the manner required by law because the EA contains an incomplete and misleading project description, uses an environmental baseline that admittedly does not accurately reflect existing conditions, fails to analyze potential indirect economic impacts resulting from either a reduction in Exide's operations or closure of the Vernon facility, fails to analyze land use and planning impacts, and fails to analyze any project alternatives that could avoid or substantially lessen the Project's significant impacts. Additionally, the EA's findings that the Project will have less than significant aesthetics, air quality, energy, seismic and noise impacts are unsupported by substantial evidence. Finally, the EA demonstrates that the District has failed to comply with mandatory procedural requirements to consult with other potentially interested public agencies regarding the Project. 3-2

Exide reiterates its request that the District withdraw the Proposed Rule in favor of feasible and effective risk-based alternatives. At a minimum, however, for the reasons set forth herein, the District must conduct extensive additional environmental review of the Proposed Rule in compliance with CEQA's procedural and substantive mandates that fully discloses the 3-3

Project's potential significant environmental impacts and considers a reasonable range of project alternatives that avoids or minimizes those impacts. The District's CEQA analysis is legally and factually deficient, necessitating material revision to properly account for the environmental impacts associated with the amended rule. As such, Exide respectfully requests that the District delay the rulemaking and review the environmental impacts in a reasonable manner, considering appropriate alternatives to the current approach.

3-3 Cont

I. CEQA'S LEGAL STANDARDS

"Certified regulatory programs are subject to CEQA's broad policy goals and substantive standards." (*Poet, LLC v. California Air Resources Board* (2013) 218 Cal. App. 4th 681, 714.) The Legislature's declaration of the policy underlying CEQA is contained in Public Resources Code section 21002, which provides:

> The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

This declaration of policy is supplemented by the CEQA Guidelines, which identify the basic purposes of CEQA: (1) to inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities; (2) identify ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes feasible; (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved. (CEQA Guidelines, § 15002, subd. (a).)

3-4

To be consistent with CEQA's policies, "an adequate EIR [or equivalent document] must be prepared with a sufficient degree of analysis to provide decision makers with the information which enables them to make a decision which intelligently takes account of environmental consequences. It must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the project." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 712.) The absence of relevant information "is prejudicial if the failure to include relevant information precludes informed decision making and informed public participation." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal. App. 4th 713, 722.)

The EA is subject to judicial review for abuse of discretion. (*Poet, supra*, 218 Cal. App. 4th at 710, citing Pub. Res. Code §21168.5) Abuse of discretion is established if: [1] the agency has not proceeded in the manner required by law or; [2] if the determination or decision is not supported by substantial evidence. (*Ibid.*) Courts conduct an independent review to determine whether the public agency proceeded in the manner required by law. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412, 426.) "Full compliance with the letter of CEQA is essential to maintenance of its important public purpose." (*Ultramar, Inc. v. South Coast Air Quality Management District* (1993) 17 Cal. App. 4th 689, 702, citing *Environmental Protection Information Center v. Johnson* (1985) 170 Cal. App. 3d. 604, 623.)

3-4 Cont

II. THE DISTRICT FAILED TO COMPLY WITH CEQA'S AND THE DISTRICT'S MANDATORY PROCEDURAL REQUIREMENT TO CONSULT WITH OTHER AGENCIES

The EA states that the Project does not require the approval of any other agencies (EA, p. 2-1 ["Other Public Agencies Whose Approval Is Required: Not applicable."]). Consistent with that view, the EA makes no mention of any meaningful consultation with other agencies regarding the Project and its potential impacts. This omission is fatal because the EA's environmental analysis assumes that Exide will install a wet ESP ("WESP") at the location of an existing storm water retention pond, which in turn will be replaced by Exide's installation of storm water storage tanks. (EA, p. 2-4.) The Project as analyzed in the EA would therefore require submittal of applications to California's Department of Toxic Substances Control ("DTSC") in order to obtain an approved closure plan. Exide would also be required to obtain permits from the DTSC to install the replacement storm water storage tanks as they would store hazardous waste. (Technical Letter from ENVIRON International Corporation, dated November 7, 2013, attached as Exhibit A, p. 2; Technical Letter from Advanced GeoServices, dated November 7, 2013, attached as Exhibit B, pp. 2–3.) The EA, however, contains only one reference to the District's consultation with any public agency, a "personal communication" with the DTSC on the limited issue of soil contamination under the existing storm water retention pond at Exide's facility. (EA, fn 1 and fn 2.)[1]

3-5

The District's failure to meaningfully consult with the DTSC and other potentially interested public agencies violates CEQA's mandatory procedural requirements. (Pub. Res. Code § 21080.5(d)(2)(C).) The District's Rule 110, subd. (a) similarly provides that the "District shall consult with state and local governmental agencies having jurisdiction by law with respect to the subject matter of a proposed rule or regulation . . . ." California courts have made clear that the District's failure to follow such mandatory CEQA procedures is presumptively prejudicial and will require its approval of the Proposed Rule to be set aside. (*Sierra Club v. State Board of Forestry*, 7 Cal. 4th 1215, 1236 (1994); *Schoen v. California Department of Forestry & Fire Protection*, (1997) 58 Cal. App. 4th 556, 565.)

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[1] In addition to permits from the DTSC, a project of this scope would likely require permits from other government entities such as the City of Vernon. The District does not take this into account.

III. THE EA'S FAILURE TO ANALYZE VARIOUS POTENTIAL ENVIRONMENTAL IMPACTS CONSTITUTES A FAILURE TO PROCEED IN THE MANNER REQUIRED BY LAW

"CEQA places the burden of environmental investigation on government rather than the public." (*Sundstrom v. County of Mendocino* (1988) 202 Cal. App. 3d. 296, 311.) "The agency should not be allowed to hide behind its own failure to gather relevant data." (*Ibid*.) When evaluating an agency's omission or failure to consider a potential impact, the substantial evidence standard of review does not apply. Instead, "the relevant question is whether the lead agency failed to proceed in the manner required by law." (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184, 1208.) As explained next, the EA is deficient as a matter of law because it contains an incomplete and misleading project description, uses an environmental baseline that admittedly does not accurately reflect existing conditions, and fails to analyze the Project's potential indirect impacts, land use impacts or any project alternatives that could avoid or minimize the Project's significant impacts. 3-6

A. The EA's Project Description Is Incomplete And Misleading

The EA claims that the summary of the Proposed Rule together with a copy it attached as Appendix A constitute a "robust project description." (EA, p. 1-7.) Appendix A, however, consists of the version of the Proposed Rule dated September 20, 2013, which was subsequently superseded and significantly modified by the version dated October 15, 2013. Accordingly, the project description is incomplete, misleading and inaccurate. The project description's incorporation and reliance upon the outdated Proposed Rule has thwarted CEQA's policies of informed decision making and public participation, as well as the purpose of CEQA's 30-day public review period for draft EA's. (Pub. Res. Code § 21091, subd. (a); *Ultramar, supra*, 17 Cal. App.4th at 700.) The District must therefore revise the EA to incorporate and analyze the current version of the Proposed Rule, and then recirculate the EA for public review. 3-7

Additionally, the EA's project description merely summarizes the textual changes in the Proposed Rule without describing the physical changes to Exide's facility that would be required. (EA, pp. 1-7–1-10.) The project description thus fails to disclose fundamental and legally required information regarding the nature, scope and location of the expected physical changes to the environment resulting from the Project. (CEQA Guidelines, § 15124.)

The EA later explains that there are a variety of different engineering modifications and use of control equipment "scenarios" that Exide could use to achieve the emission limits of the Proposed Rule. The EA, however, analyzes only one such scenario, involving: (1) the installation of a new RTO; (2) replacement and operation of a scrubber or installation and operation of a new WESP; (3) the installation and operation of related support equipment; and (4) the installation and operation of new storm water storage tanks. (EA, p. 2-4). The EA thus acknowledges that the Proposed Rule may require the implementation of any number of other control equipment scenarios at Exide's facility that are neither described nor analyzed in the EA. The project description is therefore amorphous, confusing and unstable. "To fulfill its role of ensuring the lead agency and the public have enough information to ascertain the project's environmentally significant effects, assess ways of mitigating them, and consider project 3-8

alternatives, an EIR must provide '[a]n accurate, stable and finite project description.'" (*Sierra Club v. City of Orange* (2008) 163 Cal. App. 4th 523, 533, *citing Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal. App.4th 1437, 1448.)

Even as to the single scenario of modifications to Exide's facility that the EA purportedly analyzed, the EA fails as an informational document because the project description omits discussion of each component of the anticipated physical changes to Exide's facility. For example, as noted above, the EA's environmental analysis is premised on the assumption that Exide would install a WESP at the location of an existing storm water retention pond, which in turn would be replaced with storm water storage tanks. (EA, p. 2-4.) The removal of the storm water pond and replacement with storm water tanks are therefore integral components of the proposed Project as analyzed in the EA. Notably, however, they are not mentioned, much less described in the project description. "A project description that omits integral components of the project may result in an EIR that fails to disclose the actual impacts of the project." (*Dry Creek Citizens*, supra, 70 Cal. App.4th 26 citing *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal. App.3d 818, 819 [EIR for sand and gravel mining operation inadequate because the project description omitted mention of the construction of water delivery facilities that were an integral part of the project.]; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal. App. 4th 713, 721-722 [project description for a housing development that did not include the expansion of a public wastewater treatment plant was inadequate because the housing development could not proceed without the plant expansion.].)

3-8 Cont

The project description's omission of the Project's physical impacts on Exide's facility violates CEQA's minimum requirements. Specifically, project descriptions must include a detailed map with the precise location and boundaries of the proposed project (CEQA Guidelines, § 15124, subd. (a)), as well as "a general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities." (CEQA Guidelines, § 15124, subd. (c.)) The EA's project description provides no information regarding the number, size, dimensions, capacity or location(s) for the replacement storm water tanks or their supporting equipment and infrastructure. Nor does it provide any information regarding the technical, economic and environmental characteristics of these and other integral components of the Project analyzed in the EA. Finally, the project description fails to satisfy CEQA's requirement to list any permits or other approvals required to implement the project, and list any consultation requirements required by federal, state or local laws regulations or policies. (CEQA Guidelines, § 15124, subd. (d).) As stated above, the installation of a WESP at the location of the existing storm water retention pond would require the DTSC's approval of a closure plan. The DTSC must also provide approvals for the replacement storage tanks as they could store hazardous waste. (Exhibit A, p. 2; Exhibit B, pp. 2–3.)

3-9

B. The EA's Baseline Does Not Accurately Reflect Existing Conditions

The EA is deficient as a matter of law for the additional reason that it relies on admittedly outdated and inaccurate data to form its existing conditions baseline used to measure all of the Project's potential impacts. "The fundamental goal of an EIR is to inform decision makers and the public of any significant adverse effects a project is likely to have on the physical

3-10

environment. (*Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal. 4th 439, 505.) "To make such an assessment, an EIR must delineate environmental conditions prevailing absent the project, defining a 'baseline' against which predicted effects can be described and quantified." (*Ibid.*) Although an agency has discretion to omit an analysis of the project's significant impacts on existing environmental conditions, the agency must justify its decision by showing an existing conditions analysis would be misleading or without informational value." (*Id.* at p. 512.)

The EA's baseline for point source toxic air emissions from Exide is set forth in Table 1-1. (EA, p. 1-7.) The EA admits, however, that this baseline information is no longer accurate following Exide's implementation of new emissions controls. The EA thus states: "[i]t is important to note that some source tests were conducted prior to completion of emission controls needed to meet Rule 1420.1 point source lead requirements, thus it is expected that overall point source emissions have been reduced from what is shown in the table." (EA, p. 1-7.)

3-10 Cont

In fact, the EA fails to disclose that District-supervised tests at Exide in August and September 2013, respectively, reveal dramatically reduced emissions due to the installation of an isolation door on April 4, 2013 to preclude the entry of blast furnace process exhaust into the Hard Lead Ventilation System. Based on this recent emission data, calculated health risks are below Rule 1402 Action Risk levels. (Exhibit A, p. 3.)[2]

The EA therefore admittedly relies on baseline data that does not accurately reflect existing conditions, and the District has failed to show that an accurate existing conditions analysis would be misleading or without informational value. On the contrary, using air emission data that is significantly higher than the actual level of emissions is misleading and without informational value. It should not be used justify a significant amendment to a rule, especially an amendment that takes a technology-based approach rather than the more appropriate risk-based approach. (*Neighbors*, *supra*, 57 Cal. 4th at 512.) The EA therefore violates CEQA and the inaccurate baseline invalidates the EA's analysis in its entirety.

C. The EA Fails To Analyze The Project's Indirect Impacts

CEQA requires that the EA clearly identify direct and indirect significant effects of the project on the environment, giving due consideration to both the short-term and long-term effects. (CEQA Guidelines, §§ 15162.2, subd. (a).) CEQA Guidelines section 15064, subd. (d) mandates that both primary (direct) and "reasonably foreseeable" secondary (indirect) consequences be considered in determining the significance of a project's environmental effect. If the forecasted economic or social effects of a proposed project directly or indirectly will lead to adverse physical changes in the environment, then CEQA requires disclosure and analysis of

3-11

[2] The District is still reviewing Exide's source test reports, but the baseline numbers are substantially different from the assumed baselines numbers set forth in the District's CEQA analysis. In addition, the District conducted its own source testing at the facility, and these baselines numbers are also different from the EA's baseline. Thus, whether using Exide's source test values or the District's values, it is evident that the baseline used in the EA does not reflect current conditions and is therefore inappropriate.

these resulting physical impacts. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184, 1205.) CEQA Guidelines section 15064 provides that when economic or social effects of a project cause a physical change, this change is to be regarded as a significant effect in the same manner as any other physical change resulting from the project. (*Ibid.*; CEQA Guidelines, § 15131, subd. (a).)

The EA contains no analysis of the costs of implementing the Project, the feasibility of implementing the Project in light of economic and other considerations, or the Project's potential economic impacts on Exide. Nor does the EA analyze the resulting significant indirect impacts that could result from either a reduction in Exide's operations or the closure of Exide's facility. On August 30, 2011, Exide reported to the District the results of its Feasibility Study performed pursuant to Rule 1420.1(o). As Exide reported to the District, the estimated capital and incremental costs associated with installing a WESP at Exide's facility render that technology economically infeasible. (Letter from Exide enclosing Feasibility Study, dated August 30, 2011, attached as Exhibit C.) Exide declared bankruptcy on June 10, 2013. The EA fails to disclose this information in violation of CEQA's information disclosure requirements, and fails to respond to Exide's feasibility analysis.

3-11 Cont

The District bears the burden under CEQA to identify and analyze the indirect physical impacts resulting from the Project's economic impacts on Exide's facility. These indirect physical impacts include, but are not limited to: (1) impacts of site-cleanup activities; (2) increased diesel-powered truck trips to alternative facilities for waste batteries and lead products, which likely will be out of state as Quemetco is the only other lead battery recycling facility located in the Western United States; and (3) impacts of increased operations at Quemetco's facility. (Exhibit A, p. 2–3.) The substantial increase in truck traffic and distance travelled to alternative facilities resulting from Exide's closure would extend the Project's significant impacts throughout the state and beyond. The EA, however, does not analyze these impacts outside the Project area. (EA, p. 2-1.) (*American Canyon Community United for Responsible Growth v. City of American Canyon* (2006) 145 Cal. App. 4th 1062, 1078 [City failed to proceed as required by law by failing to consider the extraterritorial indirect urban decay effects of the proposed project.].)

D. The EA Fails To Analyze The Project's Land Use Impacts

The CEQA Guidelines' Environmental Checklist form provides that an evaluation of Land Use and Planning Impacts under CEQA must consider whether the Project would "conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project . . . adopted for the purpose of avoiding or mitigating an environmental effect." (CEQA Guidelines, Appendix G, at X, subd. (b).) Here, the Project's proposal to close Exide's existing storm water retention pond and replace it with storm water storage tanks conflicts with an existing Stipulation and Order between Exide and the DTSC governing the use of the storm water retention pond. (*See* DTSC Stipulation and Order, attached as Exhibit D.) The EA, however, contains no analysis of this conflict, nor any other analysis of the Project's potential Land Use and Planning Impacts. The EA simply concludes erroneously, and without supporting analysis, that the Project has no potential to have significant Land Use and Planning Impacts. (EA, p. 2-2.)

3-12

E. The EA Fails To Analyze Any Project Alternatives

The EA fails to consider any project alternatives in light of its flawed finding that the Project would have no significant impacts. But because as shown, the Project would have significant environmental impacts, the EA was required to consider project alternatives that may substantially reduce these impacts. (Pub. Res. Code §§ 21001, subd. (g); 21002, 21002.1, subd. (a), 21003.1; CEQA Guidelines, § 15126.5; District Rule 110, subd. e.) Feasible alternatives to the Project that the EA should have, but failed to consider, include: (1) a risk-based approach to reducing toxic air contaminants; (2) minor amendments to existing Rule 1420.1 (*see* Exide's comment letter, dated October 29, 2013, attached as Exhibit E); and (3) a no project alternative, particularly in light of recent point source emission testing at Exide demonstrating Exide's current compliance with Rule 1402 standards. Simply put, the EA's failure to consider any project alternatives constitutes a clear failure to proceed in the manner required by law.

3-13

IV. THE EA'S ANALYSIS OF SEVERAL POTENTIAL IMPACTS IS CONCLUSORY AND UNSUPPORTED BY SUBSTANTIAL EVIDENCE

The sufficiency of an EIR or equivalent document under CEQA "is to be reviewed in light of what is reasonably feasible . . . . The courts have not looked for an exhaustive analysis but for adequacy, completeness and a good faith effort at full disclosure. (*Rio Vista Farm Bureau v. County of Solano* (1992) 5 Cal. App. 4th 351, 368.) In making this assessment, the reviewing court is not to "uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference." (*Laurel Heights Improvement Assn. v. Regents of the Univ. of California* (1988) 47 Cal. 3d 376, 409, fn. 12.) "Whether an EIR will be found in compliance with CEQA involves an evaluation of whether the discussion of environmental impacts reasonably sets forth sufficient information to foster informed public participation and to enable the decision makers to consider the environmental factors necessary to make a reasoned decision." (*Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners of the City of Oakland* (2001) 91 Cal. App. 4th 1344, 1356.) Applying these principles, the EA's analysis of the Project's aesthetic, air quality, energy, seismic and noise impacts is legally inadequate because the EA's findings are unsupported by substantial evidence, and the EA fails to set forth sufficient information to foster informed public participation and decision making.

3-14

A. The EA's Analysis Of Aesthetic Impacts Is Unsupported By Substantial Evidence

The EA's conclusions that the Project will have no impact on scenic vistas, scenic resources, visual character, lighting or glare are unsupported by substantial evidence. The EA states that the new storm water storage tanks, new RTO and related equipment will potentially be visible from outside the facility, but nonetheless would not significantly affect or damage scenic resources, the visual character of the facility or of the quality of the site and its surroundings. The EA further concludes that any additional lighting that may be required in

3-15

connection with new control and support equipment will be similar to existing lighting on-site and at nearby facilities. (EA, p. 2-6.) The EA, however, provides no facts or information to support these bare conclusions of less than significant impacts. "To facilitate CEQA's informational role, the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions." (*Laurel Heights Improvement Assn., v. Regents of the University of California* (1988) 47 Cal. 3d 376, 404-405.)

Specifically, the EA provides no analysis regarding: the number of storage tanks that will be required to replace the storm water retention pond, the height and dimensions of these tanks, and the location at the site where these tanks would be located. This basic information is necessary in order for the EA's analysis of aesthetic impacts to be supported by substantial evidence. In *North Coast Rivers Alliance v. Municipal Water District Board of Directors*, (2013) 216 Cal.App.4th 614, petitioners challenged the adequacy of an EIR's analysis of aesthetic impacts from a desalination plant project's proposed construction of three water tanks to store desalinated water. The Court held that the EIR's finding that the tanks' aesthetic impacts were less than significant was supported by substantial evidence. The Court explained:

> In the instant case, the EIR included a detailed discussion of potential aesthetic impacts of development of the Ridgecrest A tank, including the size and shape of the tank, satellite image analysis of impacts from four directions, visual simulation, and impacts on vistas from homes and hiking trails and the highway. This analysis constitutes substantial evidence the conclusion that the impact is less than significant.

(*Id.* at 627.) The Court explained further: "[w]here an EIR contains factual evidence supporting the conclusion that aesthetic impacts will be insignificant, that conclusion must be upheld." (*Ibid.*) Here, however, the EA contains no such factual evidence supporting its conclusion. The EA's analysis of aesthetic impacts is therefore legally inadequate.

3-15 Cont

B. The EA's Analysis Of Air Quality Impacts Is Unsupported By Substantial Evidence

The EA concludes that all potential impacts to air quality and greenhouse gas emissions will be less than significant. (EA, pp. 2-8 to 2-9.) However, the EA fails to identify or include the underlying data supporting Tables 2-2, 2-3, 2-4, and 2-5. These omissions constitute a failure to proceed in the manner required by law, and render the EA's analysis unsupported by substantial evidence. (CEQA Guidelines, § 15147.) ENVIRON, on behalf of Exide, submitted a Public Records Act Request to the District for this information on October 29, 2013, but thus far the District has not responded. The District's failure to include this information has hampered Exide's and the public's ability to fully and meaningfully review and comment on the EA's analysis. Exide thus requests that the District extend the public comment period on the EA to a reasonable period of time following its full and complete response to Exide's pending PRA request.

3-16

The EA evaluated the direct GHG emissions from combustion of natural gas in a new RTO for the Reverb Furnace, but failed to evaluate the indirect GHG emissions from the electricity consumption for a new WESP, the RTO or the additional storm water pumps that would be needed. The EA appears to assert that the WESP power requirement is 1400 kilowatts, when in fact, the total power required to implement the equipment contemplated by the Project is likely two megawatts, a significant additional load. (Exhibit A, p. 3.)

3-17

Additionally, the EA significantly underestimates emissions resulting from additional truck traffic that would be required by the Project in light of the need to remove storm water and sediment from the storm water pond, remove and dispose off-site the liner system, import fill soil, manufacture, deliver and install the replacement storm water storage tanks and related equipment and plumbing. (Exhibit B, pp. 2–3.)

C. The EA's Analysis Of Energy Impacts Is Unsupported By Substantial Evidence

The EA's finding that the Project will have less than significant energy impacts is based on speculation rather than facts and analysis, and thus is unsupported by substantial evidence. For example, the EA states that "it is uncertain whether pumps associated with moving storm water in and out of the storm water storage tanks would be larger than those that currently move storm water in and out of the existing storm water retention pond." (EA, p. 2-25.) But instead of analyzing this issue as required by CEQA, the EA simply "assume[s]," without any supporting evidence or analysis, that that electricity requirements will be similar and that no new electricity demand is anticipated as a result of the replacement of the storm water retention pond with storage tanks. (*Id.*) The EA's assumption in fact is incorrect. The energy required for the Project's pumping systems is substantially greater than existing demand. (Exhibit A, p. 3–4.) The District bears the burden under CEQA to actually analyze this potential impact, rather than assume a less than significant impact. "CEQA places the burden of environmental investigation on government rather than the public." (*Sundstrom, supra,* 202 Cal. App. 3d at 311.) "The agency should not be allowed to hide behind its own failure to gather relevant data." (*Ibid.*) The EA's failure to quantify and analyze the Project's energy impacts renders it inadequate as an informational document, and precludes informed decision-making. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal. App. 4th 713, 722 (1994).)

3-18

D. The EA's Analysis Of Seismic Impacts Is Unsupported By Substantial Evidence

The EA acknowledges that the storm water retention pond on Exide's facility, which would be replaced by storm water storage tanks under the Project, is located in a liquefaction zone. (EA, pp. 2-28-2-29.) The EA nonetheless concludes that "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 the rupture or an earthquake fault, seismic ground shaking, ground failure or landslides. (EA, p. 2-29.) This finding is unsupported by substantial evidence. As noted in Advanced GeoServices technical comments, three 59 foot diameter, 40.5 foot high tanks would likely be needed to provide 2,348,006 gallons of storage capacity equivalent to the existing storm water retention ponds.

3-19

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(Exhibit B, p. 3.) The EA's bare conclusion that the Project would have no potentially significant seismic impacts is wholly unsupported in light of this evidence. Moreover, the EA's reliance on compliance with Building Codes by itself is legally insufficient to support a finding of no potentially significant seismic impacts. (*See North Coast Rivers, supra*, 216 Cal. App. 4th at 633–635.)

3-19 Cont

E. The EA's Analysis of Noise Impacts Is Unsupported By Substantial Evidence

The EA concludes that operational noise impacts from the Project would be less than significant based on the following conclusory analysis: "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. The existing wet ESP at one PAR 1420.1 affected facility [Quemetco] cannot be heard offsite over the existing noise generated, so a new wet ESP at the other PAR 1420.1 affected facility [Exide] is not expected to generate noise above existing background noise as well." (EA, pp. 2-43–2-44.) As shown, the EA's finding is conclusory and completely unsupported by facts or evidence. For example, the EA notes that the WESP at Exide would be twice the size of the Quemetco unit, which logically therefore should generate more noise. Moreover, the EA provides no facts demonstrating that background noise levels at Quemetco and Exide are comparable, nor any information regarding the distance between the noise sources and sensitive receptors at the two respective facilities. Notably, the EA states elsewhere that the closest sensitive receptor at Exide is a residential receptor, 1,400 meters to the north of the facility. (EA, p. 2-17.) The EA is legally inadequate because it fails to identify or analyze increases in noise at Exide's facility caused by the Project, and fails to analyze the Project's potential impacts on the closest sensitive receptor to Exide's facility.

3-20

V. CONCLUSION

The District must provide good faith and reasoned responses to each of the comments set forth above and in the attached comment letters from Exide's experts. (Pub. Res. Code § 21080.5, subd.(d)(2)(D) District Rule 110, subd. (d); *see also Gallegos v. California State Board of Forestry* (1978) 76 Cal. App. 3d 945 [invalidating action pursuant to a certified regulatory program for agency's failure to respond specifically to public comments].)

3-21

Exide appreciates the District's consideration of these comments and reserves the right to provide further comments as appropriate.

Very truly yours,

Arthur J. Friedman
for SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

SMRH:412255079.4

SheppardMullin

Enclosures

cc: Susan Nakamura
Ed Eckerle

EXHIBIT A

November 7, 2013

Mr. Arthur J. Friedman
Sheppard, Mullin, Richter & Hampton LLP
Four Embarcadero Center
Seventeenth Floor
San Francisco, CA 94111

Re: Comments on the PAR 1420.1 Draft Environmental Assessment (October 2013)

Dear Mr. Friedman:

As you requested, this letter provides ENVIRON's preliminary comments on the Draft Environmental Assessment (DEA) for the South Coast Air Quality Management District's Proposed Amended Rule 1420.1 (PAR1420.1). SCAQMD's DEA claims to show that "the proposed project is not expected to generate significant adverse effects on the environment. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts for all environmental topics." This conclusion is not supported by sufficient analysis. ENVIRON's analysis of the DEA was hampered by the lack of backup information used to prepare the DEA. On October 29, 2013, ENVIRON submitted a Public Records Act request to the SCAQMD to obtain that information, but the SCAQMD has not yet responded to that request.

3-22

1 Rule Version

The version of PAR 1420.1 attached to the DEA is the September 20, 2013 draft, not the most recent, November 5, 2013, version, which ENVIRON yesterday. There were material changes between the version attached to the DEA, and the current version. The DEA should evaluate the currently proposed version of the amendments to the rule, not the former version.

3-23

2 Technology-Based Vs. Risk-Based Rule

PAR 1420.1 is primarily written to impose additional emission control requirements on Exide, and sets standards based on technology used by Exide's only local competitor, Quemetco. Quemetco is much closer to residential areas than Exide, and, because of the fundamentally different methods of operation and production equipment at the two facilities, imposing the same emission rate limits on both facilities does not comply with law and is not necessary to protect public health. Given the number of different toxic compounds with different toxicity values, a risk-based level is more appropriate, and the District has not explained the need for a technology-based rule.

A risk-based approach is in keeping with the District's prior procedure in setting emissions limits under Rule 1420.1. For example, the current stack emission rate limit was derived and established on the basis of dispersion modeling conducted by the District, which found that the 0.045 lb/hr facility wide lead emission rate was necessary to achieve compliance with the National Ambient Air Quality (NAAQS) health-protective ambient standard of 0.15 $\mu g/m^3$ of lead. Emission levels for the proposed rule should be derived in the same or similar fashion. The District should establish an appropriate and health protective risk level, and then set the emissions standards based on what is necessary to achieve that level. Going beyond health-based standards is not necessary, and could result in the closure of the Vernon plant, constituting an unlawful regulatory taking.

3-24

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The District claims this is a technology-based rule, but provides no analysis concerning feasibility for Exide of the emissions standards or technology that it seeks to impose. The District has provided no evaluation of control effectiveness specific to Exide (the primary target of this Rule). The District has provided no analysis concerning cost-effectiveness of PAR 1420.1.

For both T-BACT and BARCT, the District must make a determination by permit unit or source category, and cannot analyze Exide and Quemetco together because the two facilities operate using fundamentally different equipment to process reverberatory furnace slag (blast furnace vs. electric arc furnace). The District must assess whether the rule imposes limits that are technologically feasible for Exide to achieve, taking into account Exide's unique operations and existing control equipment.

3-24 Cont

3 Facility-Wide Risk Reduction To Rule 1401 Levels Is Not Consistent With Rule 1401

Rule 1401 requires that new or modified "Permit Units" achieve a Maximum Individual Cancer Risk (MICR) of 1 in one million if constructed without T-BACT or 10 in one million if constructed with T-BACT. According to the draft Environmental Assessment (DEA), however, Proposed Amended Rule 1420.1 is intended to reduce "Facility-wide" health risks at a large lead-acid battery recycling facility to levels equivalent to Rule 1401 risk requirements.

3-25

PAR 1420.1 would, therefore, be more stringent than existing Rule 1401 as the proposed rule would require multiple permit units to meet an MICR limit applicable to a single permit unit. The District has not provided any analysis of the impacts that would indicate that this stringency is required.

4 DEA Does Not Adequately Analyze The Site-Specific Constraints That Exide Would Encounter If Required To Implement Proposed Control Technologies

The DEA assumes that Exide would replace the existing scrubber with a new scrubber, add a regenerative thermal oxidizer (RTO), and install a wet electrostatic precipitator (WESP). The DEA did not evaluate any other control technologies. In addition, in the DEA, the District states that,

> *"Because of space issues, the new wet ESP for the furnaces may be installed in the current location of a storm water retention pond. As such, the existing storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the affected facility."*

3-26

Installing a WESP at the location of the existing stormwater retention pond would require submittal of applications to DTSC in order to obtain an approved closure plan and to obtain permits for the new replacement tanks. The District did not analyze the impacts and timing of interactions with DTSC. If the stormwater retention pond is to be used as the location of a WESP, the new tanks and related piping and pumps would have to be installed and operational before construction could start to remove the pond and build foundations for a WESP. The compliance schedule in PAR 1420.1 is not long enough to accommodate this sequence of events.

5 The District Does Not Evaluate the Environmental Impact Associated With the Potential Closure of Exide's Vernon Plant

As reflected in Exide's October 29, 2013 Comment Letter, due to technological infeasibility and cost, the rule as currently written threatens the economic viability of the Vernon plant. The District should

3-27

evaluate the environmental impacts of the potential closure of the Exide plant, including, but not limited to:

a) Impacts of site cleanup activities,
b) Increased diesel-powered truck trips to alternative sites for waste batteries and lead products, which likely will be out of the State for many of those batteries and lead, and
c) Exports of scrap batteries to Mexico or China.

3-27 Cont

6 GHG Analysis Does Not Consider GHG Impacts of Operating a WESP or Energy and GHG Impacts of Additional Stormwater Pumps

The DEA evaluated the direct GHG emissions from combustion of natural gas in a new RTO for the Reverb Furnace. The District did not evaluate the indirect GHG emissions from the electricity consumption for a new WESP, the RTO, or the additional stormwater pumps that would be needed. The DEA appears to assert that the WESP power requirement is 1,400 kilowatts (kW); the total power needed including the other equipment could be as much as two megawatts (MW), a significant additional load.

3-28

7 Baseline

The Discussion and Evaluation of Environmental Impacts includes the following statement:

> "The most recent approved source tests for Exide show they are not achieving the PAR 1420.1 emission limits."

Based on the SCAQMD supervised, but not yet approved source tests, Exide is already below the Rule 1402 health risk limits. The draft EA ignores the dramatic emissions reductions that Exide has accomplished since April 2013.

3-29

8 RTO and Scrubber Foundations

The Discussion and Evaluation of Environmental Impacts on page 2-4 (and several other places) says:

> "The RTO is expected to be installed without changes to the existing foundation. The old scrubber would be recycled and the new scrubber installed in the same location on the existing foundation. Therefore, no soil disturbance is expected from the RTO installation or scrubber replacement."

ENVIRON understands that Exide has not conducted the engineering studies necessary to determine whether the existing foundations are adequate for an RTO or a new scrubber. If the District has prepared such an evaluation, it should be included in the DEA. If not, the District should prepare an evaluation of the impacts of constructing these foundations.

3-30

9 WESP Foundation and Location

The Discussion continues: "Because of space issues, the new wet ESP for the furnaces may be installed in the current location of a storm water retention pond. As such, the existing storm water retention pond may need to be replaced with storm water storage tanks, which would also be installed within the affected facility."

3-31

There are several problems with the above statement:

a) Such stormwater tanks would have to hold approximately 2,500,000 gallons of water, and would therefore be very large, and require substantial foundations, the construction impacts of which the DEA did not evaluate.
b) The existing stormwater system is fed by gravity with some pumping. If tanks are used instead of the stormwater retention pond, additional large electric pumps would be required. The DEA did not evaluate the impacts of operating those pumps, or the consequences if they were to fail. A gravity system is environmentally and operationally preferable.
c) Page 2-29 does not adequately consider the seismic superiority of the in ground stormwater system to 2.5 million gallons of aboveground tankage.

3-31 Cont

10 Energy Calculations

The discussion of energy on Page 2-25 has errors, such as the statement "Based on these assumptions 1,400 kilowatts per hour would be need to run the new ESP system." Kilowatts per hour would be a rate of change of power consumption, which does not make sense in this context. We assume that the District intended to say "Based on these assumptions 1,400 kilowatts would be needed to run the new ESP system." This may mean that the underlying calculations are in error. ENVIRON would require the information requested in the October 29, 2013 Public Records Act request to fully evaluate the emissions and energy calculations. As mentioned above, some energy consumption was not evaluated at all.

3-32

Please let me know if you have any questions about this report.

Very truly yours,

Joseph Hower, PE, DEE
Principal

JWH:sb
\\losangeles04\projects\E\Exide\Rule 1420.1\1420.1 Amendments\PAR 1420 1 EA Comments ENVIRON 11.6.13.docx

EXHIBIT B

ADVANCED GeoServices

November 8, 2013 2013-3007-01

Arthur Friedman, Esquire
Sheppard Mullin
Four Embarcadero Center
Seventeenth Floor
San Francisco, CA 94111

RE: Comments on Draft EA and Proposed Amended Rule 1420.1 Related to Stormwater Management
Exide Technologies
Vernon, California

Dear Mr. Friedman:

In response to your request, Advanced GeoServices has prepared the enclosed summary of the existing stormwater management system at the Exide Technologies facility in Vernon, California, and comments regarding installation of the proposed Wet Electrostatic Precipitator (WESP) system at the footprint of the existing stormwater retention pond. The comments were prepared in response to South Coast Air Quality Management District's Notice of Completion of a Draft Environmental Assessment (EA) and Proposed Amended Rule 1420.1 – Emissions Standard for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities.

Existing Stormwater Management System

The EA contains no description of the Stormwater Management System at Exide's Vernon facility. Stormwater management at the Exide Vernon facility is conducted with a combination of gravity and pumped systems. Stormwater in the North Yard and South Yard currently enters a network of inlets and piping that drains by gravity to Unit 46, Pump Sump (a RCRA Interim Status Hazardous Waste Tank). Stormwater in the West Yard enters a network of inlets and piping, and drains by gravity to Manhole H. West Yard stormwater is then pumped from Manhole H to a manhole in the South Yard, and then gravity drains to Unit 46. There are three pumps at Unit 46 with capacities of 100, 500 and 1,000 gallon per minute. During low-volume storm events, the stormwater is pumped from Unit 46 to the Wastewater Treatment Plant for treatment prior to discharge to the POTW. During high-volume storm events, the stormwater is pumped from Unit 46 to the Drop Out System. The Drop Out System is comprised of four Interim Status Hazardous Waste Tanks (Units 47 through 50) which remove solids by settling. The Drop Out System discharges stormwater to the Stormwater Retention Pond for temporary storage until the water can be transferred via pump to the WWTP for treatment and discharge. Without the storage capacity of the Stormwater Retention Pond, the facility could experience

3-33

flooding and accumulated stormwater could potentially discharge off-site. The Stormwater Retention Pond is approximately 14 feet deep.

As presented in the Part B Permit Application submitted to the Department of Toxic Substances Control (DTSC) on January 15, 2013, the Stormwater Retention Pond is proposed for permitting as a Hazardous Waste Surface Impoundment per CCR 66264.220 and is renamed the Stormwater Surface Impoundment. The Stormwater Retention Pond is proposed for permitting as a Stormwater Surface Impoundment as sediment accumulating in the impoundment has on occasion been characterized as hazardous for lead.

The upgraded Stormwater Surface Impoundment will have the same configuration as the existing Stormwater Retention Pond. The bottom grading will be revised and the geosynthetic liner system upgraded with an additional layer of geomembrane and leak detection layer. A sacrificial/protective concrete layer will be installed over the geosynthetics.

3-33 Cont

The capacity of the Stormwater Surface Impoundment is 2,348,006 gallons plus 3.75 feet of freeboard. This capacity is sufficient to contain stormwater from a 50-year, 24-hour storm event of 5.7 inches of rain over the entire facility.

Exide anticipates that upgrades to the Stormwater Surface Impoundment will be required as a condition of the approved RCRA permit. Approval of the RCRA permit is expected in 2014.

Proposed WESP at Stormwater Surface Impoundment

The EA presumes that in order to comply with PAR 1420.1, Exide will install a WESP at the footprint of the Stormwater Surface Impoundment. The EA provides no analysis, however, of the technical or economic feasibility of this significant physical modification to Exide's Stormwater Management System. The EA also makes no reference to any consultation between the District and the DTSC regarding these proposed components of the District's implementation of the PAR 1420.1. To remove the Stormwater Surface Impoundment from service, a DTSC-approved closure plan would need to be implemented as the Stormwater Surface Impoundment is a Hazardous Waste Management Unit. It is anticipated that a Class 1 Permit Modification would be necessary to revise the closure plan for complete removal of the liner system and contaminated soil, if present. However, DTSC may require a Class 2 Permit Modification which requires a public notice, public meeting and 60-day public comment period. DTSC approval of either class of permit modification is required prior to implementation. DTSC approval of the modification is not guaranteed.

3-34

Assuming the DTSC would grant the approvals required, and further assuming the technical feasibility of installing a WESP at the footprint of the Stormwater Surface Impoundment, the physical impacts to environment and associated costs for this work would be substantial. The EA's analysis of these factors is incomplete and inadequate. For a WESP to be installed, closure

is anticipated to include removal of stormwater and sediment within the pond, and removal and off-site disposal of the liner system. Soil sampling would be conducted within the Stormwater Surface Impoundment footprint. Contaminated soil would be excavated and disposed off-site. Liner removal and contaminated soil excavation would be considered maintenance activities under Rule 1420.1 and would need to be conducted within the confines of partial enclosures. The void/excavation remaining after liner and soil removal must be backfilled to surrounding grade with approximately 13,200 cy of imported soil. Off-site disposal and import of backfill materials would result in an estimated 1,000 truck trips. The existing stormwater management system would likely need to be extended into the Stormwater Surface Impoundment footprint to collect stormwater runoff from this area.

3-34 Cont

Alternate Stormwater Storage

If the Stormwater Surface Impoundment is closed, alternate storage is required for stormwater to prevent the potential for flooding within the facility and possible discharge off-site. Stormwater storage tanks would need to be installed at the facility. For the purpose of these initial evaluations, three 59 ft diameter, 40.5 ft high tanks would be needed to provide 2,484,687 gallons of storage capacity, a capacity which is roughly equivalent to the Stormwater Surface Impoundment. The tanks, their foundations and secondary containment area would need to be designed in accordance with California regulations regarding Hazardous Waste Tanks (CCR 66264.192), including stability during a seismic event. The EA provides no analysis of the number, size or capacity of these proposed tanks. Nor does the EA provide any seismic analysis relating to these tanks and the related support equipment that would be required. As the tanks would be new permitted Hazardous Waste Tanks which result in a greater than 25% increase in the facility's tank capacity, a Class 3 modification to the Part B Hazardous Waste Permit would be required by DTSC per CCR 66270.42(c). The existing permitted tank capacity at the facility includes 42 tanks for a total capacity of 562,523 gallons. The addition of 2,484,687 gallons of storage would result in an increase in tank storage capacity in excess of 400%. A Class 3 modification includes a public notice, a public meeting, and a 60-day public comment period. The Class 3 modification must be approved by DTSC prior to implementation. DTSC approval of the modification is not guaranteed.

3-35

A piping and pump system would need to be designed and installed to transfer stormwater from the Drop Out System to the proposed stormwater storage tanks. A piping and pump system would also need to be designed and installed to transfer stormwater from the proposed stormwater storage tanks to the WWTP. These pumping systems would likely consume substantial additional electrical energy from the facility that was not included in SCAQMD's energy analysis, nor in the greenhouse gas analysis.

The EA does not evaluate the impact of tank and piping infrastructure on space and logistics at the facility. The stormwater storage tanks would occupy a significant amount of space at the facility. The piping infrastructure necessary to transfer water from the Drop Out System to the

stormwater storage tanks, and from the stormwater storage tanks to the WWTP would also be significant and would require space for pipe racks and supports. Installation of the tanks, piping and associated infrastructure would affect critical space that is currently used for operations, truck traffic for spent battery delivery, maintenance activities, and equipment storage.

3-35 Cont.

As the facility would need to maintain capacity for stormwater storage at all times, the proposed stormwater tanks would need to be designed, permitted and constructed before the Stormwater Surface Impoundment could be removed from service.

If you have any questions, please contact Jen DiJoseph at (610) 840-9189 or Paul Stratman at (610) 840-9122.

Sincerely,

ADVANCED GEOSERVICES

Jennifer W. DiJoseph
Associate Project Consultant

Paul G. Stratman, P.E.
Senior Project Consultant

JWD:PGS:vm

cc: R. Kemp
J. Hower
F. Ganster
C. Graessle
O. Theard

EXHIBIT C

EXIDE TECHNOLOGIES

Global Leader in Stored Electrical Energy

August 30, 2011

Exide Technologies
2700 S. Indiana Street
Vernon, CA 90058
Phone 323.262.1101
Fax 323.269.1906

Mohsen Nazemi, P.E.
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Exide Technologies, Inc.'s
Submittal of Rule 1420.1 Compliance Plan and Feasibility Study

Dear Mr. Nazemi:

Exide Technologies, Inc. respectfully submits the following documents: (i) Rule 1420.1(g) Compliance Plan, and (ii) Rule 1420.1(o) Feasibility Study. We believe that both documents are comprehensive and robust, providing the detailed analysis required by District Rule 1420.1.

We appreciate the District's cooperation in issuing the permits required for Exide to implement its Rule 1420.1 projects. We also thank the District for meeting with us prior to submittal of these documents. Exide continues to work diligently to satisfy Rule 1420.1. In that regard, we look forward to discussing the Compliance Plan and Feasibility Study with you in the near future.

Summary of Compliance Plan [1420.1(g)]

Exide has completed all Rule-Required control measures and has also implemented numerous "early action" voluntary emissions control measures even before submittal of this formal Compliance Plan. However, because Exide has not yet completed all of its "early action" Compliance Plan measures, Exide was not able to fully realize the expected ambient level improvement by the July 2011 trigger date for Compliance Plan submittal. Most notably, by the end of 2011 Exide will complete construction of an enclosure for Baghouse Row, a $5 million dollar project which – when combined with all other "early action" Compliance measures – is reasonably expected to reduce already lowered emissions to below the 0.15 $mg/^{3}$ NAAQS and Rule 1420.1(d)(2) concentration standards. If for any reason Exide does not satisfy the ambient standards after January 2012, Exide is prepared to implement additional Compliance Plan measures to further reduce emissions.

Summary of Feasibility Study [1420.1(o)]

Rule 1420.1(o) requires that Exide address the technical, economic and physical feasibility of reducing the total lead emissions rate to 0.003 lbs/hr. Exide has

conducted a rigorous analysis of available EPA-designated process control and ventilation control technologies, including (but not limited to) Wet Electrostatic Precipitators and/or Fugitive Emission Filtration Units with HEPA filtration. After careful consideration, Exide concludes that it is not technically, economically or physically feasible to achieve a 0.003 lbs/hr total lead emissions rate. The available technologies are not technically feasible because their performance and impact on reducing ambient concentrations cannot be reasonably guaranteed. In addition, the expected $30 million capital cost (and incremental cost of over $6 million per ton) renders the available technologies economically infeasible. Finally, Exide has space constraints such that it is not physically feasible for it to incorporate the potential control technologies.

Importantly, by implementing various 1420.1 measures, Exide has already reduced the overall total lead emissions rate from its stacks to approximately 0.020 lbs/hr, less than the 0.045 lbs/hr currently required. Exide has also undertaken numerous voluntary measures (set forth in its Compliance Plan) reasonably expected to result in ambient concentration compliance after January 2012. If Exide does not satisfy the ambient standards in 2012, the focus will (and should) be on reducing fugitive emissions rather than further lowering the stack emissions rate.

* * * *

We appreciate your review of the Compliance Plan and Feasibility Study. Of course, you can contact me at any time if you have any questions or comments.

Sincerely,

Corey Vodvarka

Corey Vodvarka, Plant Manager

Enclosure

cc: Ed Pupka
Jay Chen
Michael Haynes
Susan Nakamura

South Coast Air Quality Management District

Form 400-A
Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): Exide Technologies

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 124838

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

2700 South Indiana Street
Street Address

Vernon , CA 90023
City Zip

Ed Mopas — Environmental Mgr
Contact Name — Title

(323) 262-1101 259 (323) 262-0642
Phone # Ext. Fax #

E-Mail: Ed.Mopas@exide.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
[X] Check here if same as equipment location address

Address

City , CA
State Zip

Contact Name — Title

Phone # Ext. Fax #

E-Mail:

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (●) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:
- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Equipment Operating Without A Permit *
- (●) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:
- ( ) Title V Application or Amendment (Also submit Form 500-A1)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
- ( ) Administrative Change
- ( ) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Rule 1420.1 Compliance Plan

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process): 0

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (●) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (●) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Secondary Lead Smelting

14. What is your business primary NAICS Code? (North American Industrial Classification System): 331492

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? (●) No ( ) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (●) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: Corey Vodvarka

18. Title of Responsible Official: Plant Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No ( ) Yes

20. Print Name: Corey Vodvarka

21. Date: 08/30/2011

22. Do you claim confidentiality of data? (If Yes, see instructions.) ( ) No ( ) Yes

23. Check List: [X] Authorized Signature/Date [ ] Form 400-CEQA [ ] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED $	PAYMENT TRACKING #	VALIDATION

DATE	APP REJ	DATE	APP REJ	CLASS I II	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN

South Coast Air Quality Management District

Form 400-CEQA
California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): Exide Technologies

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 124838

3. Project Description: Rule 1420.1 Compliance Plan

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	○	◉	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	A request for a change of permittee only (without equipment modifications)?
3.	○	◉	A functionally identical permit unit replacement with no increase in rating or emissions?
4.	○	◉	A change of daily VOC permit limit to a monthly VOC permit limit?
5.	○	◉	Equipment damaged as a result of a disaster during state of emergency?
6.	○	◉	A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?
7.	○	◉	A Title V administrative permit revision?
8.	○	◉	The conversion of an existing permit into an initial Title V permit?

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Part I - General
1.	○	◉	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	○	◉	Is this project part of a larger project? If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	◉	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	○	◉	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

[1] A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	Part II - Air Quality (cont.)
5.	○	◉	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 – Nuisance.
6.	○	◉	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	○	◉	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?[4]
			Part III – Water Resources
8.	○	◉	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	○	◉	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
			Part IV – Transportation/Circulation
10.			Will the project result in (Check all that apply):
	○	◉	a. the need for more than 350 new employees?
	○	◉	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	○	◉	c. increase customer traffic by more than 700 visits per day?
			Part V – Noise
11.	○	◉	Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?
			Part VI – Public Services
12.			Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):
	○	◉	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	◉	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

REMINDER: *For each "Yes" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.*

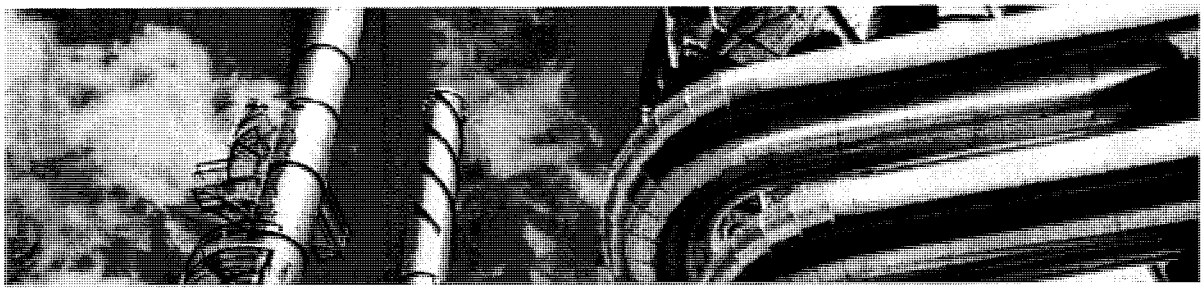
Section D - Signatures

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

1. Signature of Responsible Official of Firm: Corey Vodvarka		2. Title of Responsible Official of Firm: Plant Manager
3. Print Name of Responsible Official of Firm: Corey Vodvarka		4. Date Signed: 08/30/2011
5. Phone # of Responsible Official of Firm: (323) 262-1101	6. Fax # of Responsible Official of Firm: (323) 269-1906	7. Email of Responsible Official of Firm: Corey.Vodvarka@exide.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm): Michael DiCostanzo		9. Title of Preparer: Manager
10. Print Name of Preparer: Michael DiCostanzo		11. Date Signed: 08/30/2011
12. Phone # of Preparer: (213) 943-6353	13. Fax # of Preparer: (213) 943-6301	14. Email of Preparer: mdicostanzo@environcorp.com

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND ANY ATTACHMENTS WITH FORM 400-A.

[4] Table 1 – Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



Feasibility Study
SCAQMD Rule 1420.1(o)

Prepared for:
Exide Technologies
Vernon, California

Prepared by:
ENVIRON International Corporation
Irvine and Los Angeles, California

Date:
August 2011

Project Number:
07-26544A

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1 Executive Summary

Exide Technologies, Inc. (Exide) has commissioned this Feasibility Study to comply with SCAQMD Rule 1420.1(o), which requires Exide to evaluate the technical, economic and physical feasibility of achieving a total Pb emission rate of 0.003 lbs/hour from all point sources if emissions are above 0.12 $\mu g/m^3$ averaged over any 30 consecutive days. We assessed available emission control technologies in order to identify the most cost-effective and efficient technology, or combination of technologies, that could potentially achieve a facility-wide 0.003 lb/hr lead stack emission level.

We considered the following technologies for process source controls: (a) fabric filtration, (b) cartridge collectors, (c) HEPA filters as secondary filtration, and (d) Wet Electrostatic Precipitation (WESP). We also considered Fugitive Emission Filtration (FEF) Units (which include inherent secondary HEPA filtration) as a general ventilation control. Exide already widely employs several of these technologies, and thus appropriately analyzed in detail the two technologies it does not employ, namely the WESP and the FEF Units. After a rigorous analysis, we conclude that neither of the technologies is technically feasible to achieve the 0.003 lbs/hr emission level with any reasonable degree of confidence or with vendor guarantees of performance at such low levels.

In addition, we conclude that none of the technologies are economically feasible. Exide is currently achieving emissions rates below the currently required 0.045 lbs/hr -- a 99% point source reduction. As set forth in its Compliance Plan, by implementing certain point source and fugitive reduction measures, Exide reasonably expects to comply with the National Ambient Air Quality Standard (NAAQS) and Rule 1420.1(d)(2) by January 1, 2012. Even assuming that a combination of technologies might achieve 0.003 lb/hr on a facility-wide basis, it is not reasonably necessary to require Exide to further reduce the mass emissions rate to a level that cannot be guaranteed at a total economically infeasible capital cost of over $30 million, or an incremental cost of over $6 million per ton.

Moreover, the facility's space constraints are such that it is not physically feasible to accommodate the potential control technologies within the footprint of the facility.

This Study includes dispersion modeling demonstrating that stack emission control measures already specified in Rule 1420.1 are adequate to attain the 0.15 $\mu g/m^3$ ambient lead concentration limit. With stack emissions effectively controlled, if additional control measures are necessary to reduce ambient lead concentrations, those measures should be directed toward fugitive emissions reduction.

2 Introduction

2.1 Facility Location

The Exide facility (SCAQMD ID # 124838) is located at 2700 South Indiana Street, Vernon, California. Exide is a secondary lead smelter that recycles lead batteries and other lead-bearing scrap materials. Figure 1 shows the facility and its vicinity. The land use in the immediate vicinity (up to 1.5 kilometers [km] radius) of the facility is industrial and the topography around the facility is primarily flat. The facility's layout showing the locations of the various buildings and the stacks are presented on Figure 2. The nearest residential areas are located approximately 1 km northeast and south of the facility as shown on Figure 3.

2.2 Process Description

Spent lead-acid batteries and other lead-bearing scrap materials are delivered to the facility by trucks, where the batteries and scraps are crushed, separated, and smelted to recover lead and propylene.

The spent lead-acid batteries and lead-bearing scrap are first broken apart and separated into the plastic, lead, and acid components. The plastic is recovered, and the acid is sent to a holding tank. The lead-containing components are transferred into one of the feed rooms, where they are then fed by conveyor to either the Reverberatory (Reverb) furnace (device D119) or the Blast furnace (D128), which are each used to heat the lead until it reaches a molten state.

The lead refining kettles are used to purify the hot, molten lead that is produced during the smelting process. Each kettle sits inside a brick-lined pit, housing natural gas-fired burners. The burners heat the air between the burners and the kettle, thereby heating the kettle. The kettles are continuously heated; however, there are usually only two or three kettles that contain material at any one time. The molten lead in the kettles is repeatedly heated, agitated with a mixer, and allowed to cool, with periodic stirring and additions of refining agents.

The refined lead is then formed into ingots, which are subsequently transferred to the Finished Lead Storage Building.

2.3 Rule 1420.1 Requirements

On November 12, 2008, the United States EPA published the Final Rule in the Federal Register revising the NAAQS from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$ measured over a three-month rolling average.

On November 5, 2010, the SCAQMD Governing Board adopted Rule 1420.1 (Emissions Standards for Lead from Large Lead-Acid Battery Recycling Facilities). Rule 1420.1(d)(2) prohibits a covered facility from discharging lead emissions exceeding 0.15 $\mu g/m^3$ averaged over any 30 consecutive days. The Rule requires covered facilities to implement certain practices and emission control measures to attain the Lead NAAQS and Rule 1420.1(d)(2) standards after January 1, 2012.

Pursuant to Rule 1420.1(o), starting on July 1, 2011, if the facility discharges lead emissions that exceed 0.12 $\mu g/m^3$ averaged over any 30 consecutive days, the facility shall submit to the SCAQMD a Feasibility Study that addresses 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.

2.4 Ambient Air Quality Monitoring Results

Monitoring results indicate that on July 30, 2011 the 30-day average ambient concentration at the facility's North, Northeast, and MID monitors exceeded 0.12 $\mu g/m^3$. Therefore, Exide is submitting this Feasibility Study to fulfill the requirements of Rule 1420.1(o). However, as stated in Exide's Compliance Plan submitted in conjunction with this Feasibility Study, many control measures remain in the progress of being implemented and were not completed by the July 30, 2011 trigger date to meet the 0.12 $\mu g/m^3$ limit. Exide reasonably believes that it would not have been required to submit this Feasibility Study had all measures (including multiple voluntary "early action" measures) been in place and operational as of July 1, 2011.

3 Feasibility Study Requirements

Rule 1420.1(o) requires that the Feasibility Study address the following elements in determining whether the facility can achieve a total Pb emission rate of 0.003 lbs/hour from all stationary sources:

- Technical feasibility,
- Economic feasibility, and
- Physical feasibility

A discussion of each of these elements is provided in the following sections.

3.1 Current Facility-wide Pb Emission Rate

Table 1 summarizes emissions rates from all Pb point sources from Exide's most recent source tests. The results indicate that the total facility Pb emission rate from all point sources is less than the 0.045 lbs/hr limit established by Rule 1420.1(f)(2).

Table 1 Current Facility-wide Pb Emission Rates

APC#	AQMD Device#	Control Device Description	Area Served	Source Test Date	Source Test Measured (dscfm)	Pb Emissions (lb/hr)
10	C38	North Torit	General Ventilation	10/2010	94,599	0.00141
11	C39	South Torit	General Ventilation	1/4 - 6/2011	110,126	0.0036
13	C156/C157	MAC BHs	GV: RMPS, Kettle Burners, Reverb Feed	12/27/2010	103,920	0.000572
7	C48	Material Handling BH	GV: Material Handling & Blast Feed Room	10/12/2010	95,858	0.00115
9	C165/C172	RMPS MAPCO Demister / HEPA	RMPS	11/10 -12/2010	17,270	0.000358
12	C144/C143	Kiln Dryer BH / Cyclone	Kiln (Rotary Dryer)	9/14/2010	10,392	0.0105
S1	C42/C43	Neptune-Venturi Scrubber	Blast & Reverb furnaces	9/8/2010	18,059	0.000175
5	C46	Hard Lead BH	Hard Lead	10/4,5,7/2010	101,832	0.00102
6	C47	Soft Lead BH	Soft Lead	10/2010	85,435	0.000851
Total					**637,491**	**0.020**
						<0.045 limit

While the Pb emission rate from all point sources is more than 50% less than the 0.045 lbs/hr limit, the rate is greater than the 0.003 lbs/hr rate that is the "target level" for this Feasibility Study.

3.2 Characterization of Pb Emission Sources at Exide (Vernon)

There are two general categories of point sources of Pb emissions at the Exide (Vernon) facility. The first source comes from Process Source emissions. The second source comes from

General Ventilation emissions. As of July 1, 2011 Exide had the following air pollution control devices installed for reducing Pb emissions from a variety of sources.

Table 2 Currently Permitted Control Equipment at Exide

Control Device Description	Equipment/Area Controlled
Process Emission Sources	
C40 – baghouse; C41 – baghouse;	Reverb furnace (D119)
C44 – afterburner; C45 – baghouse	Blast furnace (D128)
C42 – venturi scrubber; C43 – tray scrubber; S139 – stack	APC 1 (C40, C41), APC 2 (C44, C45)
Hard Lead baghouse	Lead refining kettles and dross hoppers (D7 – D20), Blast furnace tapping ports and launders (D129 – D134), rotary dryer furnace enclosure (C177)
Soft Lead baghouse	Lead refining kettles and dross hoppers (D24 – D37), Reverb furnace feeders (D117, D118), Reverb furnace tapping ports and launders (D120 – D125), fugitive emissions from Quench Chamber cleanout door (D149)
C143 – cyclone; C144 – baghouse; S145 – stack	Rotary dryer furnace (D115) and screw conveyors (D114, D116)
General Ventilation Sources	
North Torit baghouse	Fugitive emissions from the Smelting and Refining building, fugitive emissions from the Baghouse Row building
South Torit baghouse	Fugitive emissions from the Smelting and Refining building, fugitive emissions from the Baghouse Row building
C156, C157 – MAC baghouses; S158 – stack	RMPS building (C175), lead refining kettle burner stack emissions, rotary dryer hoppers (D109, D110) and conveyors (D111 – D113), South Corridor building (C182)
C159 – cyclone; C160 – baghouse	Fugitive emissions in Blast Furnace Feed Room
Material Handling baghouse	Central Vacuum System A (C159, C160), Central Vacuum System B (C162, C163), Blast Furnace feed hopper (D126)
C165 – packed bed scrubber; C172 – HEPA filter; S166 – stack	Raw Material Preparation System (RMPS) building (C175), Hammermill (D1), Hammermill feed conveyor (D2), Mud holding tanks (D3 – D5)
C162 – cyclone; C163 – baghouse	Fugitive emissions in Blast Furnace Feed Room

3.2.1 Process Source Emissions

Process Source emissions consist of the exhaust from the Rotary Dryer, Blast & Reverb Furnaces, and the Hard & Soft Lead Baghouses. Pb emissions come directly from the feed material processed in these furnaces. The Pb emissions in the exhaust from the furnaces are

controlled by baghouses and subsequently by a wet scrubber prior to discharge to the atmosphere.

The data in Table 1 shows that the total stack exhaust from these sources is approximately 215,000 dscfm with a total Pb emission rate of 0.013 lbs/hr.

3.2.2 General Ventilation Source Emissions

General Ventilation emissions consist of room air that moves through building enclosures in order to meet the negative pressure specified by Rule 1420.1. The data in Table 1 shows that the total stack exhaust from these sources is approximately 400,000 dscfm with a total Pb emission rate of 0.007 lbs/hr.

3.2.3 Consideration of Control Options for Process Sources and General Ventilation

General Ventilation sources must process relatively large quantities of air as compared to the process units in order to meet the requirements for total enclosures. At Exide's Vernon plant, General Ventilation accounts for 65% of the total exhaust flow, but only 25% of the total Pb emissions.

As a result, control options were reviewed to account for the different characteristics of General Ventilation (higher exhaust volume, lower Pb loading) as compared to Process Emissions (lower exhaust volume, higher Pb loading).

3.3 Technical Feasibility

3.3.1 Determining the Technological Process Source Control Options to Achieve a 0.003 lbs/hr Facility-wide Pb Emission Rate

As a threshold matter, in order to assess the feasibility of achieving a 0.003 lbs/hr facility-wide emission rate, it is necessary to set forth the available technological process source control options. If no combinations of the available technologies are capable of meeting the 0.003 lbs/hr limit, then achieving that limit is not technically feasible.

This Feasibility Study builds upon EPA's extensive recent research on process source control technologies potentially applicable for improving lead stack emissions. EPA performed its research during the Risk and Technology Review (RTR) process for revising the National Emission Standards for Hazardous Air Pollutants (NESHAP) for lead smelters. This EPA effort culminated in a Proposed Rule that revised the NESHAP for Secondary Lead Smelting published on May 19, 2011 [76 FR 97]. The rulemaking record includes EPA's Draft Summary of the Technology Review for the Secondary Lead Smelting Source Category [docket item EPA-HQ-OAR-2011-0344-0055] which is attached as Appendix E. In reviewing all the technologies deployed across the industry for the control of lead stack emissions currently and recent developments in those technologies, EPA identified the suite of potential control technologies to include the following.

- Fabric filtration (baghouses of various types and cloth media)
- Cartridge collectors

- HEPA filters as add-on secondary filtration subsequent to fabric filters or cartridge collectors
- Wet Electrostatic Precipitation (WESP)

EPA not only considered the technologies currently applied in this industry but also, "technologies employed by similar industries, and reviewed new or updated NESHAPs for other source categories." [EPA docket item 0055, page 4] We concur with this evaluation and are aware of no other available cost-effective emission control technologies. Thus, this Feasibility Study appropriately evaluates the four EPA-recognized process-source control technologies.

Of the EPA technologies, Exide already employs fabric filtration, with the highest quality polytetrafluoroethylene (PTFE) membrane-type filter bags, and two cartridge collectors. Additionally, Exide has installed secondary HEPA filtration on the battery breaker scrubber, rotary dryer baghouse, and the facility's two cartridge collectors, though the degree of improvement resulting from the installations on the rotary dryer baghouse and cartridge collectors is not yet known pending emission testing.

With fabric filtration and HEPA cartridges already installed, we herein examine the two remaining EPA-identified process control technological approaches for improving the facility's lead stack emissions, namely, (i) the wider deployment of secondary HEPA filtration and (ii) Wet Electrostatic Precipitation (WESP). These measures are considered in the following Sections.

3.3.2 HEPA Filtration

Of the two remaining EPA-identified process control options, the most cost-effective is wider deployment of secondary HEPA filtration. The degree of emission reduction that can be achieved by HEPA filters on this industry's stack emissions is unclear and expectations vary widely. While HEPA filters are rated by definition to filter 99.97% of particles at a 3 micron size, it is not appropriate to assume or estimate that placing a HEPA filter downstream of a fabric filter or cartridge collector will reduce lead emissions by a further 99.97%. This is because some relatively significant fraction of the lead emissions exiting a fabric filter will be in the "condensable" size range, that is, material that passes through the filter in the stack testing apparatus and subsequently caught in the wet impingers in the test train. Material small enough to pass through the stack testing filter is also small enough to pass through a HEPA filter. EPA, for example, found in its analysis of the industry's emission data that "HEPA filters used downstream of a baghouse achieve approximately 20 percent lower outlet concentrations than baghouses alone." [EPA docket item 0055, page 5]. The District established a higher range of expectation in its calculation of the expected improvement from installing HEPA filters downstream of the Exide Vernon facility's cartridge collectors. The District estimated that such installation would reduce lead emissions by 70.8% and result in outlet lead concentrations downstream of the HEPA filters of 2.715 µg/dscm [see document "HB3151-25 Excess Emissions" from Case 3151-25, attached as Appendix F]. Thus, taking the District's calculations at face value, the range of potential improvement by installation of HEPA filtration is 20 to 71%.

Preliminarily, we consider the installation of HEPA filtration downstream of all sources at the Exide Vernon facility. Per the tabulation in Table 1, total exhaust flow is 637,491 dscfm with current actual facility-wide lead emissions of 0.02 lb/hr vs. 0.045 lb/hr allowed. On a mass

basis, even assuming the highest end of the expected range of improvement (71%) due to HEPA installation, facility wide emissions would be 0.02 x (1-0.71) = 0.0058 lb/hr, which is double the 0.003 lb/hr target level for this study. A 71% reduction in the 0.045 lb/hr allowable emission rate would be 0.013 lb/hr, or more than four times the 0.003 lb/hr target. Alternatively, assessing the issue from a concentration basis, the District's 2.715 µg/dscm expected lead concentration downstream of HEPA filtration, if applied to the total facility-wide flow of 637,491 dscfm, would result in facility-wide lead emissions of 0.0065 lb/hr, which is more than twice the target of this Feasibility Study.

In summary, secondary HEPA filtration, even using the high end of expected improvement, still falls well short of the 0.003 lb/hr target for this study. At any other lower degree of HEPA improvement, the gap between the result and 0.003 lb/hr is even wider. In addition, HEPA filtration is not suitable for installation on the hot and moist exhaust gas flow from the facility's direct furnace metallurgical exhaust (Neptune Scrubber), though we included that source in the above evaluation in order to be conservative.

HEPA filtration alone is insufficient to approach 0.003 lb/hr on a facility-wide basis. In particular, in the sections to follow we have considered the most cost-effective combination which would employ WESP to those sources least amenable to HEPA filtration (the process sources) and to enough of the flow from the facility to potentially bring the overall total emission rate under 0.003 lb/hr.

The following two sections (3.3.3 and 3.3.4) introduce both a Process Source Control option (WESP) and a General Ventilation Source Control Option (Fugitive Emission Filtration). Thereafter, Sections 3.3.5, 3.4, and 3.5 address whether these options are technically, economically and physically feasible means of achieving a 0.003 pounds per hour total facility mass emissions rate.

3.3.3 WESP as a Process Source Control

Exide is currently controlling emissions from the blast furnace, reverb furnace, direct hooding serving those furnaces (the hard and soft lead ventilation systems, and the rotary dryer are process sources) using baghouses equipped with polytetrafluoroethylene membrane-type filter bags. Exide fitted the Rotary Dryer Baghouse with secondary HEPA filtration on June 30, 2011. The emission rate for this unit given in Table 1 does not include the degree of improvement from this secondary filtration installation as testing has not yet been completed. Exhaust from the direct blast and reverb furnace is further currently controlled by a wet scrubber downstream of their respective baghouses. For additional reducing Pb emissions from these Process Sources, Exide considered a Wet Electrostatic Precipitator (WESP) as a secondary control option as this is the only technology identified with the potential to achieve emission rates as low as that targeted by this Feasibility Study.

Exide provided process data such as flow rate, Pb loading, moisture content, and exhaust temperature to Envitech so that Envitech could provide Exide a proposal for reducing emissions from Process Sources. Envitech was the vendor that supplied the only WESP currently installed at a secondary lead smelting facility. In a June 16, 2011 e-mail from Andy Bartocci to Russell Kemp, Envitech recommended that "the non-process ventilation sources be treated by another means due to the large volumetric flow rate." Based on Envitech's analysis of the

operating conditions at Exide's Vernon plant, Envitech provided the following proposed design for control of the process source subset.

In addition, an estimate of the annual operating cost of the WESPs is tabulated below. This estimate can be found in the Cost Impacts analysis tables for Secondary Lead NESHAP Docket Item EPA-HQ-OAR-2011-0344-0040.1 (Proposal May 19, 2011). A copy of US EPA's Cost analysis and data tables is included in Appendix C. US EPA also provided an estimate of the installed cost for a WESP that was in good agreement with the cost estimate provided by Envitech.

Table 3 WESP Design Parameters

Parameter	Existing Configuration	Proposed Design
Stack Flow (dscfm)	215,879	215,879
Pb Concentration (gr/dscf)	1.1E-6 to 8.5E-6	2.7E-7 to 4.9E-7
Pb Rate (lbs/hr)	0.014	0.001
Installed Cost	N/A	$30,000,000-Envitech $33,000,000-USEPA
Annual Operating Cost	N/A	$712,500 – Envitech, verbal $1,650,000-USEPA
Footprint (sq. ft)	N/A	7,500

The Envitech proposal calls for two (2) trains of five (5) WESPs each, for a total of ten (10) WESPs. Envitech's proposal is included in Appendix A. Each train would handle half of the combined gas flow from these sources and would have one stack and two induced draft fans.

3.3.4 Fugitive Emission Filtration Units as a General Ventilation Source Control

Baghouses control fugitive emissions from Material Handling operations, Feed Rooms, and Raw Material areas. General ventilation sources are controlled using cartridge collectors (Torits). The addition of the HEPA after-filters for the Torits was completed in August 2011. Test data to indicate performance subsequent to this addition are not yet available. Based on the large volumetric flow rate from these general ventilation sources, Envitech recommended that a non-WESP option be considered for secondary control of these sources.

For technology with the potential to improve control of the General Ventilation Sources, Exide investigated Busch International Fugitive Emission Filtration (FEF) Units. These units are specially designed to reduce particulates contained in fugitive emissions and general ventilation sources that typically have relatively low particulate loadings when compared to the particulate loading found in process source exhaust. Busch FEF units have integral secondary HEPA filtration as an option and this configuration is the one pursued for this study. Based upon a review of industry data, and specifically of the lead emission concentrations achieved at the Quemetco facility (also in South Coast), Busch FEF units are achieving, in practice, exhaust lead concentration levels among the lowest in the industry. These units are not, however, amenable to installation on the process sources.

Exide provided general ventilation source data such as flow rate, Pb loading, moisture content, and exhaust temperature to Busch International so that they could provide a proposal for reducing emissions from General Ventilation Sources. Based on Busch's analysis of the operating conditions at Exide's Vernon plant, Busch was not able to propose a design or extend any performance guarantees for reductions in emissions below the low levels already being

achieved by the existing filtration equipment at the facility. A copy of their letter is included with this report and is found in Appendix B. That is, based on the wide range of potential improvement (possibly as little as 20%, per EPA as cited above), Busch could not guarantee any improvement.

The largest unit that Busch manufactures is FEF-50, which can handle 50,000 scfm of exhaust gas. Given that Exide has approximately 400,000 scfm of total exhaust from General Ventilation sources, Exide would need a minimum of eight (8) FEF-50 units. Exide received a quote from Busch for a single FEF-50 which is included in Appendix D. In order to continually process this exhaust stream, Exide would need to purchase additional units to remain on standby.

Table 4 BUSCH FEF Parameters

Parameter	Existing Configuration	Proposed Design
Stack Flow (dscfm)	401,777	401,777
Pb Concentration (gr/dscf)	2.2E-6 to 10.1E-6	2.2E-6 to 10.1E-6
Pb Rate (lbs/hr)	0.007	0.007
Installed Cost	N/A	$2,400,000
Annual Operating Cost	N/A	Operating costs not expected to be significantly higher or different than that being currently experienced with the existing control devices.
Footprint (sq. ft)	N/A	2,880 – 4,200

3.3.5 Addressing the Technical Feasibility of WESP and FEF Units

In order to assess the technical feasibility of achieving a 0.003 lbs/hr facility-wide emissions rate, it is necessary to look at all secondary control options as a whole. Based on the assessments provided by Envitech for using WESPs to control Process Sources and Busch International for using FEF HEPA Units to control General Ventilation Sources, it is not technically feasible to achieve a facility-wide Pb emission rate of 0.003 lbs/hr.

A key element of technical feasibility is the ability to craft engineering performance specifications in line with the target emission goal and have vendors guarantee performance consistent with such specifications. Through exchanges with Busch International, we have been unable to secure the necessary guarantees for performance that, when combined with WESP exhaust performance for the process sources, would meet a facility-wide point source Pb emission rate of 0.003 lb/hr. It is possible that such a combined installation (WESP on process sources, HEPA on all others) could achieve emissions in the vicinity of 0.003 lb/hr, but such performance could not be reasonably expected on a repeatable basis nor backed by vendor guarantees. While this particular combined configuration is employed by Quemetco, the Exide Vernon facility is exhausting much more air – the fundamental reason that a 0.003 lb/hr lead emission level cannot be expected even when using the same technologies. From a performance guarantee perspective, it is conceivable that the application of WESP to the entire facility flow could result in a facility-wide emission level guarantee below 0.003 lb/hr but such facility-wide application of the WESP technology was not the recommendation of the WESP vendor which recommends consideration of that technology to address the specific challenges of process gases having the potential to contain ultrafine particulate condensed from gaseous metals. Costs to deploy WESP technology facility-wide would be well more than double those assessed for economic feasibility in Section 3.4 below.

3.4 Economic Feasibility of Achieving a 0.003 lbs/hr Facility-wide Pb Emission Rate

In performing the economic assessment, it is necessary to consider the economics of the entire suite of control options. A particular secondary control option may be economically feasible on its own but may not be sufficient on its own to achieve a facility-wide emission rate of 0.003 lbs/hr. All options must be evaluated as a total package in completing the environmental assessment.

Table 5 shows the cost comparison for the WESP and BUSCH units combined. For comparison, we also show the Cost Analysis for the WESP technology only that was provided by USEPA for the NESHAP Risk and Technology Review found in Appendix C. This column is for the deployment of the WESP for the industry as a whole.

Table 5 Cost Effectiveness Comparison

Parameter	Exide	EPA NESHAP (4)
Capital Costs		
WESP (1)	$30,000,000	$400,000,000
Busch	$2,400,000	n/a
Subtotal	**$32,400,000**	**$400,000,000**
Annualized Capital Cost		
WESP	$3,000,000	$36,000,000
Busch	$240,000	n/a
Subtotal	**$3,240,000**	**$36,000,000**
Annual Operating Costs		
WESP (2)(3)	$712,500	$9,500,000
Busch	$0	n/a
Subtotal	**$712,500**	**$9,500,000**
Total Annualized Costs		
WESP	$3,712,500	$45,500,000
Busch	$240,000	n/a
Subtotal	**$3,952500**	**$45,500,000**
Total Pb Reductions		
lbs/yr	1,140	
tons/yr	0.57	13.8
Cost per Ton Pb Reduction		
$/ton Pb Removed		
Exide-(WESP + Busch) / EPA-WESP	$6,900,000	$3,300,000
Exide-(WESP) / EPA-WESP	$6,500,000	$3,300,000

(1) In EPA's draft Residual Risk MACT docket, their estimate for the Capital Cost of a WESP for the Vernon facility was $33,000,000. See docket item 0040.1.
(2) EPA's estimate for Annual Operating Costs was $19,000,000. In discussions with Andy Bartocci of Envitech, we understand that EPA may have included the RTO in the costs. Accordingly, we have reduced the EPA's operating cost estimate by 50%.
(3) Exide Annual Operating Costs are estimated as the ratio of the EPA's Operating Cost to Capital Cost.
(4) Note, Capital and Operating costs in this column for the EPA NESHAP study are for aggregate costs on an industry-wide basis to deploy the WESP technology at 13 facilities.

The SCAQMD adopted Rule 1420.1 in order to bring the SCAQMD into compliance with the revised federal NAAQS for lead. Other than assessing annual compliance cost, SCAQMD did not perform a cost-effectiveness analysis for the Rule. In adopting the Rule, SCAQMD required a facility mass emissions rate of 0.045 lbs/hr, which, combined with other Rule measures and

voluntary compliance measures to address fugitive emissions, was found sufficient to achieve the NAAQS. The 0.045 lbs/hr number represents a 99% point source reduction, and further reductions are not economically reasonable or feasible.

EPA has also evaluated the cost effectiveness of the WESP technology (the larger cost element in the above tabulation) as part of the proposal for revisions to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Lead Smelting [76 FR 97, May 19, 2011]. EPA's estimated capital cost for installation of a WESP at the Exide Vernon facility was $33 million which is very near the $30 million quoted by Envitech. EPA estimates the cost effectiveness as $3.3 million per ton of reductions in metal HAP emissions (mainly lead compounds).

EPA concluded that these costs were too high to warrant adoption of WESP technology as a NESHAP component, specifically saying:

> *"...the costs for these additional controls are high. Therefore, we are not proposing a requirement for the installation of a WESP under this ample margin of safety analysis."*
>
> [76 FR 97, May 19, 2011 at page 29058]

As was stated in Section 3.3.4, the combination of WESP control for Process Sources and FEF controls for General Ventilation Sources was not technically feasible in achieving a 0.003 lbs/hr limit. In addition, the cost to reduce Pb using the technology reviewed in this study for the Vernon facility are more than double the cost that EPA determined to be too high, primarily because the emission performance currently at the Exide Vernon facility is already better than industry-wide typical performance. That is, deployment of the WESP technology at Exide Vernon would be even less cost effective than deployment for the industry as a whole, because there are fewer emissions to capture by such very expensive technology.

The data presented in this section demonstrate that this combination of controls is not economically feasible in achieving this emission rate. A key element of economic feasibility is also the ability of companies to deploy capital in ways that have certainty of outcome. As noted above, the controls for achieving the general ventilation emission reductions cannot be guaranteed by the vendor to achieve the target levels of reductions. The absence of such guarantees renders the commitment of such a large capital expenditure economically infeasible.

3.5 Physical Feasibility of Achieving a 0.003 lbs/hr Facility-wide Pb Emission Rate

A plot plan showing the configuration of the Exide Vernon facility is shown in Figure 4. This plot plan shows the configuration once the pending "Baghouse Row" enclosure is fully constructed. After this occurs all stationary sources of lead will be operating in total enclosures that will be vented to air pollution control devices.

In addition to the location of buildings, the plot plan also shows the fenceline and the space that would be available for installation of any secondary control devices. A WESP control configuration would consist of two (2) trains of five (5) WESPs each, for a total of ten (10) WESPs. This WESP configuration would occupy and require a footprint of 7,500 square feet.

Each Busch FEF unit has dimensions of 30 feet by 12 feet. The overall FEF footprint for 8 units would be at least 65 feet by 65 feet or 4,225 square feet.

Figure 4 shows the plot plan with the footprint of two trains of five WESPs and eight FEF units superimposed on it. As the graphic shows, there is very little land area available in which to construct and operate the WESPs and FEF units on site. The location indicated on the figure for these installations blocks access to key operations and would not allow the shipment of lead from the shipping warehouse at the northeast corner of the facility and recovered plastic from the north end of the RMPS building.

Additionally, the available land area is used for truck traffic and other operating equipment on site. As such the available "inactive" land area, space that is not currently used, is even smaller. There is not enough "inactive" land area available for locating two trains of five WESPs and eight FEF units.

Therefore, the data presented in this section demonstrate that this combination of controls is not physically feasible in achieving this target emission rate.

4 Ambient Air Quality Modeling

4.1 SCAQMD Modeling Efforts

In its review of Rule 1420.1, the SCAQMD's Stationary Source Committee (SSC) reviewed an ambient air quality modeling analysis performed by SCAQMD staff regarding lowering the facility-wide lead point source emission rate from 0.045 lbs/hr to 0.003 lbs/hr.

At the time that the SCAQMD conducted its modeling, Exide was conducting a series of source tests to collect up-to-date emissions data for use in updating its health risk assessments. The emission rates available to the SCAQMD was 1-2 years old and did not take into account the equipment improvements that had been made in the intervening time.

Nevertheless, even using this older emissions data, the SSC concluded that...

> *"the other lead-acid battery recycling facility (Exide) can achieve the new lead standard through controlling lead point source emissions to 0.045 lbs/hr and strict adherence to housekeeping provisions of PR 1420.1. At this point, there is not sufficient information to substantiate the need to require this facility (Exide) to go beyond an expected 99% point source reduction at an additional cost of $15 to $20 million."*

4.2 Exide Modeling Efforts

In order to confirm the SCAQMD's analysis and update the results using the most recent source test emissions data and the revisions to buildings and stacks, Exide conducted its own ambient air quality modeling. US EPA's AERMOD dispersion modeling runs were made for two scenarios to evaluate the impacts that the Pb reduction measures currently under construction would have on the ambient Pb concentrations measured at the monitors located at and around the fenceline of the Vernon facility. Inputs to AERMOD included:

- Pb emission rates (lbs/hr) from Point Sources
- Scenario 1: using the rates measured from source tests conducted in late 2010 and early 2011 at the facility;

Scenario 2: considering the control efficiencies of the Wet Electrostatic Precipitator (WESP) to be installed for Kiln Dryer Baghouse, Neptune-Venturi Scrubber, Hard Lead Baghouse, and Soft Lead Baghouse, and for HEPA Busch and HEPA Busch for North Torit, South Torit, MAC Baghouse, and Material Handling Baghouse upon the emission rates in Scenario 1.

- Building profile for the new "Baghouse Row" enclosure was used for scenarios 1 and 2;
- Stack heights for the North Torit, South Torit, and MAC Baghouse were increased from 79 feet to 120 feet for scenarios 1 and 2;
- Emissions from fugitive sources were set to zero for scenarios 1 and 2. Once the construction of the "Baghouse Row" building is completed, Pb emissions from fugitive sources will be vented to control devices and should not have any significant impacts, if any, at the ambient monitors.

Table 6 Source Parameters of AERMOD Runs

Source ID	UTM Coordinates (m)		Emission Rate (Scenario 1)	Emission Rate (Scenario 2)	Release Height	Temp	Velocity	Stack Diameter
	X	Y	(g/s)		(m)	(K)	(m/s)	(m)
MAPCO	389705.7	3763538	8.05E-05	8.05E-05	19.35	299.48	4.55	1.09
MAT_STOR	389722.7	3763488	1.18E-03	5.91E-05	34.14	300.93	14.14	2.13
SOFTLEAD	389750	3763554	8.38E-04	4.19E-05	34.14	318.15	14.10	2.03
HARDLEAD	389729.9	3763505	8.35E-04	4.18E-05	34.14	311.76	17.17	2.03
DRYER_BH	389769.8	3763525	1.32E-03	6.61E-05	36.6	375.22	7.47	0.91
NEPTUNE	389751.4	3763527	2.20E-05	1.10E-06	34.14	332.89	8.27	1.16
NOR_CART	389790.5	3763550	3.60E-04	1.80E-05	36.6	298.50	11.29	2.13
SOU_CART	389789.3	3763547	5.29E-04	2.65E-05	36.6	298.89	15.29	2.13
MAC_BH	389740.1	3763479	2.36E-04	1.18E-05	36.6	307.44	18.06	1.82
			0.0054	**0.00035**	**g/s**			
			0.043	**0.003**	**lbs/hr**			

The modeling results are summarized in Table 5.

Table 7 Lead Concentrations at the Monitors Predicted by AERMOD

Scenario #	Lead Concentrations ($\mu g/m^3$)						
	SW_Monitor	SE_Monitor	NE_Monitor	On-Site North	REHRIG	Railway	CP_Monitor
Scenario 1	0.00765	0.00338	0.0437	0.02403	0.04657	0.01339	0.0071
Scenario 2	0.00064	0.00091	0.00689	0.00348	0.00647	0.00134	0.00042

For these modeling runs, the emission rates were based on source tests from late 2010 through early 2011. Additional source testing has been in progress as part of the update for the AB2588 HRA. The emission rates that were used in this modeling did not reflect the improvements due to the recent modifications to the air pollution control equipment. The total facility-wide emission rate for all stationary sources used in the modeling was 0.043 lbs/hr. This is greater than the current actual 0.020 lbs/hr facility-wide rate when the most recent source tests are taken into account, but it is still less than the 0.045 lbs/hr limit set by the rule – indicating that the 0.045 lb/hr facility-wide point source limit established in the Rule is adequate to insure compliance with the ambient standards.

Thus, the modeling results presented in this Study reflect a worst case scenario when the Vernon plant is emitting lead at a rate just below the Rule limit. As the actual facility-wide emission rate is even less than the modeled rate, the ambient impacts would be less than what are reported here, by approximately a factor of two.

For Scenario #1 (consistent with the 0.045 lb/hr facility-wide allowable emission rate), the maximum predicted ambient concentration at a residential receptor is only 0.005 $\mu g/m^3$ which is only 3 percent of the 0.15 standard. The maximum predicted ambient concentration at the maximum off-site receptor was only 0.08 which is only 50 percent of the 0.15 standard. That is, stack impacts from emissions consistent with the current 0.045 lb/hr emission level are already contributing less than half the 0.15 $\mu g/m^3$ standard, and even less given that actual stack emissions are currently less than half the 0.045 lb/hr limit. Current actual and allowed stack

emission rates are not a hindrance to achieving 0.15 $\mu g/m^3$ at the facility's ambient monitors and stack impacts at residences are essentially negligible.

The key point of this modeling exercise is to point out that it is not necessary to force the facility-wide lead stack emission rate to 0.003 lb/hr in order to achieve attainment of the NAAQS. Even with stack emissions from the facility just under the 0.045 lb/hr facility wide emission limit of Rule 1420.1, projected impacts are much less than one half of the 0.15 $\mu g/m^3$ ambient level. Consideration of the feasibility of the 0.003 lb/hr facility-wide stack emission level can only be made in the context of the purpose of the rule from which this feasibility study was commissioned. In that context, this modeling demonstrates that additional stack emissions reductions are not expected to further reduce ambient lead concentrations. Should Exide not meet the 0.15 $\mu g/m^3$ standard, resources should be directed to towards reducing fugitive emissions rather than stack emissions.

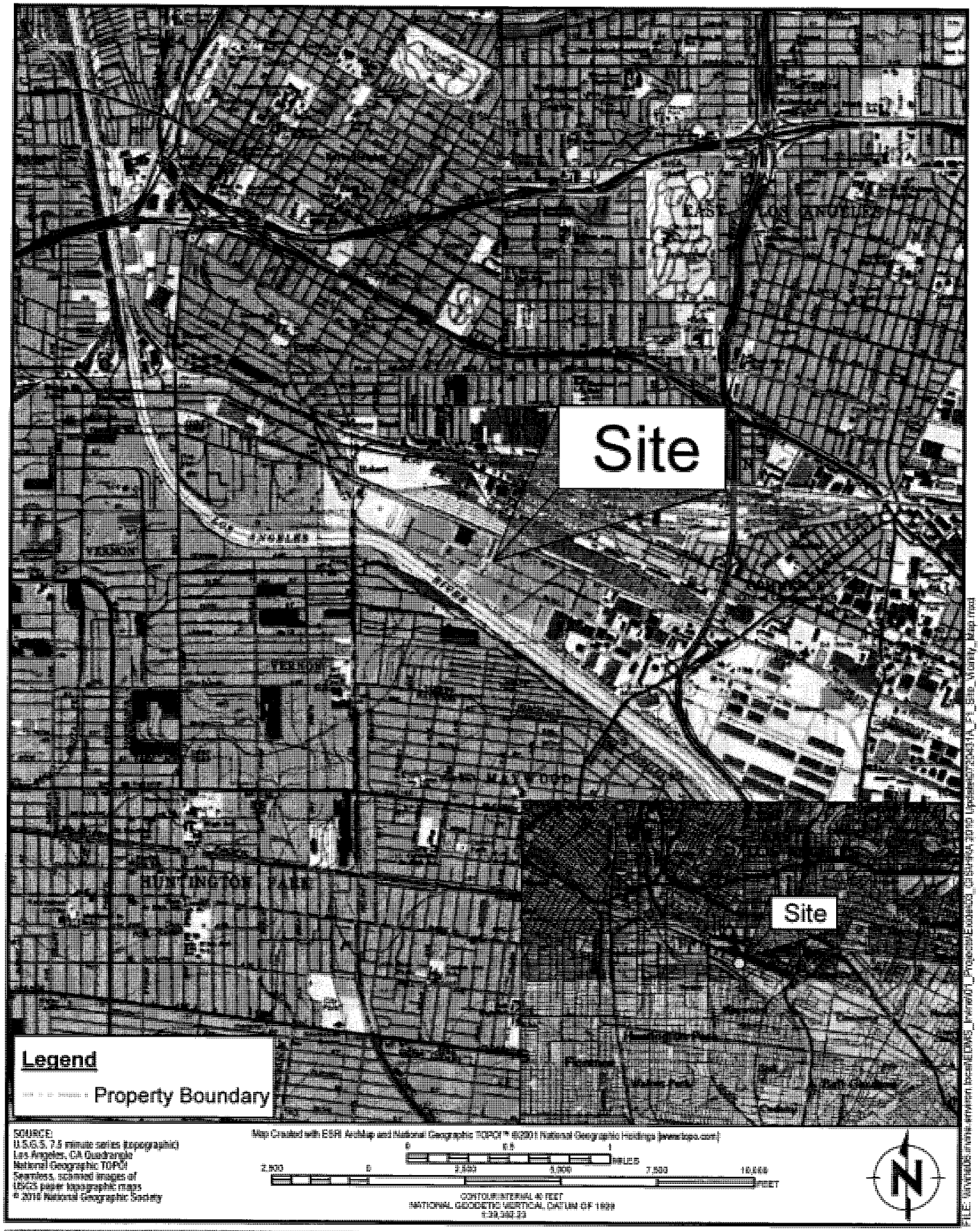
5 Conclusions

Based on the data presented in this study, no combination of Lead emission control technologies is currently available for which vendors will provide performance guarantees that can achieve a facility-wide emission rate of 0.003 lbs/hr from all point sources, thereby rendering such technologies technically infeasible. In addition, the technologies are not economically feasible because their installation would require capital expenditures in excess of $30 million and annual operating expenses of nearly $2 million, without expected contribution to the facility's ambient concentration compliance. Moreover, space constraints at the Vernon facility render installation of the technologies physically infeasible.

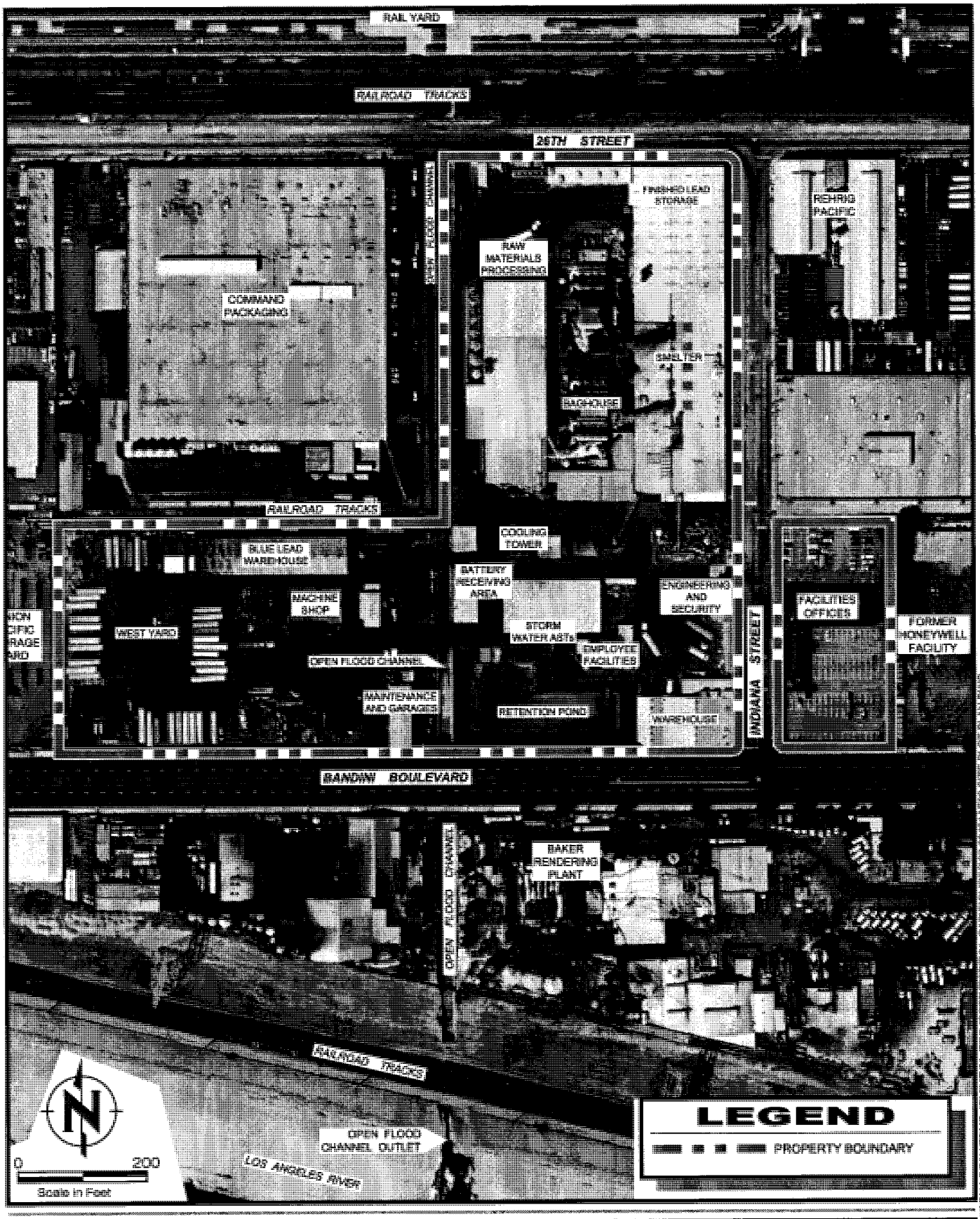
Exide's existing measures (some yet to be fully implemented) are sufficient to meet the Rule 1420.1 facility-wide emission rate requirement of 0.045 lbs/hr as well as attainment with the ambient Pb concentration limit of 0.15 $\mu g/m^3$. If for any reason Exide does not meet the ambient standards, in its Compliance Plan Exide has proposed to implement certain measures that are expected to further reduce emissions. Exide's Compliance Plan measures (both "early action" and contingent, as set forth in the Compliance Plan) are appropriately targeted towards fugitive emissions, which primarily drive ambient concentrations.

Accordingly, it is concluded that achieving a 0.003 lb/hr facility-wide lead emission rate level for the Exide facility in Vernon, California, is not technically, economically or physically feasible.

Figures



ENVIRON	Site Vicinity Map Exide Technologies Facility 2700 South Indiana Street, Vernon, California	Figure 1
DRAFTED BY: MMcMeechan DATE: 9/10/2010		PROJECT: 07-20431A



\\IRVINE06.IRVINE.ENVIRON.LOCAL\EDMS_IRVINE\01_PROJECTS\EXIDE\04_CAD\FIGURES\07-20431A\02 SITE PLOT PLAN.DWG

ENVIRON	Site Plot Plan Exide Technologies Facility 2700 South Indiana Street, Vernon, California	Figure 2
DRAFTED BY: SSHIN / DATE: 9/10/2010		PROJECT: 07-20431A

Figure 3

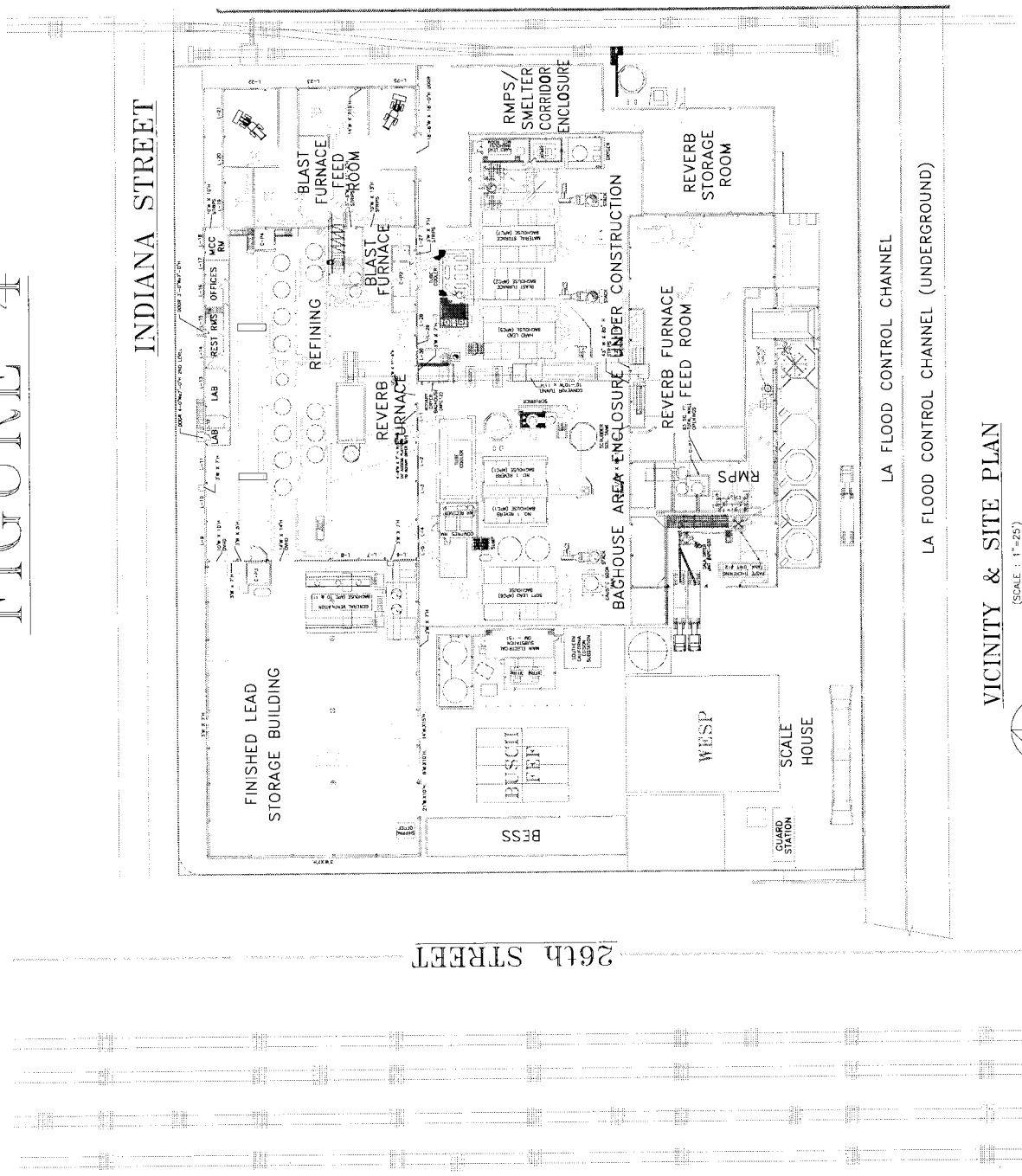
Locations of the Nearest Residential Receptors

Exide Technologies Facility
2700 South Indiana Street, Vernon, California

ENVIRON

2008

FIGURE 4



VICINITY & SITE PLAN

(SCALE : 1"=25')
SITE SIZE: 15 ACRES
TOTAL BUILDING AREA: 220,000 S.F.

EXIDE Technologies
Automotive Recycling Division
2700 S. Indiana St., Vernon, CA 90058

EXIDE TECHNOLOGIES, Inc. AUTOMOTIVE BATTERY DIVISION ATLANTA, GEORGIA

VERNON SITE PLAN

PROJECT NUMBER: 29935 | DRAWING TYPE: | SEQUENCE NUMBER: 00000

Appendix A

Envitech WESP Proposal for Exide Facility Located in Los Angeles, CA

Envitech

Proposal No. 29006, Rev. 0
PROPOSAL FOR **WESP System**

June 22nd, 2011

Mr. Russel Kemp – Environ Corporation on behalf of
Exide Technologies
2700 South Indiana Street
Vernon, CA 90058

Dear Mr. Kemp:

Envitech is pleased to offer Exide Technologies this budgetary proposal for a wet electrostatic precipitator (WESP) system to control lead emissions from various "process" sources and hooding located at the Vernon facility. This budgetary proposal is based on inlet conditions provided in the attachment to your May 11th, 2011 email. Our evaluation assumes the kiln dryer will be fitted with a HEPA filter capable of reducing the lead on that source by 95% from 0.0105 lb/hr to 0.000525 lb/hr.

Envitech recommends a wet electrostatic precipitator (WESP) system to reduce lead emissions from the process sources and hooding to 0.001 lb per hour. The system would be comprised of two (2) trains of five (5) WESP's each. Each train would handle approximately 50% of the combined gas flow from these sources and would have one stack and two induced draft (ID) fans, 1 operating, and 1 spare. A packed bed absorber will be housed in the inlet section of the WESP units to distribute the gas evenly to the collection section and to neutralize any residual SO_2. This will help protect the stainless steel materials of construction.

The information contained in this proposal addresses the questions in your May 11th email. A summary of our responses to these questions are as follows:

- The expected level of emissions of lead from these sources, if controlled by a WESP, on a mass and exit concentration basis.

  Envitech Response: The expected lead emissions are as follows:

  - Mass Basis: 0.0005 to 0.0009 lb/hr
  - Concentration Basis: 2.702E-7 to 4.864E-7 gr/dscf

- The level of emissions of lead from these sources that Envitech would be willing to guarantee if a WESP were employed.

  - We would seek and need that both the expectation and guarantee for lead emissions from this system be less than 0.001 lb/hr Pb on a mass basis as a maximum, but would like to know if even lower values are possible and at what incremental effort.

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Envitech Response: The performance guarantee is stated in Section 6.0, Performance Guarantee and Warranty. Envitech will guarantee 0.001 lb/hr Pb on a mass basis as a maximum. Lower values are possible, but the size and cost of the system are correlated to the design removal efficiency. We would need to know the target removal to assess the cost.

- We seek cost data on both a bare equipment and turnkey installed basis for any system or solution offered in response to the above.

  Envitech Response: The budget estimate for equipment is provided in section 2.0, Budgetary Pricing. The equipment budget is between $18M to $22M. The estimated installed cost is $25M to $30M

- We seek data in regards to water consumption, wastewater generation rates, and utility consumption for any system or solution offered.

  Envitech Response: The water and utility consumption are provided in a table in section 5.5, Operating Parameters and Utilities.

- We seek to know the physical ground footprint of any recommended system.

  Envitech Response: The foot print will be approximately 7,500 square feet including the outlet duct and stack. A preliminary general arrangement drawing (29006GA, Rev. 0, attached) is provided for reference and is based on the Quemetco layout of 5 units in a row. An alternate configuration may also be considered depending on the available space. The final footprint area will depend on the final design and arrangement.

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Envitech

Proposal No. 29006, Rev. 0
PROPOSAL FOR **WESP System**

Thank you for your interest and confidence in Envitech. If you need any additional information, please call me or visit our website at www.envitechinc.com . I look forward to hearing from you.

Sincerely,

Andrew C. Bartocci
National Sales Manger

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Envitech

Proposal No. 29006, Rev. 0
PROPOSAL FOR **WESP System**

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1.0 Scope of Supply

1.1 Equipment

One (1) Envitech Syngas Cleaning System, including:

- Ten (10) wet electrostatic precipitators
- Two (2) Induced Draft Fans
- One (1) lot of instrumentation & control system
- One (1) lot of pumps
- One (1) lot of ducting & stack
- Operation and Maintenance Manuals

1.2 Optional Equipment

- Additional operation and maintenance Manuals.

1.3 Equipment and Services Provided by Others

- Installation of equipment.
- Inlet ductwork to the system.
- Piping, valves & fittings.
- All permits and special clearances required by Local State, or Federal agencies.
- Testing required by an independent third party required to establish performance.

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2.0 Budgetary Price

2.1 Equipment

One (1) Envitech WESP System	US $18,000,000 to $22,000,000

The price does not include any sales, use, excise, or similar taxes.

- The estimated Installation Cost is $7,000,000 to $9,000,000.
- The estimated total installed cost is $25,000,000 to $30,000,000.

2.2 Optional Equipment

Option 1: Additional Operation and Maintenance Manuals	US $350

The price does not include any sales, use, excise, or similar taxes.

2.3 Equipment Startup and Training

Equipment start-up and operator training	US $75,000

The following support is included for the price shown above.

	Days
Startup, fine tuning	28
Operator Training	2

Additional days are charged at $1,500 per day plus travel, food, and lodging at cost plus 15%.

3.0 Exceptions and Clarifications

There are no exceptions or clarifications.

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4.0 Shipping and Payment Terms

4.1 Delivery Time

Design drawings for approval:	10 to 16 weeks from receipt of order with down payment
Delivery to carrier:	20 to 24 weeks from receipt of design approval and release for fabrication

4.2 Shipping

Price is F. O. B. Point of Manufacture, including equipment only.

Freight will be added and billed at cost.

4.3 Payment Schedule

Payment will be per a payment schedule to be negotiated at the time of contract.

4.4 Validity

This quotation is budgetary only.

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5.0 System Design

5.1 Design Basis

The proposed system is designed to operate at the following parameters:

Inlet Gas Condition

	Kiln	Blast & Reverb	Hard Lead	Soft Lead	Combined
Gas Flow Rate, dscfm	10,392	19,035	95,037	91,415	215,879
Gas Flow Rate, scfm	11,877	22,989	97,175	93,471	225,512
Gas Flow Rate, acfm	15,245	26,190	102,572	100,130	243,868
Gas Temp, F	216	140	95	104	110
Upstream Press., in.W.C.	-1	-1	-1	-1	-1
Gas Composition, lb/hr					
H2O	4,165	11,093	5,998	5,769	27,025
CO_2	0	0	0	0	0
O_2	10,875	19,919	99,452	95,662	224,909
CO	0	0	0	0	0
N2	35,815	65,602	327,553	315,050	743,999
SO_2	0	0	0	0	0
Total	50,854	96,614	432,983	416,481	996,933
Particulate	0.000525*	0.000175	0.00663	0.00665	0.014

*Assumes the kiln is fitted with a HEPA filter capable of reducing lead emissions 95% from 0.0105 lb/hr to 0.000525 lb/hr.

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5.2 Design Considerations

None noted.

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5.3 Principles of Operation

The Envitech WESP System was developed by Envitech through years of research and is highly efficient in controlling metal emissions from industrial sources. The precipitators will be arranged in two (2) trains of five (5) units each. The exhaust gas first enters and inlet header of each train which distributes the gas to each of the WESP units. The WESP operation is further described below.

5.3.1 Wet Electrostatic Precipitator

5.3.1.1 Inlet Conditioning Section

The conditioning section houses the inlet and packed bed section for distributing the air flow equally to all cells of the collector section. The packed bed section is also wetted with recirculation liquid to ensure that the gas is saturated prior to entering the collector section. Acid neutralization with caustic can be used to protect the materials of construction of the collector section.

5.3.1.2 WESP Collector Section

In this section, electrostatic forces remove particles contained in the gas stream. The collector section is an array of grounded collector tubes and discharge electrodes. Voltage in the range of 30 to 40 kV is applied to the discharge electrodes both to charge the particles and to provide a high voltage field. The voltage emanating from disks on the discharge electrodes creates a corona discharge of electrons. Electrons move from the discharge disks to the collector tube. Some of the electrons intercept and charge particles in the gas stream. Once the particles are charged, they are moved across the gas stream by the high voltage field where they deposit on the grounded collector tube. The particles are then intermittently flushed from the collector tube with a stream of water.

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5.3.1.3 WESP Outlet and Electrode Housing

The outlet section contains an entrainment separator. The entrainment separator collects any water drops that were entrained in the gas stream during washing. The outlet section also houses the support structure for the discharge electrodes.

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5.3.1.4 WESP High Voltage Transformer/Rectifier (T/R) with Controller

The power supply package supplies high voltage, full-wave, direct current (DC) power to the WESP. This allows automatic, unattended operation and provides all functions necessary to insure personnel safety and protect the equipment from upsets.

5.1.4.5 WESP Safety Interlock

The WESP is equipped with safety lock key interlocks that are interlocked with the main power to the T/R. This ensures that the high voltage areas in the power supply, the control cabinet, and the WESP cannot be entered without first de-energizing and grounding the bushing at the T/R.

After exiting the top of the WESP, the exhaust gas passes through an outlet header, Induced Draft (ID) fan and stack. There are two (2) ID fans, 1 operating and 1 spare.

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5.4 System Component Specifications

5.4.4 Wet Electrostatic Precipitators

Ten (10) high-efficiency Envitech wet electrostatic precipitators (WESP's).

Component	Description
Type	Upflow
Vessel Shells	316SS
Vessel Geometry	Square
Vessel Cross Section, ft	12 ft. x 12 ft.
Vessel Height, ft	30
Number of units	10 total (2 trains of 5 units each)
Footprint Area, Sq.ft (est.)	7,500
Inlet Conditioning Section	
Flow Distributor	316SS
Collector Section	316SS
Tube Type	Hexagon
Tube Length, in.	72
Tube Side Dimension, in	3
Tube Thickness, in	0.065
Discharge Electrodes	316SS
Type	Rigid Mast
Number of Emitter Disks per Electrode	6
Number of Discharge Crowns per Emitter Disk	25
Discharge Electrode Diameter, in.	1
Discharge Electrode Wall Thickness, in.	0.065
Power Grid Support	316SS
Insulator Support Assembly	
Quantity	4
Shell	CS
High Voltage Insulator	Porcelain
Outlet Section and Power Grid Housing	316SS
Entrainment Separator	316SS
Internal Wash Pipe	316SS
Wash Nozzle(s)	316SS
Access Doors	
Power Grid Housing	2 @ 24 in. Ø
Inlet Section	2 @ 24 in. Ø
Transformer/Rectifier	
Primary Voltage, V single phase	480
Secondary Voltage, kV	25 to 40

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Component	Description
Secondary Current, mA	1,850
Insulating Fluid	Mineral oil
Voltage Divider Rating, mega ohm	80
Current Limiting Reactor	
Location	LV junction box
Reactance	30%, 40%, 50%
Ambient Temperature, C	40
Temperature Rise, C	55
Type	Full wave rectified DC; mineral oil filled
Rectifier	Silicon diode bridge
Housing	NEMA 3R
Primary Power Rating	480V @ 17 amps
Secondary Power Rating	40 kV @ 242 mA
Transformer Rectifier Controller	SQ-300*i*
Power Transmission Type	Pipe in guard
Purge Air System	
Heater	
Type	Electric resistance
Quantity	4
Power, kW each	2
Purge Gas Ducting	316SS
Filters	4
Safety Interlock System	All access points, T/R Set and controller

5.4.6 Induced Draft (ID) Fans

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The system includes a total of Two (2) ID fans 1 operating and 1 spare.

Instrument or Control	Number
Two (2) ID Fans	316SS
Two (2) VFD's	Included
Two (2) ID Fan Inlet Dampers	316SS
Two (2) ID Fan Outlet Dampers	316SS
Fan Motor HP, EA	
Connected	350
Operating	280

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5.4.6 Instrumentation and Controls

The WESP system is designed for semi-automatic operation and includes instrumentation and a control system. Motor starters and control room building are by others.

Instrument or Control	Number
Level Transmitter	10
Level Switches	10
pH probe & Transmitter	10
Differential Pressure Transmitter(s)	2
Thermocouples	10
Liquid Flow Transmitter(s)	20
Pressure Gauge(s)	20
Control System	Included
Motor Starters and Control Room	By Others

5.4.7 Pumps

One (1) lot of recirculation pumps. Piping, valves, and fittings are by others.

Component	Description
Ten (10) Recirculation Pumps	20 HP/316SS
Piping, Valves & Fittings	By Others

5.4.8 Ducting & Stack

One (1) lot of interconnecting ducting fabricated as shown below.

Component	Description
Inlet Duct to System Inlet	By Others
Two (2) Inlet Headers	316SS
Two (2) Outlet Headers	316SS
Ten (10) WESP Inlet Dampers	316SS
Ten (10) WESP Outlet Dampers	316SS
One (1) Stack	316SS/70 ft Ht.

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5.5 Operating Parameters and Utilities

Following are the estimated operating parameters for both trains combined :

Operating Parameter/Utility	
System Inlet Pressure, in. WC	-1
Maximum Pressure Drop, in. WC	2
Fresh Water, gpm	2
Blowdown, gpm (estimated)[1]	2
Wash Water Flush, gpm[2]	1,440
Electricity, kW	
T/R Set	246
Purge Air System	80
Motor Operating HP	
Recirculation Pumps	200
ID Fans	280
Caustic Consumption, gph[1]	TBD

[1]Depends on the inlet SO_2 load which is unknown at this time.

[2]Operates for 1 min every 1 to 4 hours. The wash water will be rotated between the WESP units at 144 gpm at a time for 1 min every 1 to 4 hours per WESP unit.

6.0 Performance Guarantee and Warranty

6.1 Performance Guarantee

The proposed scrubbing system is designed to meet the following emission criteria:

Lead (Pb) Outlet	0.001 lb/hr

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6.2 System Warranty

The system is warranted for materials and workmanship one year from date of startup or 18 months after delivery, whichever comes first. The system warranty is based on operation of the system in compliance with Envitech's operating instructions, including proper preventative maintenance and the design basis described in section 5.1.

The following are specific exclusions to the warranty:

None noted

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In all situations involving non-conforming or defective products furnished under this warranty, Buyer's exclusive remedy is the repair or replacement of the products. Seller shall in its sole discretion have the option to elect repair or replacement of the products.

Seller shall not be liable for any indirect, special, incidental or consequential loss or damage (including, without limitation, loss of profits or loss of use) suffered by Buyer arising from or relating to Seller performance, non-performance, breach of or default under a covenant, warranty, representation, term or condition hereof.

6.3 Performance Warranty

Subject to the limitations of the General Terms and Conditions and the conditions stated herein, Envitech warrants the performance of the equipment at the performance levels specified above during a performance test to be conducted, or the warranty deemed satisfied, within ninety (90) days after start of initial operation or six (6) months after shipment, whichever occurs first, provided that the equipment, if in operation, has been installed and adjusted in accordance with Envitech engineering drawings and other written instructions. This warranty is conditional upon the Inlet Gas Conditions as specified in *Design Basis*.

Buyer shall give Envitech at least 30 days prior written notice of the date when the equipment will be ready for performance testing. If the equipment is not tested for performance within the time period specified in the above paragraph, through no fault of Envitech, or if Inlet Gas Conditions different than those specified above are encountered during performance testing, then the Envitech performance test obligation and this performance warranty will be deemed satisfied.

The System and Envitech shall be deemed to have satisfied obligations and this performance warranty when the average of three consecutive tests results in concentrations consistent with the applicable performance levels.

Prior to performance testing, Envitech may inspect the equipment at any reasonable time. If the equipment has been damaged after the transfer and passage of the risk of loss and damage from Envitech to the Buyer or mis-installed by Buyer, then Buyer shall at its expense, restore the equipment to operating condition satisfactory to Envitech prior to beginning of performance testing. If the equipment cannot be restored, Envitech will be released from its obligation.

Performance testing will be conducted by an independent testing laboratory, mutually acceptable to Buyer and Envitech. The initial battery of tests will be

conducted at Buyer's expense (including all fees and charges of the independent testing laboratory, as well as payment for the services, if requested, of an Envitech engineer at Envitech's then current daily service rate plus travel and living expenses). If the equipment performs at the applicable performance levels, as measured by the initial battery of tests, then the Envitech obligations and this performance warranty shall be deemed satisfied.

If the equipment fails to meet the applicable performance levels for reasons which are the fault or responsibility of Envitech, Buyer shall notify Envitech of the nonconformity in writing within 10 days of the knowledge of the nonconformity. Envitech, at its option, may make modifications, additions, or replacements to the equipment as it deems necessary to have the equipment function in accordance with said warranty. Envitech, at its expense, may request the independent laboratory to conduct additional tests to determine if the equipment is meeting the applicable performance levels. However, if the failure of the equipment to perform at the applicable performance levels occurs in whole or in part by reason of the fault or responsibility of third parties or of the Buyer, or its employees, agents or contractors, Buyer shall bear the expense of such additional tests.

Envitech and its engineers are to have access to all records, reports, results and other information relative to the equipment, as well as to all tests conducted by the independent testing laboratory. Immediately after completion of the tests, the Buyer shall cause the independent testing laboratory to transmit an unedited copy of the test reports and results to Envitech. At any time that this performance warranty is satisfied, or deemed satisfied, or Envitech is relieved of performance warranty obligations, any portion of the contract price not yet paid will immediately become due and payable to Envitech.

PREPARED FOR

EXIDE TECHNOLOGIES

2700 South Indiana Street
Vernon, CA 90058

PREPARED ON
June 22nd, 2011

Envitech 2924 Emerson St, Ste 320, San Diego, CA 92106 | Tel 619.223.9925 | Fax 619.223.9938

7.0 Operation and Maintenance Manual

One printed copy of the operating and maintenance manual is provided. The manual contains all the information needed to operate, maintain, and troubleshoot the incinerator gas cleaning system.

The manual also includes general arrangement drawings, process flow diagrams, P & ID diagrams, wiring diagrams (with pre-wired option), sequence of operations, manufacturers' catalog sheets for purchased components, recommended sources of replacement parts, and spare parts list.

8.0 Training and Start-up

Start-up and installation supervision is provided as outlined in the proposal. Additional training and assistance is available on a per diem basis plus travel costs.

The training covers system design, start-up and shut-down procedures, basic control functions, and trouble shooting. The training schedule can be adjusted to meet the specific needs of various groups of personnel and different plant conditions

9.0 Revision History

Revision	Date	Author	Prepared For	Description
00	06/22/11	ACB	R. Kemp	Preliminary Budget Proposal

PREPARED FOR

EXIDE TECHNOLOGIES

2700 South Indiana Street
Vernon, CA 90058

PREPARED ON
June 22nd, 2011

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Appendix A: Drawings

The following drawings are for reference only. Equipment, materials of construction and quantities are defined in 5.4 System Component Specifications.

- 29006GA, Rev 0 for Reference Only

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June 22nd, 2011

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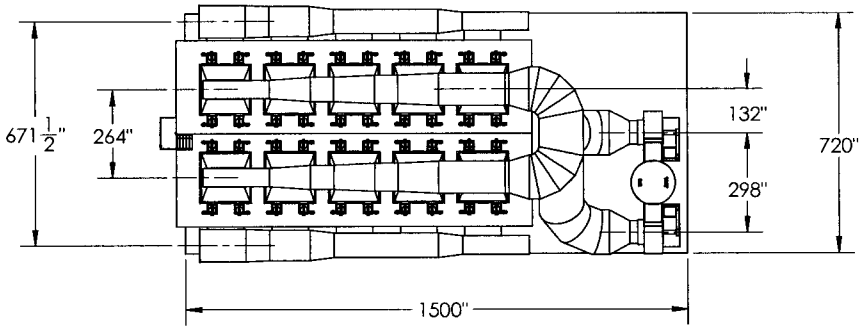
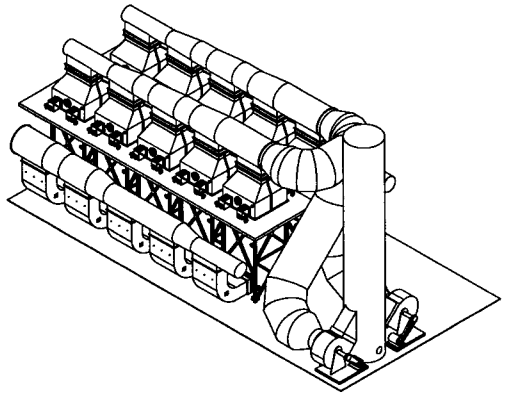
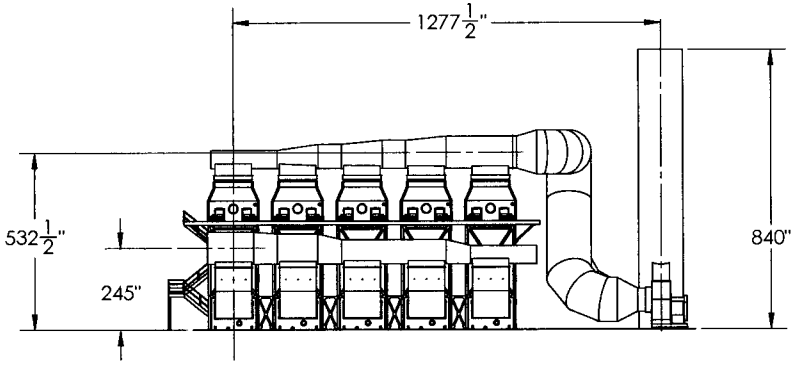
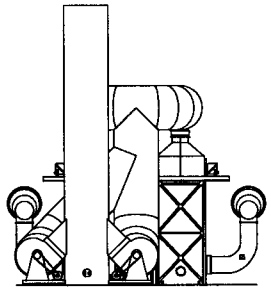
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	6/16/2011	R. PATTERSON









UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	AJO	6/16/11
	CHECKED		
	PROJ ENG	AJO	6/16/11
	MATERIAL		
INTERPRET GEOMETRIC TOLERANCING PER:	FINISH		
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENVITECH INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENVITECH INC. IS PROHIBITED.	PROJECT: EXIDE		

Envitech
2924 Emerson Street
San Diego, CA 92106
(619) 223-9925
(619) 223-9938 FAX

TITLE: GENERAL ARRANGEMENT

SIZE	DWG. NO.	REV
B	29006GA	A

SCALE: 1:360 WEIGHT: SHEET 1 OF 1

Appendix C: Brochures

- Industrial Gas Cleaning System Brochure
- Enviech WESP Cut Sheet

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Vernon, CA 90058

PREPARED ON
June 22nd, 2011

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Appendix C: Terms and Conditions

PREPARED FOR

2700 South Indiana Street
Vernon, CA 90058

PREPARED ON
June 22nd, 2011

Envitech 2924 Emerson St, Ste 320, San Diego, CA 92106 | Tel 619.223.9925 | Fax 619.223.9938

ENVITECH

General Terms and Conditions

Acceptance

Unless otherwise provided, this Proposal is subject to acceptance by Buyer within sixty (60) days from the Proposal date. Acceptance of this Proposal is limited to the terms and conditions herein. Envitech rejects all additional or different terms proposed by Buyer, except with Envitech's prior written consent. Buyer will reimburse Envitech for all reasonable costs and all other loss and damage resulting from the amendment or termination of this Proposal.

Terms of Payment

Except as otherwise provided in the Proposal, payment shall be by check or bank transfer according to the *Payment Schedule*. If Buyer fails to make any payments in accordance with the terms and provisions hereof, Envitech, in addition, but not in limitation, to its other rights and remedies, may at its option, either terminate the Contract or suspend further deliveries under it until payments have been brought current.

Shipping

Unless otherwise provided, all shipments shall be made F.O.B. shipping point. Title and risk of damage to or loss of goods shall pass to the Buyer upon delivery by Envitech to the carrier. If the shipment of any or all of the equipment is postponed or delayed by Buyer for any reason, including a Force Majeure situation, Buyer agrees to reimburse Envitech for any and all storage costs and other additional expenses resulting there from.

Force Majeure

Envitech shall not be liable for loss or damage for delay in delivery or failure to manufacture due to causes beyond its reasonable control including, but not limited to, acts of God, the government or the public enemy, riots, embargoes, strikes or other acts or workmen, casualties or accidents delays in deliveries and transposition and shortages of cars, fuel, power, labor, or material.

Material/Workmanship Warranty

Envitech will repair or replace, in its sole discretion, any equipment which has been manufactured to Envitech's special design and sold hereunder which is found to be defective in workmanship or materials, within twelve (12) months from its respective final acceptance date or eighteen (18) months from its respective shipment date, whichever comes first. Buyer's obligations hereunder are subject to the following conditions:

a) Buyer notifies Envitech in writing within fifteen (15) days after such defect becomes apparent and promptly furnishes Envitech full particulars in connection therewith, together with an opportunity to witness the operation of such defective equipment.

b) Buyer shall have installed (if applicable), operated and maintained the equipment strictly in accordance with Envitech's operating and maintenance instructions, including, but not limited to, the use of only those materials specified in the Proposal and in the inlet quantities stated in the Proposal.

c) The defect has been caused solely by faulty materials or workmanship for which Envitech is responsible, and is not due to such things as erosion, corrosion, or deterioration resulting from the manner in which the equipment is operated, accident (including damage during shipment, neglect, misuse or abuse, or exposure to conditions beyond the environmental power or operating constrains specified by Envitech.

Envitech makes no warranty with respect to equipment and materials not furnished by Envitech pursuant to this Proposal or with respect to equipment furnished by Envitech pursuant to this Proposal which has not been manufactured to Envitech's special design, but will pass on or assign to Buyer to the extent legally permissible, the warranties, if any, obtained from manufacturers of such items of equipment.

Any repairs made under this warranty will be done on site, if feasible, or at the place of manufacture. Any round-trip freight transportation charges required for returning material deemed defective to the place of manufacture must be paid by Buyer. All costs associated with removing or reinstalling the defective equipment will be at Buyer's sole expense.

Limitation of Warranties

The warranties and guaranties furnished by Envitech, as expressly included herein, constitute Envitech's sole obligation hereunder and are in lieu of any other warranties or guaranties, express or implied, including warranties of merchantability or fitness for a particular purpose.

Taxes

Unless otherwise provided, Buyer agrees to pay any tax or import duty imposed by any federal, state, local or municipal Authority upon the equipment or related services described in this Proposal.

Installation

Unless otherwise provided, Envitech shall have no responsibility for, and Buyer hereby waives and relinquishes any claims related to, the installation, start-up and operation of the equipment to be furnished hereunder. If this agreement so provides, Envitech shall furnish advisory personnel to assist in installation and start-up of the equipment and to instruct Buyer's personnel in the operation of Envitech's equipment. Although Envitech will be responsible for mechanical adjustments to its equipment, Envitech has no responsibility for, and Buyer hereby waives and relinquishes any claims related to, correctness of site installation, the appropriateness and compatibility of the installation with respect to Buyer's facility or ability of Buyer's personnel to correctly operate and maintain Envitech's equipment.

Buyer agrees to defend, indemnify and hold harmless Envitech from and against any loss, costs (including reasonable attorneys' fees and costs), claims, suits or causes of action brought, threatened or incurred by or against Envitech arising from or in any way related to the installation, start-up and operation of the equipment to be furnished hereunder.

Inventions and Patents

Envitech grants no license by reason of any sale under any patent rights it may now own or hereafter acquire except the right to use the equipment sold hereby for the purpose for which it is sold under such patent rights, only as it covers said equipment as sold by Envitech. All drawings, novel techniques, special tooling and inventions made or acquired by Envitech or its agents or employees in the fulfillment of this proposal shall be the property of Envitech regardless of whether any order document states a separate price item for tooling or engineering. Buyer agrees to indemnify and hold Envitech harmless from and against any expense or loss from infringement of patents or trademarks arising from compliance with the Buyer's designs, specifications or instructions in the manufacture of the equipment or its use in combination with other equipment or systems.

Limitation of Remedies

Envitech's entire liability and Buyer's exclusive remedy are set forth in this Section:

In all situations involving non-conforming or defective Products furnished under this Agreement, Buyer's exclusive remedy is the repair or replacement of the Products. Envitech shall in its sole discretion have the option to elect repair or replacement of the Products.

Envitech's liability for actual damages for any cause whatsoever shall be limited to the applicable unit price for the specific components of the Product that caused the damages or that are the subject matter of, or are directly related to, the cause of action. This limitation will apply, except as otherwise stated in this Section, regardless of the form of action, whether in contract or in tort, including negligence.

Envitech shall not be liable for any indirect, special, incidental or consequential loss or damage (including, without limitation, loss of profits or loss of use) suffered by Buyer arising from or relating to Envitech's performance, non-performance, breach of or default under a covenant, warranty, representation, term or condition hereof. Except as specifically provided in the preceding sentence, Buyer waives and relinquishes claims for indirect, special, incidental or consequential damages.

Buyer expressly waives any right to recover punitive damages from Envitech, and Buyer hereby waives and relinquishes any and all punitive damage claims.

The limitations on liability and damages set forth in this section apply to all causes of action that may be asserted here under, whether sounding in breach of contract, breach of warranty, tort, product liability, negligence or otherwise.

Security

Envitech reserves a security interest in the equipment sold hereunder and in all accessions to, replacements for and proceeds of such equipment, until the full contract price, plus all other charges permitted hereunder, including any charges, costs or fees contemplated in the *Attorney's Fees, Venue and Jurisdiction* section below, are paid in full by Buyer. If so requested by Envitech, Buyer shall execute all security agreements, financing statements, promissory notes and all other security documents requested by Envitech in the form determined by Envitech.

Dispute Resolution

The Parties agree that any controversy, dispute or claim arising from or in any way related to this Agreement or the materials or equipment provided by Envitech shall be resolved by binding arbitration. The parties agree that jurisdiction for any arbitration shall be with the San Diego, California office of the Judicial Arbitration and Mediation Service ("JAMS") and the Parties hereby expressly agree to be bound by the then-prevailing JAMS rules applicable to commercial arbitrations.

Any dispute subject to arbitration shall be submitted to a single neutral arbitrator, who, unless otherwise agreed by the Parties, shall be a retired judge or other lawyer who is a member of the arbitration panel of the San Diego office of JAMS and who has substantial experience in the area of the Dispute. JAMS shall submit to each Party an identical list of five proposed qualified arbitrators drawn from the applicable panel of commercial arbitrators. If the Parties are unable to agree upon an arbitrator within thirty (30) days from the date that JAMS submits such list to each Party, then JAMS shall simultaneously submit to each Party a second list of five additional proposed qualified arbitrators drawn from the applicable panel of commercial arbitrators. If for any reason, the appointment of an arbitrator cannot be made from either list, JAMS may make the appointment from among other qualified members of the panel without the submission of additional lists to the Parties

The Parties shall be entitled to obtain pre-hearing discovery through depositions and requests for the inspection and copying of documents and other items upon reasonable notice and to obtain the issuance of a

subpoena duces tecum therefor in accordance with applicable law, provided that depositions shall not be taken unless leave to do so is first granted by the arbitrator. As between the Parties, the arbitrator shall have the power to enforce the rights, remedies, procedures, duties, liabilities and obligations of discovery by the imposition of the same terms, conditions, consequences, sanctions and penalties as may be imposed in like circumstances in a civil action by a California Superior Court.

Any award rendered by the arbitrator shall be reduced to a judgment and may be entered in any Court authorized to have jurisdiction under this Agreement.

The parties expressly waive any right they may have to a jury trial.

Venue and Jurisdiction

Each Party irrevocably consents to the jurisdiction of the state courts located in San Diego, California, and agrees, subject to the provisions contained in the paragraph entitled "Dispute Resolution" above, that any action, suit or proceeding by or among the Parties (or any of them) may be brought in any such court sitting in San Diego, California, and waives any objection which the Party may now or hereafter have concerning jurisdiction and venue, whether based on considerations of personal jurisdiction, forum non conveniens or on any other ground.

Attorney's Fees

In the event of any litigation, arbitration, judicial reference or other proceeding involving the Parties to this Agreement to enforce any provision of this Agreement, to enforce any remedy available upon default under this Agreement, or seeking a declaration of the rights of a Party under this Agreement, the prevailing Party(ies) shall be entitled to recover from the other(s) such attorneys' fees and costs as may be reasonably incurred, including the cost of reasonable investigation, preparation and professional or expert consultation incurred by reason of such litigation, arbitration, judicial reference or other proceeding.

Sound Levels

The combined sound or noise levels produced by individual sound generating devices, and the exposure of workmen to such, will depends on Buyer's plant noise levels over which Envitech has no control. Therefore, Envitech makes no guarantees, warranties or representations with respect to sound levels. If, after the equipment to be furnished hereunder is installed, it is determined that the system does not meet the maximum permissible sound levels or exposures, or that changes in OSHA requirements necessitate equipment modifications or additions, Envitech shall assist Buyer in designing and providing equipment and materials required, provided that an equitable adjustment of the contract price and proposed schedule is made.

Design Criteria

Envitech's Proposal is based upon design criteria supplied by Buyer and Envitech assumes no responsibility for the accuracy of such criteria. Buyer recognizes, and the parties hereto intend, that Envitech shall not be obligated to meet its performance guarantee hereunder if the actual design conditions are found to be different from those upon which Envitech's Proposal is based.

Additions or Changes in the Work

Buyer agrees to pay Envitech reasonable charges for additional work outside the scope of any contract resulting from Envitech's Proposal as requested by Buyer by changes indicated by Buyer on Envitech's drawings, by letter, or by change order or other written instruction, and an equitable adjustment of the contract price and proposed schedule will be made by the parties.

Termination or Cancellation

In the event that Buyer terminates or cancels all or any portion of its order, Buyer shall compensate Envitech for all costs and expenses already incurred including, but not limited to, the price of any goods or services required to fill said order already committed to by Envitech, a pro rata portion of the contract price representing work completed prior to such termination or cancellation and a reasonable allowance for overhead and profit.

Miscellaneous

This Proposal represents the entire understanding and agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior negotiations, letters and understandings relating to the subject matter hereof and cannot be amended, supplemented or modified except in writing signed by the party against whom the enforcement of any such amendment, supplement or modification is sought.

Failure of Envitech at any time or times to require performance of any provision of this proposal shall in no manner affect its right to enforce the same, and a waiver by Envitech of any breach of any provision of this proposal shall not be construed to be a waiver by Envitech of any succeeding breach of such provision or a waiver by Envitech of any breach of any other provision.

The rights, privileges, duties and obligations covered herein, including the transactions and agreements covered and contemplated hereby, shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns provided, however, Buyer may not assign any of its rights, privileges, duties or obligations hereunder without the prior written consent of Envitech, and any purported or attempted assignment without such written consent shall be null and void *ab initio.*

Appendix B
BUSCH FEF Statement

10431 Perry Highway, Wexford, PA 15090 Ph: 724-940-2326 Fax 724-940-4140

July 7, 2011

ENVIRON International Corporation
1600 Parkwood Circle, Suite 310
Atlanta, GA 30339

ATTN: Russell Kemp, Principal

Dear Russell:

Subject: Busch International Fugitive Emissions Filtration (FEF) Units

This revised letter summarizes several points from our recent conversations.

The Busch FEF Unit is a highly efficient and cost effective way to control fugitive lead dust emissions within lead processing facilities. These units offer the following features and benefits:

- Compact horizontal configuration for roof mounting, inline mounting or tight indoor locations.
- Self cleaning reverse jet pulse high efficiency filter system followed by a HEPA polishing filter stage.
- Easy to service walk-in configuration.
- Cost effective packaged design incorporates the fan, motor, controls and filtration system in one economical package.
- Proven performance on many lead industry and other metallurgical fume applications.

During our discussions, Environ presented outlet emission test data, which is reported to have come from other Busch FEF unit installations within the lead industry. These field tests from 1997-1998 show lead particulate outlet emission concentrations of less than 0.0001 Grains/DSCF. In some cases, outlet concentrations are as low as 0.0000003 Grains/DSCF. These levels are all below emission limits that could be "guaranteed".

BUSCH INTERNATIONAL

Busch International believes that past performance is a good indication of expected future results. This will be true especially for like applications. Note however, that installations of this type are highly variable in nature and the prediction of filter system dust removal efficiency and/or outlet emission concentration is theoretical at these very low levels. The inlet dust loading and particle size distribution associated with each installation will likely vary. For these reasons, Busch expects to see similar outlet emission levels on similar applications in the future, but we cannot guarantee outlet emissions at these low levels

We look forward to the opportunity to work with you further. Please contact Lois McElwee or me if you have any questions.

Sincerely,

William W. Frank
President

C: Lois McElwee –Regional Manager

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Appendix C

US EPA Draft Cost Impacts for the Secondary Lead Smelting Source Category and Data Table

ERG
www.erg.com

MEMORANDUM

To: Chuck French, U.S. Environmental Protection Agency, OAQPS

From: Donna Lazzari and Mike Burr, ERG

Date: April 2011

Subject: Draft Cost Impacts for the Secondary Lead Smelting Source Category

---

The purpose of this memorandum is to describe the methodology used to estimate the costs, emissions reductions, and secondary impacts of the proposed revisions to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for the Secondary Lead Smelting source category. These impacts were calculated for existing units and new units projected to be operational by the year 2014, two years after the rule is expected to be promulgated and the anticipated year of implementation of the revised NESHAP. The results of the impacts analyses are presented for the most stringent regulatory options considered in addition to the regulatory options that were ultimately chosen for proposal. The development of the baseline emissions estimates and the maximum achievable control technology (MACT) floors for this source category are discussed in other memoranda[1,2]. The organization of this document is as follows:

1.0 Summary of Cost Estimates and Emissions Reductions for the Regulatory Options Chosen for Proposal

2.0 Regulatory Options Considered for Proposal

3.0 Methodology for Estimating Control Costs

4.0 Methodology for Estimating Emissions Reductions

5.0 Testing and Monitoring Cost Impacts

6.0 Summary of Cost by Facility

1.0 SUMMARY OF COST ESTIMATES AND EMISSIONS REDUCTIONS FOR THE REGULATORY OPTIONS CHOSEN FOR PROPOSAL

Regulatory options were considered for control of emissions of metal hazardous air pollutants (HAP), organic HAP, and dioxins and furans (D/F) from stacks and metal HAP from fugitive sources. For all options, total hydrocarbons (THC) are considered a surrogate for organic HAP (other than dioxins and furans) and lead a surrogate for metal HAP. A brief

[1] ERG. Development of the RTR Emissions Dataset for the Secondary Lead Smelting Source Category, Mar. 2011.
[2] ERG. MACT Floor Analysis for the Secondary Lead Smelting Source Category, Mar. 2011.

description of the options selected for the proposed revisions to the NESHAP and the associated costs and emissions reductions are summarized in Table 1-1. The most stringent options considered in this analysis are summarized in Table 1-2. A more detailed description of all the regulatory options considered for proposal and their associated cost and emissions reductions estimates are presented in section 2.0 of this memorandum.

Table 1-1: Summary of the Estimated Costs and Emissions Reductions of Regulatory Options Selected for Proposal

Option	Description	COST IN $ MILLIONS (2009 DOLLARS)				Total HAP Emissions Reductions (tons per year)	Cost per ton HAP reduction ($MM)
		Capital Cost	Annualized Capital Cost	Annual Operation and Maintenance Cost	Total Annualized Cost		
3S	Stack lead concentration limit of 1.0 mg/dscm any stack, and 0.2 mg/dscm facility average	$7.7	$0.7	$0.9	$1.7	5.9	$0.29
1D	D/F Concentration based limit	$0	$0	$0.26	$0.26	30*	$0.009
3F	Fugitive enclosure + work practice	$40	$3.8	$5.8	$9.6	9.5	$1.0
Test, Monitor, Report	Additional Testing, Monitoring	$0.33	$0.03	$1.0	$1.0		
Total		$48.0	$4.5	$8.0	$12.6	45.4	$0.28

*Tons of total organic HAP (3 grams/yr D/F reduction)

Table 1-2: Summary of the Estimated Costs and Reductions for the Most Stringent Options

Option	Description	COST IN $ MILLIONS (2009 DOLLARS)				Total HAP Emissions Reductions (tons per year)	Cost per ton HAP reduction ($MM)
		Capital Cost	Annualized Capital Cost	Annual Operation and Maintenance Cost	Total Annualized Cost		
2S	0.009 lb/ton Pb emissions limit	$23.9	$2.3	$2.7	$5.0	9.6	$0.52
2D	Beyond the floor D/F limits for	$5.9	$0.56	$2.4	$2.9	200*	$0.015

Option	Description	COST IN $ MILLIONS (2009 DOLLARS)				Total HAP Emissions Reductions (tons per year)	Cost per ton HAP reduction ($MM)
		Capital Cost	Annualized Capital Cost	Annual Operation and Maintenance Cost	Total Annualized Cost		
	blast furnaces						
1F and 2F	Enclosures, work practices, monitoring	$40	$3.8	$6.1	$9.9	9.5	$ 1.04
Test, monitor, report	Additional testing and monitoring	$0.33	$0.03	$1.0	$1.0		
Total		$70.1	$6.7	$14.4	$18.8	219	0.086

*We estimate a total of 200 tons of reductions in organic HAP emissions, including 31 grams of dioxins and furans, under this beyond-the-floor option.

2.0 REGULATORY OPTIONS CONSIDERED FOR PROPOSAL

This section provides a detailed description of all regulatory options that were considered for the proposed revisions to the Secondary Lead Smelting NESHAP and their associated costs and secondary impacts.

2.1 Stack Emissions – Metal HAP

The four regulatory options considered for control of metal HAP emissions from stacks are presented in the following sections.

a. Option 1S

Regulatory option 1S represents a scenario of reducing the existing lead emissions concentration limit from the 2.0 milligrams per dry standard cubic meter (mg/dscm) to 0.5 mg/dscm. Based on emissions data received in an information collection request (ICR) sent to the industry, 90 percent of the stacks in this source category reported concentrations below 0.5 mg/dscm. Ten emissions points at six facilities reported concentrations above 0.5 mg/dscm; estimates of cost and emissions reductions were made for 8 of these stacks. One facility is currently undergoing an upgrade with plans to replace existing baghouses, and thus, we assumed this would reduce the lead concentration at this stack below 0.5 mg/dscm. For seven of the stacks reporting concentrations above 0.5 mg/dscm, we assumed that a replacement baghouse would be installed. For one stack at which a baghouse was recently installed, we assumed that lead concentrations below 0.5 mg/dscm could be achieved through replacement bags performance of additional maintenance on the unit. One additional stack reported concentrations that were very close to 0.5 mg/dscm; no costs for were estimated for this unit. The total estimated capital cost for the seven new baghouses that would likely be necessary to achieve

concentrations below 0.5 mg/dscm is $11.8 million, resulting in an annualized capital cost of $1.1 million. Additional annual operational and maintenance costs, including more frequent bag changes for the baghouses, are estimated at $1.6 million above the costs of operating the current air pollution control devices. The total estimated annualized cost above current cost for the 8 baghouses is $2.7 million (2009 dollars). The estimated emissions reductions of Option 1S are 6.5 tons per year of lead and 8.3 tons per year of total metal HAP.

b. Option 2S

Option 2S considers a production-based lead emissions limit. A limit of 0.009 pounds of lead emissions per ton of lead production (lbs/ton Pb) was calculated as a facility-wide emissions limit using a methodology similar to a MACT floor analysis. We estimate that new or improved baghouses would likely be necessary at 19 emissions points at six facilities to meet the limit considered in this option. For facilities that were estimated to be above the limit considered in this option, we sequentially selected stacks for a baghouse replacement or upgrade (based on reported concentration) until the facility was estimated to have emissions below 0.009 lbs/ton Pb. Two of the stacks selected had relatively newer baghouses, and thus, we estimated the cost of changing all the existing bags to a new upgraded filter media and performing additional maintenance for these units. One selected stack had a baghouse that was less than 10 years old; we estimated 25 percent of the cost of a new unit to represent additional filtration media or substantial upgrade to this unit. For the remainder of the selected stacks, assumed replacement baghouses would be needed.

The total estimated capital cost for this regulatory option is $23.9 million, resulting in an annualized capital cost of $2.3 million. Additional annual operational and maintenance costs, including more frequent bag changes for the baghouses, are estimated at $2.7 million above current costs. The total annualized cost above current air pollution control device operating costs for the 19 baghouses is $5.0 million (2009 dollars). Total anticipated emissions reductions of lead and other metal HAP in this option are estimated at 9.6 tons per year.

c. Option 3S

Option 3S is the regulatory option that was selected by EPA for proposal in the Secondary Lead Smelting NESHAP. This option represents an overall facility-wide flow-weighted average lead concentration limit of 0.2 mg/dscm and a limit of 1.0 mg/dscm for any individual stack. We estimate that this option would require reductions in lead emissions at three emissions points located at two facilities. We assumed that replacement baghouses would be needed at each of these emissions points. The total estimated capital cost for the new baghouses is $7.7 million, resulting in an annualized capital cost of $0.7 million. Additional annual operational and maintenance costs, including more frequent bag changes for the baghouses, are

estimated at $0.9 million above the currently operated air pollution control device operating costs. The total annualized cost above current cost for the three baghouses is $1.7 million (2009 dollars). Lead emissions reductions for this option are estimated at 4.7 tons per year with total metal HAP emissions reductions of 5.9 tons per year.

d. Option 4S

Option 4S is a regulatory option that considers requiring installation of a wet electrostatic precipitator (WESP) at each facility to control stack emissions of metal HAP. One facility in this source category currently utilizes a WESP to control metal HAP emissions from stacks (i.e., Quemetco, Inc. in City of Industry, CA). Based on emissions data received in the ICR, this facility is the lowest emitting facility in terms of stack emissions of metal HAP. In this option, the other 13 facilities in the source category would be required to install a WESP. Based on the configuration of the existing WESP reported in the ICR, we assumed that facilities that would need to install a WESP under this option would use the WESP to control metal HAP emissions from process and process fugitive emissions sources only. More specifically, we assumed that existing hygiene baghouses would not be routed to the WESP. The total estimated capital cost for installation of a WESP at 13 facilities is $400 million, resulting in an annualized capital cost of $36 million. The total annualized cost above current cost is estimated at $55 million. Lead emissions reductions for this option are estimated at 10.9 tons per year with total estimated metal HAP emissions reductions of 13.8 tons per year.

e. Summary

A summary of the costs and emissions reductions associated with the four regulatory options described above for stack emissions are summarized in Table 2-1.

Table 2-1: Estimated Costs and Emissions Reductions for the Regulatory Options Considered for Stack Emissions of Metal HAP.

Option	Description	COST IN $ MILLIONS (2009 DOLLARS)				Total HAP Emissions Reductions (tons per year)	Cost per ton HAP reduction ($MM)
		Capital Cost	Annualized Capital Cost	Annual Operation and Maintenance Cost	Total Annualized Cost		
1S	Concentration limit of 0.5 mg/dscm	$11.8	$1.1	$1.6	$2.7	8.3	$0.33
2S	0.009 lb Pb / Ton Pb produced	$23.9	$2.3	$2.7	$5.0	9.6	$0.52
3S	Concentration limit of 1.0 mg/dscm any stack, and 0.2	$7.7	$0.7	$0.9	$1.7	5.9	$0.29

Option	Description	COST IN $ MILLIONS (2009 DOLLARS)				Total HAP Emissions Reductions (tons per year)	Cost per ton HAP reduction ($MM)
		Capital Cost	Annualized Capital Cost	Annual Operation and Maintenance Cost	Total Annualized Cost		
	mg/dscm facility average						
4S	WESP	$400	$36	$19	$55	13.8	$4.0

2.2 Stack Emissions – Organic HAP and D/F

The two regulatory options considered for control of stack emissions of organic HAP and D/F are presented in the following sections.

a. *Option 1D*

Option 1D is the regulatory option that EPA chose for proposal in the revised NESHAP for the Secondary Lead Smelting source category. This option represents calculating a MACT floor for D/F emissions from various furnace groupings that were formed based on similar operating characteristics. In addition to the D/F MACT floors, new MACT floors for THC were be calculated for furnace types that are not regulated in the existing NESHAP. These include reverberatory furnaces not collocated with blast furnaces, electric arc furnaces, and rotary furnaces. The THC MACT limits for blast furnaces and collocated blast and reverberatory furnaces in the existing NESHAP would remain unchanged under the proposed revisions. We do not anticipate that this regulatory option will require installation of additional controls at any facilities. We do anticipate, however, that four facilities operating blast furnaces will likely increase the temperature of their afterburners to ensure continuous compliance with the new MACT floors for D/F and THC. The cost of the natural gas required to raise the temperature 100 degrees Fahrenheit (°F) at afterburners was estimated at $260,000 per year (2009 dollars). Under this regulatory option, we estimate D/F emissions reductions of about 2.9 grams per year and organic HAP emissions reductions of about 30 tons per year.

b. Option 2D

Option 2D represents a beyond-the-floor option for D/F emissions from blast furnaces that are not collocated with reverberatory furnaces. This option was considered because based on emissions data submitted in the ICR, blast furnaces that are not collocated with reverberatory furnaces contribute approximately 78 percent of the total D/F emissions from the source category. In this option, a Toxic Equivalency Quotient (TEQ) based concentration limit of 17 nanograms per dry standard cubic meter (ng/dscm) (corrected to 7 percent oxygen (O_2)) was

considered. This concentration represents an approximate 90 percent reduction in total D/F emissions from blast furnaces in this source category.

For this option, we assumed that additional afterburner capacity would be needed at five of the six blast furnaces needing D/F emissions reductions. One of the blast furnaces has an afterburner currently installed that meets the requirements of this considered regulatory option. The total estimated capital cost for installation of the additional afterburners is $5.9 million, which results in an estimated annualized capital cost of $0.56 million. Annual operational and maintenance costs increases, including additional natural gas fuel, are estimated at $2.4 million above current control device operating costs. The total annualized cost above current cost for the afterburners is estimated to be $2.9 million (2009 dollars). Under this scenario, we anticipate D/F emissions reductions of 31 grams per year, with a co-reduction of 200 tons per year of all other organic HAP. We also estimate that this option would result in a significant increase in fuel use along with increased emissions of carbon dioxide (CO_2) and oxides of nitrogen (NO_x) associated with operation of the additional afterburners.

c. Summary

A summary of the costs and emissions reductions associated with the two regulatory described above for D/F and organic HAP emissions are summarized in Table 1-4.

Table 2-2: Cost Estimates and Emissions Reductions for Regulatory Options Considered for Stack Emissions of D/F and Organic HAP.

Option	Description	COST IN $ MILLIONS (2009 DOLLARS)				Total HAP Emissions Reductions (tons per year)	Cost per ton HAP reduction ($MM)
		Capital Cost	Annualized Capital Cost	Annual Operation and Maintenance Cost	Total Annualized Cost		
1D	Concentration based MACT limit	$0	$0	$0.26	$0.26	30*	$0.009
2D	Beyond the floor for Blast furnaces	$5.9	$0.56	$2.4	$2.9	200*	$0.015

* based on total organic HAP

2.3 Fugitive Emissions – Metal HAP

Three regulatory options were considered for control of fugitive metal HAP emissions. Because these emissions cannot be directly measured, a numerical emissions limit was not calculated. Instead, regulatory options were considered that prescribed specific controls or lead

compliance monitoring at the property boundary as a means of demonstrating compliance. The three options considered are as follows:

1. **Option 1F**: This option requires facilities to conduct ambient lead monitoring at or near the property boundary to demonstrate compliance with the National Ambient Air Quality Standard (NAAQS) for lead.
2. **Option 2F**: This option requires facilities to keep all lead-bearing materials and processes enclosed in permanent total enclosures that are vented to a control device. Additional fugitive control work practices would also be required. Compliance with this regulatory option would be demonstrated by ensuring full enclosure plus work practices and ambient lead monitoring at or near the property boundary.
3. **Option 3F**: This is the primary regulatory option selected by EPA for proposal in the revised NESHAP for the Secondary Lead Smelting source category. This option is identical to option 2F with the exception that ambient lead monitoring at or near the boundaries of the facilities would not be required. Instead, compliance would be demonstrated through construction of total enclosures and operation according to a standard operating procedures (SOP) manual detailing how the required fugitive control work practices will be implemented.

In options 2F and 3F, facilities would be required to have all lead manufacturing processes within total enclosures under negative pressure with conveyance to a control device. Although option 1F requires only monitoring at the property boundary, and does not explicitly require total enclosures, we assumed for cost purposes that facilities would need to operate all lead-bearing processes under negative pressure enclosures in order to comply with this option. This estimate is considered to be a high end conservative estimate of costs, particularly for facilities where operations are not close to the property boundary. Based on information submitted in the ICR, the facilities that are currently achieving ambient lead concentrations at or near the lead NAAQS at or near their property's boundaries are facilities that already have their processes totally enclosed. Therefore, we assumed facilities that do not have all of their lead manufacturing processes in total enclosures will construct the appropriate enclosures and reconfigure their facilities to reduce their overall footprint as described in section 3.3 of this memorandum.

The total estimated capital cost for the total enclosures, ventilation systems, and associated control devices is $40 million, which results in an annualized capital cost of $3.8 million. The total annual operation and maintenance cost, which includes building and baghouse maintenance, is estimated at $2.8 million above current cost. The total annualized cost of new enclosures for six facilities is $6.6 million. Costs associated with the additional work practices are estimated at $300,000 per facility for 10 facilities at a total cost of $3 million. The total estimated annualized cost of reducing fugitive emissions for the primary regulatory option selected by EPA for proposal (Option 3F) is $9.6 million (2009 dollars). For option 1F and 2F, the cost of operating two compliance monitors at or near the property boundary of each facility is

estimated at $23,000 per facility for a total additional annualized cost of $322,000. We estimate reductions in fugitive emissions of 8.7 tons per year of lead and 9.5 tons per year of metal HAP.

The estimated costs and emissions reductions associated with the regulatory options considered for fugitive emissions of metal HAP are summarized in Table 1-5.

Table 2-3: The Estimated Costs and Metal HAP Reductions for Fugitive Sources

		COST IN $ MILLIONS (2009 DOLLARS)					
Option	Description	Capital Cost	Annualized Capital Cost	Annual Operation and Maintenance Cost	Total Annualized Cost	Total HAP Emissions Reductions (tons per year)	Cost per ton HAP reduction ($MM)
1F and 2F	Enclosure, work practice, monitoring	$40	$3.8	$6.1	$9.9	9.5	$1.04
3 F	Enclosure, work practice	$40	$3.8	$5.8	$9.6	9.5	$1.0

3.0 METHODOLOGY FOR ESTIMATING CONTROL COSTS

The following sections present the methodologies used to estimate the costs associated with the regulatory options considered for proposal in the revised NESHAP for the Secondary Lead Smelting source category.

3.1 Stack Emissions – Metal HAP

The primary technologies used to control stack emissions of metal HAP in the Secondary Lead Smelting source category are filtration devices such as baghouses or cartridge collectors, some of which have high performance particulate air (HEPA) filters as a secondary filtration device. One facility uses a wet electrostatic precipitator (WESP) downstream of a baghouse as a polishing step to further reduce metal HAP emissions. Data collected in the ICR indicate that baghouses that are properly designed, installed, maintained and operated can meet all of the metal HAP stack emissions limits considered in this analysis except those under option 4S (which included a WESP).

In order to estimate the capital cost associated with a particular option, we first determined which stacks would be required to reduce emissions. For the concentration-based limits, we assumed that the baghouses at any stacks reporting concentrations in the ICR above the considered emissions limit would need to be repaired, improved, or replaced. If the reported concentration was more than 10 percent over the considered limit, we assumed the baghouse would need to be replaced. If the reported concentration was within 10 percent of the considered limit or the unit in question was relatively new (installed after the year 2000), we assumed that

replacement bags or additional baghouse maintenance could sufficiently reduce the concentration. For options that included a flow-weighted average concentration limit or a production based emissions limit, control devices were chosen for replacement or upgrade one at a time, beginning with the highest reported lead concentration, until the facility's emissions were below the considered limit.

In the ICR, EPA requested information on costs of emissions control devices that have been installed in the last five years. Several facilities submitted cost information that was used as a basis for estimating the cost associated with installation of a new baghouse. We compared estimates submitted by all of the facilities and chose the highest of the estimates as the cost model for baghouse installations. We compared estimates using this methodology to estimates derived using techniques described in the sixth edition of the EPA Air Pollution Control Cost Manual (http://www.epa.gov/oaqps001/lead/pdfs/2002_01_cost_control_%20manual.pdf). While the estimates derived using the EPA's manual were higher, we believe using data submitted directly by the industry is likely more representative of actual costs incurred by this source category.

Our cost model included installation of the baghouse and any necessary fans, ductwork, screw conveyors, and site work for each scenario, as appropriate. All costs are based on 2009 dollars. We did not consider the associated downtime for the unit in our costs. We estimated capital costs on the basis of dollars per unit of air flow (i.e., cubic foot per minute) into the device and assumed linearity of cost within the range of air flows considered in our analysis. The total installed capital cost of a typical baghouse designed for a flow-rate of 80,000 actual cubic feet per minute (acfm) was estimated at $1.4 million. This cost assumes a 20 year life expectancy for the unit and, to be consistent with OMB Guidance in Circular A-4, a seven percent cost of capital as an estimate of the annualized capital cost. The design flow-rate for a baghouse was assumed to be 20 percent higher than the flow-rate measured during a compliance test.

The major operating cost of a baghouse is associated with routine replacements of the filter media (bags). The number of compartments in the baghouse and the number of bags per compartment were estimated using either data submitted in the ICR for the particular unit or data submitted for a similar sized unit if the former data were not available. The estimated number of bags was used to calculate the ongoing maintenance cost of replacing bags. We assumed that facilities would be required to replace bags every two years for the devices that reported emissions above the considered limit. The cost of a replacement bag was estimated at $200 based on information submitted in the ICR. Other operating and maintenance costs were developed using information submitted in the ICR.

For the WESP option, we used information submitted by Quemetco, Inc. in the ICR as a basis for estimating cost. We assumed that the configuration of the new WESP installations would be similar to that of Quemetco. More specifically, we assumed that facilities would use the WESP to control process and process fugitive emissions sources, but not general building ventilation sources. We used the rapid estimation exponential method described in Perry's Chemical Engineers' Handbook[3] to derive an equation representing the expected flow-rate into the WESP at each facility. Our estimate of annualized costs primarily includes electricity to operate the WESP and capital recovery.

3.2 Stack Emissions – Organic HAP and D/F

The formation of D/F occurs in the smelting furnaces and is highly dependent on the operating temperature of the furnace. Very small amounts of D/F were detected in the emissions streams of reverberatory furnaces; higher amounts were detected in the emissions streams of blast furnaces that were not collocated with reverberatory furnaces. Emissions data submitted in the ICR indicate that D/F emissions from collocated blast and reverberatory furnaces are lower than those from blast furnaces not collocated with reverberatory furnaces, indicating that comingling the flue gas streams of a blast furnace with the hotter stream of the reverberatory furnace is an effective D/F control option. Based on information submitted in the ICR, temperatures of the reverberatory stream are typically around 2200°F, likely high enough to raise the overall temperature of the combined blast and reverberatory furnace stream to that typically achieved by an afterburner. Studies of D/F destruction indicate that properly designed and operated afterburners with a sufficient residence time can achieve high destruction efficiency[4]. The majority of the blast furnaces in this source category that are not collocated with reverberatory furnaces use afterburners as a means of controlling organic HAP emissions. However, based on information submitted in the ICR, the majority of these afterburners are not operated at temperatures necessary for efficient destruction of D/F. We estimated that an afterburner operating at 1600°F with a residence time of 2.5 seconds or longer would achieve a 90 percent reduction in D/F emissions.

In order to estimate the capital cost of 90 percent control efficiency for D/F from blast furnaces, information contained in the ICR responses was used to determine the current furnace and afterburner temperature and residence time. We assumed that an existing afterburner would have the capability to increase the operating temperature 100°F without a major modification. Based on information submitted in the ICR, we determined that 5 of the 6 afterburners controlling blast furnaces (not collocated with reverberatory furnaces) in this source category

[3] Perry, Robert H & Green, Don W. (1984). *Perry's Chemical Engineers' Handbook*, (6th ed.). McGraw-Hill.
[4] Ficarella, Antonio and Laforgia, Domenico. Numerical simulation of flow-field and dioxins chemistry for incineration plants and experimental investigation, Waste Management 20 (2000) 27-49.

were not capable of achieving a temperature of 1600°F. Therefore, we estimated the capital and operating costs associated with installation of a new afterburner for these sources. Three facilities submitted cost data in the ICR for afterburner installations; the highest of the three estimates was chosen as the basis for our cost estimate. For the capital cost estimate, we assumed that the existing afterburner would remain in place and a new afterburner capable of increasing the temperature of the stream leaving the existing afterburner to a temperature of 1600°F would be installed. We used an equation modeled after equation 2.32 in the EPA Air Pollution Control Cost Manual to scale the size and cost of a thermal incinerator based on the reported flow-rates for each of the blast furnaces. The typical cost for an installed afterburner with a design flow-rate of 17,000 acfm was estimated at $1.2 million.

The annual cost of operating an afterburner was estimated using the approach described in the EPA Air Pollution Control Cost Manual. The cost of additional fuel required to increase the operating temperature of the afterburners was estimated based on the estimated amount of required natural gas. Other operating and maintenance costs were estimated using an approach described in EPA Air Pollution Control Cost Manual. The annual capital cost was estimated using a 20 year equipment life and a 7 percent interest rate.

3.3 Fugitive Emissions – Metal HAP

There are two general categories of fugitive emissions of metal HAP at a secondary lead facility: process fugitive emissions and fugitive dust emissions from material handling operations and re-entrainment of deposited dust. Process fugitive emissions result from furnace leaks and incomplete capture of emissions during tapping and charging of smelting furnaces. Charge materials contain fine lead-bearing particles that can be liberated during charging operations. Furnace upsets, particularly those caused by wet feed material, can result in overpressure of the smelting furnace. This may cause release of emissions that would normally be contained by negative pressure occurring inside the smelting furnaces. Process fugitive emissions can also result from incomplete capture of emissions at battery breakers, dryers, and refining and casting operations. Fugitive dust emissions can be generated during material handling operations. Lead bearing materials are transported throughout the plant in areas that may be open to the atmosphere. During transport, the material can spill or leak from the transport vehicles and settle on the floors and yards of the facilities. Wind, vehicle traffic, and other forces can then re-entrain the deposited dust as fine airborne particles. Stack emissions containing lead and other metal HAP can also settle onto surfaces near the facility and can be subsequently re-entrained as fine airborne particles.

The current MACT standard for control of fugitive emissions of metal HAP from secondary lead smelters requires process fugitive emissions sources to be captured by negative pressure enclosure hoods and vented to a control device. There is a minimum face velocity

requirement for the enclosure hoods that varies based on the emissions source. As an alternative to an enclosure hood requirement, the facility may operate the process fugitive emissions source in a building that is maintained at a lower than ambient pressure. The building ventilation air is required to be conveyed to a control device. Additional fugitive control work practice requirements in the current MACT standard include wetting of storage piles, cleaning of roadways, and washing of vehicles prior to leaving any areas where lead-bearing materials are handled.

EPA requested information in the ICR regarding the fugitive control techniques employed at each facility. Based on that information, we assessed the relative effectiveness of the controls implemented by each facility and estimated fugitive emissions at each facility based on that assessment (see Draft Development of the RTR Emissions Dataset for the Secondary Lead Smelting Source Category for more details). The facilities achieving low ambient lead concentrations at nearby monitors were assumed to achieve more efficient control of fugitive emissions. We assumed that facilities with ambient monitoring data showing lead concentrations above the lead NAAQS would need to install permanent total enclosures with ventilation to a control device and implement additional work practices to prevent the formation of fugitive dust in other areas of their facilities. This approach may overstate the costs for facilities that choose to demonstrate compliance through monitoring at the property boundary, and where operations are a significant distance from the property boundary.

For each facility, we estimated the area that is currently under a total enclosure ventilated to a control device. We then estimated the additional enclosure area necessary fully enclose the entire process. We assumed facilities that required a substantial area of new enclosures would re-configure their facility in a manner that reduces the overall footprint of the facility.

Enclosure costs were estimated using the EPA Air Pollution Control Cost Manual. We used the 2008 version of the Air Compliance Advisor (ACA) program, a program developed by the EPA to facilitate the calculations required in the EPA Air Pollution Control Cost Manual, to estimate the cost of the building. The costs were then adjusted to 2009 dollars. The costs considered sheet metal walls, 30 feet high interior, automatic roll-up doors, louvers, make up air fans, ductwork, pressure monitors, and smoke detectors. We ran the ACA program for two model buildings. The average building capital cost based on these two runs was estimated at $40 per square foot. This factor was used to the estimate the cost of the additional enclosure area required for all other facilities.

The capital cost of the control devices required to control the enclosure ventilation air was estimated based on the flow-rate required to maintain the building under sufficient negative pressure. Based on information submitted in the ICR, we estimated a flow-rate that would result

in an air turnover rate of five per hour in a building maintained under sufficient negative pressure. We estimated the cost of the baghouse using the methodology described in section 3.1 of this memorandum.

Annualized costs for the enclosures and associated baghouses were based on a 20 year life expectancy and 7 percent cost of capital. Annual operating costs for the baghouse were estimated based on data obtained in the ICR. We chose this methodology because we believed it to be more representative of actual operation and maintenance costs for this situation. Additional operating and maintenance costs were estimated for the enclosures using guidelines supplied in the EPA Air Pollution Control Cost Manual.

We calculated annual costs for required installation of two compliance monitors at the property boundary for each facility under regulatory options 1F and 2F. The monitoring costs were obtained from estimates made for similar monitors in the proposed revisions to the Primary Lead Smelting NESHAP, published February 17, 2011 (76 FR 94106).

We anticipate that the work practices specified in the existing Secondary Lead Smelting NESHAP will not be adequate to maintain fugitive emissions from this source category at an acceptable level. We estimated that an additional four employees per facility (one per shift for four shifts) at an annualized cost of $300,000 will be needed to implement the following additional fugitive control work practices: maintenance of negative pressure monitors in enclosures, monthly cleaning of rooftops, weekly cleaning of all areas where waste generated by housekeeping activities are stored or disposed of, immediate cleaning after accidental releases, inspections of enclosures once per month, daily inspection of battery storage area and immediate processing of cracked batteries, and thorough cleaning and inspection of any vehicles leaving the process area.

4.0 METHODOLOGY FOR ESTIMATING EMISSIONS REDUCTIONS

This section discusses the methodology used to estimate emissions reductions associated with the control options presented in sections 1.0 and 2.0 of this memorandum.

4.1 Stack Emissions – Metal HAP

a. Option 1S

For Option 1S, the outlet lead concentration reported for each stack in the ICR was compared to the limit considered in this regulatory option (i.e., 0.5 mg/dscm). If the reported concentration was above 0.5 mg/dscm, we assumed that the facility would need to install a new baghouse at that emissions point. We assumed that the outlet lead concentration from the newly installed baghouse would be equivalent to the average of all outlet lead concentrations reported

in the ICR; we calculated this average to be 0.159 mg/dscm. We estimated the expected reduction in emissions as the difference between current stack emissions and the emissions that would occur assuming an outlet lead concentration of 0.159 mg/dscm (see Equation 1).

$$Emissions\ Reduction = [(C_i \times F) - (0.159 \times F)] \times H \times T \quad \text{(Eq. 1)}$$

Where:

C_i = outlet lead concentration reported in the ICR (mg/dscm),

F = flow rate (dscm/hr),

0.159 = expected outlet lead concentration of new baghouse (mg/dscm),

H = annual hours of operation, and

T = conversion factor for milligrams to tons (1.1×10^{-9}).

We concluded that 8 stacks throughout the industry would need new baghouse installations. One additional source reported an outlet lead concentration above 0.5 mg/dscm. However, they reported an ongoing project that includes upgrading the baghouse in question, and therefore, this source was not included in the emissions reduction calculation.

b. Option 2S

For option 2S, the stack lead emissions reported by each facility in the ICR were summed and divided by the annual lead production (average of 2008 and 2009) reported in the ICR. A statistical equation that considered variability in emissions was used to calculate a production based emissions limit of 0.009 lb/ton Pb. Based on emissions data received in the ICR, six facilities' emissions were above 0.009 lb/ton Pb. We assumed that these six facilities would sequentially replace or improve their existing baghouses one-by-one, starting with the units reporting the highest lead concentrations, until the facility's emissions were below 0.009 lb/ton Pb. Similar to option 1S, we assumed that a new baghouse could achieve an outlet lead concentration of 0.159 mg/dscm. We estimated that a total of 20 emissions points at six facilities would require reductions in lead emissions in this option. Total emissions reductions were calculated using Equation 1. We assumed emissions of other metal HAP would be reduced proportionally to lead emissions.

c. Option 3S

For Option 3S, we considered a facility-wide flow-weighted average lead concentration limit of 0.2 mg/dscm as well as a maximum lead concentration limit of 1.0 mg/dscm applicable to any individual stack. We calculated emissions reductions associated with the maximum concentration limit of 1.0 mg/dscm using a modified form of Equation 1. Based on this analysis, we estimated that three stacks would need replacement baghouses. Additionally, each facility's flow-weighted average lead concentration was calculated based on emissions data submitted in

the ICR. We then compared that value to facility-wide flow-weighted average limit of 0.2 mg/dscm considered in this option. We estimate that five facilities currently have a flow-weighted average lead concentration above the considered limit. We also considered the impacts of the proposed fugitive control standards presented in section 2.3 of this memorandum on the flow-weighted average concentration of each facility. Because we assumed that each facility will be required to have all processes under total enclosures with negative pressure and ventilation to a control device, we assumed that facilities needing additional enclosures would install one additional corresponding hygiene baghouse. Based on the average outlet lead concentration reported in the ICR for similar sources, we assumed that the outlet lead concentration from these hygiene baghouses would be 0.05 mg/dscm. We estimated that three of the five facilities initially identified as having emissions above the limit considered in this option would meet the considered limit after installation of the additional enclosures required in the fugitive control options. Furthermore, we estimate that replacing all baghouses reporting concentrations above 1.0 mg/dscm in combination with the installation of additional enclosures will result in all facilities being in compliance with the limits considered in this option. The total emissions reductions for this option were calculated using Equation 1.

d. Option 4S

For option 4S, we estimated emissions reductions of lead and other metal HAP using information submitted by Quemetco, Inc. regarding the efficiency of the WESP at their facility. Based on this information, we assumed that emissions of lead and other metal HAP from any source expected to be controlled by the WESP would be reduced by 99.98 percent.

4.2 Stack Emissions – Organic HAP and D/F

a. Option 1D

Option 1D considers MACT floor emissions limits for D/F (TEQ) based on furnace type. This option also includes setting MACT floor emissions limits for THC for furnace types that are not regulated in the existing NESHAP (i.e., reverberatory furnaces not collocated with a blast furnace, rotary furnaces, and electric furnaces). Based on our MACT floor calculation (see Draft MACT Floor Analysis for the Secondary Lead Smelting Source Category), we do not anticipate significant D/F or organic HAP emissions reductions associated with this option. However, we assume that facilities operating afterburners will likely increase the operating temperatures to ensure continuous compliance with the considered D/F limit. We believe reduction in D/F and other organic HAP on the order of 10 percent are possible using this assumption.

b. Option 2D

Option 2D is a beyond-the-floor option for D/F that establishes a TEQ concentration limit of 17 ng/dscm for blast furnaces not collocated with a reverberatory furnace. Based on the study reference in section 3.2 of this memorandum, the D/F destruction efficiency of an afterburner operating at 1600°F with a residence time of 2.0 – 2.5 seconds is between 90 and 94 percent. For the purposes of calculating emissions reductions associated with this option, we assumed a 90 percent destruction efficiency of D/F and organic HAP for newly installed afterburners in this source category.

4.3 Fugitive Emissions – Metal HAP

For all the fugitive emissions control options considered, we assumed that all facilities would need to reduce their fugitive emissions to a level that would reduce ambient lead concentrations near their property boundary to levels below the lead NAAQS.

We derived factors to estimate the reductions in fugitive emissions that are likely to occur as a result of enclosing all manufacturing processes material handling operations. Reductions in fugitive emissions of 75 percent from baseline levels were estimated if new total enclosures were installed at a facility where only partial enclosures currently exist. Additional reductions of 80 percent (total reductions of 95 percent) were estimated as a result of implementation of the additional work practices described in section 3.3 of this memorandum. This methodology is described in detail in the Draft Development of the RTR Emissions Dataset for the Secondary Lead Smelting Source Category.

5.0 TESTING AND MONITORING COST IMPACTS

The existing NESHAP requires annual stack testing for lead and allows for reducing stack testing to every two years if the measured lead concentrations are below 1.0 mg/dscm. The regulatory options chosen for proposal in the revised NESHAP require annual stack testing for lead and THC and stack testing once every five years for D/F. The additional costs associated with the stack testing requirements above current costs are anticipated to be $750,000 per year (an average of $53,000 per facility).

Bag leak detection systems (BLDS) are required by the existing NESHAP for all baghouses unless a secondary HEPA filter is installed. The proposed revisions to the NESHAP eliminate the BLDS exemption for emissions points where secondary HEPA filters are installed. The capital cost associated with installation of seven new BLDS is $230,000 and was estimated using the EPA's bag leak detection guidance[5] and CEMS cost model (http://www.epa.gov/ttn/emc/cem.html). The capital cost associated with additional differential pressure monitors for total enclosures is $97,000.

[5] EPA Office of Air Quality Planning and Standards Fabric Filter Bag Leak Detection Guidance – (EPA 454/R-98-015).

The total estimated annualized cost for additional testing, monitoring, recordkeeping, and reporting considering the first three years after the proposed revisions are implemented is $1,020,000. A detailed burden estimate is available in the docket for this rulemaking (*Supporting Statement, National Emission Standards for Secondary Lead Smelting*).

6.0 SUMMARY OF COST BY FACILITY

Table 6-1 is a summary of estimated costs for each of the facilities in the secondary lead smelting source category.

Table 6-1 Summary Cost Estimates by Facility*

Facility	Total Capital Cost	Total Annual Cost
Doe Run	18,200,000	3,550,000
East penn	0	380,000
EnviroFocus	0	390,000
Exide Baton Rouge	7,250,000	1,890,000
Exide Forest City	2,560,000	750,000
Exide Frisco	4,390,000	1,160,000
Exide Muncie	0	360,000
Exide Reading	5,630,000	1,320,000
Exide Vernon	0	87,000
Gopher Eagan	0	350,000
Quemetco (CA)	0	87,000
Quemetco (IN)	0	94,000
RSR	0	87,000
Sanders	9,520,000	2,048,000
Total	**47,550,000**	**12,553,000**

*Some of these cost estimates are likely overstated since some facilities may be able to comply with the rule under the alternative compliance option (i.e., monitoring at facility boundary and implementing work practices) and may not need to construct full enclosures. If so, actual costs would be significantly lower than shown here for those facilities.

Option 2S 0.009 lbton

SourceFile	BaghouseControlEquipmentID	ControlDevicesInstallationYear	InletGasFlowRate_dscfm	NumberOfCompartments	NumberOfBagsOrCartridgesPerCompartment	Capital cost Estimate	Annualized Capital cost	Additional Annual O&M	Bag Replacement cost	Total Annualized cost over current cost	Capital cost Estimate by Facility	Annualized Capital cost by Facility	Annual O&M by Facility	Bag Replacement cost by Facility	Total Facility Annualized cost above current cost
Buick RRF	CD8-EP08	1967	325,000	14	416	5,625,750	531,031	156,000	349,440	1,036,471					
Buick RRF	CD27-EP71	2003	60,000	4	256	259,650	24,509	28,800	61,440	114,749					
Buick RRF	EP-73		27,166	3	352	470,237	44,387	13,039	63,360	120,786					
Buick RRF	EP-16		33,985	3	352	588,284	55,530	16,313	63,360	135,203	6,943,920	655,457	214,152	537,600	1,407,209
East Penn	S202		30,000	1	384		-	14,400	23,040	37,440	-	-	14,400	23,040	37,440
Exide Frisco	HARDLEADBH	1978	25,616	4	216	443,420	41,856	12,296	51,840	105,992					
Exide Frisco	SPECALLOY	1978	74,382	3	216	1,287,552	121,536	35,703	38,880	196,119					
Exide Frisco	SOFTLEADBH	1978	52,093	6	288	901,733	85,117	25,005	103,680	213,802					
Exide Frisco	NewBLAST-Reverb	1969	62,401	5	200	1,080,165	101,960	29,953	60,000	191,912					
Exide Frisco	FURNFUG	?	113,167	6	288	1,958,924	184,909	54,320	103,680	342,909					
Exide Frisco	RMSTG	?	91,883	8	288	1,590,491	150,131	44,104	138,240	332,475					
Exide Frisco	Dryer BH	?	20,000	4	216		-	9,600	51,840	61,440	7,262,286	685,508	210,981	548,160	1,444,649
Exide Baton Rouge	#1 BH	1973	90,000	10	528	1557900	147,055	43,200	316,800	507,055					
Exide Baton Rouge	#4 BH	1977	45,000	8	288	778,950	73,527	21,600	138,240	233,367					
Exide Baton Rouge	#5 BH	1979	35,000	3	352	605850	57,188	16,800	63,360	137,348	2,942,700	277,770	81,600	518,400	877,770
Exide Reading	C22	1984	80,000	4	264	1,384,800	130,715	38,400	63,360	232,475					
Exide Reading	C11		60,000	5	80	1,038,600	98,036	28,800	24,000	150,836					
Exide Reading	C19		74,945	5	80	1,297,294	122,455	35,974	24,000	182,429					
Exide Reading	C47	2000	84,000	5	276	1,454,040	137,251	40,320	82,800	260,371	5,174,734	488,458	143,494	194,160	826,112
Sanders	BH 1	1970	90,720	10	288	1,570,363	148,231	43,546	172,800	364,577	1,570,363	148,231	43,546	172,800	364,577
					average	1,327,445									
					Total	23,894,004	2,255,425	708,172	1,994,160	4,957,757	23,894,004	2,255,425	708,172	1,994,160	4,957,757

Note: East Penn is not currently within the limit established, however one baghouse had a test with much higher values than previous test. Assume East Penn needs only additional maintenance or bag replacement.

Assumptions:

Costs calculated for limit based on 0.009 lb lead emissions per ton product

Facilities listed would need upgrade/ replacement of existing baghouses

Baghouses selected based on emission rate needed to comply with lb/ton limit

Survey data used for flowrate, number of compartments and number of bags

Cost for baghouses were derived from data submitted in survey - Model facility used

Annualized cost assumes 7% cost of capital, 20 year life

Annual O&M cost derived from data submitted in survey. Compared with cost of replacing bags at $200/bag for teflon on teflon bag, cost seems reasonable, estimated additional O&M over current is 25%

For cost over current cost of operating a baghouse, estimated that bags would be changed more often than current (2 years vs 5)

Facilities would meet the revised Lead limit for facility wide emissions

Option 1S Conc 0.5

SourceFile	BaghouseControlEquipmentID	ControlDevicelnstallationYear	Pb Conc	Pb Emissions TPY	Anticipated Pb Emission Reduction	InletGasFlowRate_acfm	NumberOfCompartments	NumberOfBagsOrCartridgesPerCompartment	Capital cost Estimate	Annualized Capital cost	Additional Annual O&M	Bag Replacement cost	Total Annualized cost over current cost	cost Effectiveness $/ton HAP
Buick RRF	CD8-EP08	1967	1.19	3.46	3.0	325000	14	416	5,625,750	531,031	156,000	349,440	1,036,471	
Buick RRF	EP-73		1.27	0.43	0.4	27166	3	352	470,237	44,387	13,039	63,360	120,786	
Buick RRF	EP-16		0.53	0.22	0.2	33985	3	352	588,284	55,530	16,313	63,360	135,203	
Exide Frisco	Feed Dryer	2007	0.585	0.54	0.4	81197	4	216		-	38,974	51,840	90,814	
Exide Baton Rouge	#1 BH	1973	1.26	1.49	1.3	90000	10	528	1,557,900	147,055	43,200	316,800	507,055	
Exide Baton Rouge	EP93-3		0.506	0.34	0.2	44208	3	458		-	21,220	82,419	103,639	
Exide Reading	C22	1984	0.657	0.39	0.3	80000	4	264	1,384,800	130,715	38,400	63,360	232,475	
Sanders	BH 1	1970	0.619	0.72	0.5	90720	10	288	1,570,363	148,231	43,546	172,800	364,577	
Sanders	BH4		0.723	0.31	0.2	35000	3	352	605,850	57,188	16,800	63,360	137,348	
									-	-	0	0	0	
		Total		7.9	6.5				11,803,184	1,114,137	387,492	1,226,739	2,728,368	329,752
					8.3	Total Metal HAP reduction								

Option 1S- Concentration limit established at about 0.5 mg/dscm

Assumptions:

Facilities listed would need upgrade/ replacement of existing baghouses
Survey data used for existing baghouses at facilities.
Cost for baghouses were derived from data submitted in survey - Model facility used
Annualized cost assumes 7% cost of capital, 20 year life
Annual O&M cost derived from data submitted in survey. Added to cost of replacing bags at $200/bag for teflon on teflon bag, estimated additional O&M over current is 25%
For cost over current cost of operating a baghouse, estimated that bags would be changed more often than current (2 years vs 5)

Baghouses chosen for replacement would allow facilities to meet proposed concentration limit
average lead concentration from all stacks is 0.159, assumption for emission reduction is based on achieving this concentration

Option 3S (1.00 0.2)

SourceFile	BaghouseControlEquipmentID	ControlDeviceInstallationYear	Pb Conc	Pb Emissions TPY	Emission Reduction	InletGasFlowRate_acfm	NumberOfCompartments	NumberOfBagsOrCartridgesPerCompartment	Capital cost Estimate	Annualized Capital cost	Additional Annual O&M	Bag Replacement cost	Total Annualized cost over current cost	cost Effectiveness $/ton HAP
Buick RRF	CD8-EP08	1967	1.19	3.46	3.0	325,000	14	416	5,625,750	531,031	156,000	349,440	1,036,471	
Buick RRF	EP-73		1.27	0.43	0.4	27,166	3	352	470,237	44,387	13,039	63,360	120,786	
Exide Baton Rouge	#1 BH	1973	1.26	1.49	1.3	90,000	10	528	1,557,900	147,055	43,200	316,800	507,055	
				5.4	4.7 reduction assuming			Total	7,653,887	722,473	212,239	729,600	1,664,312	$ 280,690

Scenario- 1.0 mg/dscm limit and 0.3 mg/dscm average

Metal HAP 5.92

Assumptions:

Facilities listed would need upgrade/ replacement of existing baghouses
Survey data used for existing baghouses at facilities.

Cost for baghouses were derived from data submitted in survey - Model facility used (see tab Baghouse cost)

Annualized cost assumes 7% cost of capital, 20 year life
Annual O&M cost derived from data submitted in survey. Compared with cost of replacing bags at $200/bag for teflon on teflon bag, estimated additional O&M over current is 25%

For cost over current cost of operating a baghouse, estimated that bags would be changed more often than current (2 years vs 5)
Facilities would meet the revised Lead MACT floor for facility wide emissions
average lead concentration from all stacks is 0.159, an alternate assumption for emission reduction is based on achieving this concentration

Option 3F Fugitive Control Cost

Facility	Total Enclosed Area Needed ft2	Building Capital Cost	New CF to be ventilated	Baghouse Capital ($)	Total Capital cost	Annualized Capital cost Baghouse + building	Baghouse Annual Operating cost($)	Enclosure Annual operating cost	Enclosure and baghouse operating cost	Enclosure and baghouse total Annual cost	Work practice estimate	Annual Operation and Maintenance cost (total)	Total Annual cost
Exide Baton Rouge	68,488	2,659,514	1,994,636	1,011,846	5,691,360	537,224	317,093	68,488	403,581	940,805	300,000	701,581	1,340,805
Exide Forest City	29,880	1,195,185	896,389	1,362,511	2,557,696	241,428	151,490	29,880	181,369	422,798	300,000	481,369	722,798
Exide Frisco	51,281	2,051,220	1,538,415	2,338,391	4,389,611	414,348	259,992	51,281	311,273	725,621	300,000	611,273	1,025,621
Exide Reading	65,816	2,632,620	1,974,465	3,001,187	5,633,807	531,792	333,685	65,816	399,500	931,292	300,000	699,500	1,231,292
Doe Run	141,590	5,663,584	4,247,688	6,456,486	12,120,070	1,144,049	717,859	141,590	859,449	2,003,498	300,000	1,159,449	2,303,498
EnviroFocus	20,139				-						300,000	300,000	300,000
Sanders	111,183	4,447,336	3,335,502	5,069,963	9,517,299	898,366	563,700	111,183	674,883	1,573,249	300,000	974,883	1,873,249
Total listed facilities		18,649,459		21,260,383	39,909,842					6,597,262	2,100,000	4,930,055	8,697,262
Total Level 1 facilities					27,328,729					4,517,552	900,000	2,837,913	5,417,552
Total Level 2 facilities					12,581,114					2,079,710	900,000	1,792,142	2,979,710
Level 3 facilities											900000	900,000	900,000
Total All Facilities					39,909,842	3,767,207	2,363,819	466,236	2,830,055	6,597,262	3,000,000	5,830,055	9,597,262

Assumptions:

Unenclosed or partially enclosed facilities would need to enclose area and vent to baghouse

Unenclosed or partially enclosed faciliites would reduce their facility footprint to the size of an enclosed facility with similar production.

Using the reduced footprint methodology, the capital cost of building and baghouse was reduced by up to 40%

Buildings are 30 ft tall

Baghouse cost estimated from data submitted by facilities in survey. EPA cost manual data was significantly higher

Baghouse operating data was submitted in the survey for the control device used to estimate capital cost

Baghouse operating data verified against cost to replace bags on a bi-annual basis, costs were similar

Building O&M cost was estimated at $1 / ft sq ft. This cost was estimated using the Air Compliance Advisor program for Permanent Total Enclosures

Building cost was estimated at $40 /ft2. this cost was estimated using two model facilities in the Air Compliance Advisor for Permanent Total Enclosures.

The higher cost estimate of the two faciliites in $/ft2 was used to estimate all facilities

Not enough facility specific information on cost to retrofit was available for an alternate retrofit cost

Cost data for a building was submitted by Quemetco, CA in January 2011. This cost was not considered in the analysis as the cost was very high compared to other estimates

No capital cost was estimated for Envirofocus as this facility is currently undergoing an expansion and upgrade. Practices described will meet control level required.

Level 2 definition - total facility enclosures vented to baghouse

Level 3 defnition - Level 2 plus additional work practices equivalent to South Coast California rule

Option 1F &2F

Facility	Total Enclosed Area Required ft2	Building Capital Cost	New CF to be ventilated	Baghouse Capital ($)	Total Capital cost	Annualized Capital cost Baghouse + building	Baghouse Annual Operating cost($)	Enclosure Annual operating cost	Enclosure and baghouse operating cost	Enclosure and baghouse total Annual cost	Work practice estimate	Annual Operation and Maintenance cost (total)	Ambient Monitoring Cost	Total Annual cost
Exide Baton Rouge	66,488	2,659,514	1,994,636	3,031,846	5,691,360	317,114	137,093	66,488	403,581	540,695	300,000	703,581	23,128	1,140,805
Exide Forest City	29,880	1,195,185	896,389	1,362,511	2,557,696	241,428	151,490	29,880	181,369	422,798	300,000	481,369	23,128	722,798
Exide Frisco	51,281	2,051,220	1,538,415	2,338,391	4,389,611	414,348	259,992	51,281	311,273	725,621	300,000	611,273	23,128	1,025,621
Exide Reading	65,816	2,632,620	1,974,465	3,001,187	5,633,807	531,792	333,685	65,816	399,500	931,292	300,000	699,500	23,128	1,231,292
Doe Run	141,590	5,663,584	4,247,688	6,456,486	12,120,070	1,144,049	717,859	141,590	859,449	2,003,498	300,000	1,159,449	23,128	2,303,498
EnviroFocus	20,139				-						300,000	300,000	23,128	300,000
Sanders	111,183	4,447,336	3,335,502	5,069,963	9,517,299	898,366	563,700	111,183	674,883	1,573,249	300,000	974,883	23,128	1,873,249
Total listed facilities		18,649,459		21,260,383	39,909,842					6,597,262	2,100,000	4,930,055	161,896	8,697,262
Total Level 1 facilities					27,328,729					4,517,552	900,000	2,837,913	69,384	5,417,552
Total Level 2 facilities					12,581,114					2,079,710	900,000	1,792,142	69,384	2,979,710
Level 3 facilities											900000	900,000	161,896	900,000
Total All Facilities					39,909,842	3,767,207	2,363,819	466,236	2,830,055	6,597,262	3,000,000	5,830,055	323,792	9,597,262

Assumptions:

Unenclosed or partially enclosed facilities would need to enclose area and vent to baghouse

Unenclosed or partially enclosed faciliites would reduce their facility footprint to the size of an enclosed facility with similar production.

Using the reduced footprint methodology, the capital cost of building and baghouse was reduced by up to 40%

Buildings are 30 ft tall

Baghouse cost estimated from data submitted by facilities in survey. EPA cost manual data was significantly higher

Baghouse operating data was submitted in the survey for the control device used to estimate capital cost

Baghouse operating data verified against cost to replace bags on a bi-annual basis, costs were similar

Building O&M cost was estimated at $1 / ft sq ft. This cost was estimated using the Air Compliance Advisor program for Permanent Total Enclosures

Building cost was estimated at $40 /ft2. this cost was estimated using two model facilities in the Air Compliance Advisor for Permanent Total Enclosures.

The higher cost estimate of the two faciliites in $/ft2 was used to estimate all facilities

Not enough facility specific information on cost to retrofit was available for an alternate retrofit cost

Cost data for a building was submitted by Quemetco, CA in January 2011. This cost was not considered in the analysis as the cost was very high compared to other estimates

No capital cost was estimated for Envirofocus as this facility is currently undergoing an expansion and upgrade. Practices described will meet control level required.

Level 2 definition - total facility enclosures vented to baghouse

Level 3 defnition - Level 2 plus additional work practices equivalent to South Coast California rule

Secondary Lead Control Cost **Incremental Improvement with increase in afterburner temperature**
Control of THC / Dioxin-Furan

Facility	Furnace Type	Blast Furnace Flow rate requiring control (scfm)	Existing Afterburner Operating Temp (deg F) - if no AB, Furnace Temp	Existing AB residence time	Temp increase required (deg F)	Fuel cost
Doe Run	Mixed	10,000	500	-	-	-
East penn	Co-located					
EnviroFocus	Blast					
Exide Baton Rouge	Reverb					
Exide Baton Rouge	Blast	21,505	700	3	100	$ 78,966.36
Exide Forest City	Blast					
Exide Frisco	Mixed	24,000	1,525	1	75	$ 66,096.00
Exide Muncie	Co-located					
Exide Reading	Co-located					
Exide Vernon	Mixed					
Gopher Eagan	Co-located					
Quemetco (CA)	Reverb					
Quemetco (IN)	Reverb					
RSR	Reverb					
RSR	Rotary					
Sanders	Blast	16,000	1,300	3	100	$ 58,752.00
Sanders	Blast	16,000	1,300	3	100	$ 58,752.00
						$ 262,566

Assumptions

A 10% reduction in D/F and organics is possible with improved operating practices and increase in afterburner temperature of 100 deg F
Beyond the floor MACT for Blast furnaces would require 1600 degree afterburner to achieve control of dioxins
$/MM BTU Nat Gas 4
Assumed the existing afterburner would remain in place. Additional afterburner fuel cost to increase temperature 100 deg F

Secondary Lead Control Cost **Beyond the floor option for controlling Blast Furnaces**
Control of THC / Dioxin-Furan

Facility	Furnace Type	Blast Furnace Flow rate requiring control (scfm)	Existing Afterburner Operating Temp (deg F) - if no AB, Furnace Temp	Existing AB residence time	New AB required (Y/N)	AB installed cost	Temp increase required (deg F)	Fuel cost	Electricity (KWH)	Electricity $/yr	Annual Capital Cost	O&M cost	Indirect Operating cost	Total Annual O&M	Annual cost - total
Doe Run	Mixed	10000	500	0	Yes	1,040,310	1100	403,920	839,800	57,526	98,198	13,688	49,825	524,959	623,157
East penn	Co-located				No										
EnviroFocus	Blast				No										
Exide Baton Rouge	Reverb				No										
Exide Baton Rouge	Blast	21505	700	3	Yes	1,259,788	900	710,697	1,805,990	123,710	118,915	13,688	58,604	906,699	1,025,614
Exide Forest City	Blast				No										
Exide Frisco	Mixed	24000	1525	1	Yes	1,294,838	75	66,096	2,015,520	138,063	122,224	13,688	60,006	277,853	400,076
Exide Muncie	Co-located				No										
Exide Reading	Co-located				No										
Exide Vernon	Mixed				No										
Gopher Eagan	Co-located				No										
Quemetco (CA)	Reverb				No										
Quemetco (IN)	Reverb				No										
RSR	Reverb				No										
RSR	Rotary				No										
Sanders	Blast	16000	1300	2.5	Yes	1,170,019	300	176,256	1,343,680	92,042	110,441	13,688	55,013	336,999	447,440
Sanders	Blast	16000	1300	2.5	Yes	1,170,019	300	176,256	1,343,680	92,042	110,441	13,688	55,013	336,999	447,440
						5,934,974		1,533,225		503,384	560,220	68,438	278,461	2,383,508	2,943,728

Assumptions

Beyond the floor MACT for Blast furnaces would require 1600 degree afterburner to achieve control of co-located furnaces

$/KWH	0.0685
$/MM BTU Nat Gas	4
Labor cost / hr	25

Electricity KWH calculated from equation in http://www.epa.gov/ttn/catc/dir1/cs3-2ch2.pdf
corrected for density of air at 600 deg F
Assumed the existing afterburner would remain in place. Additional afterburner fuel cost to increase temperature to 1600 deg F
Used afterburner cost data submitted in Section 114 survey for three afterburner installations to estimate base capital cost. Used highest of 3 total installed cost
Derived new equation to account for flow rate - modeled after equation 2.32 in EPA cost estimation manual for Incinerators
Operating cost approach developed from EPA cost manual for incinerators.
Used afterburner operating cost data submitted in Section 114 survey as a reference. Cost is similar to that calculated in this sheet.
Cost estimated using Air Compliance Advisor (EPA cost manual program), values significantly higher than these costs. Elected to use industry supplied data as the base

Summary of WESP Control Cost by Facility

Facility	WESP ACFM	Capital cost Estimate	Annualized Capital cost	Operating Cost	Total Annualized Cost
Doe Run	446,428	46,623,434	4,400,922	2,331,172	6,732,094
East penn	167,436	25,885,878	2,443,444	1,294,294	3,737,738
EnviroFocus	79,986	16,617,415	1,568,566	830,871	2,399,437
Exide Baton Rouge	203,901	29,134,304	2,750,072	1,456,715	4,206,787
Exide Forest City	95,362	18,466,254	1,743,084	923,313	2,666,396
Exide Frisco	253,113	33,169,760	3,130,991	1,658,488	4,789,479
Exide Muncie	224,391	30,857,250	2,912,706	1,542,862	4,455,569
Exide Reading	286,727	35,746,589	3,374,225	1,787,329	5,161,555
Exide Vernon	251,490	33,041,957	3,118,927	1,652,098	4,771,025
Gopher Eagan	325,023	38,539,167	3,637,825	1,926,958	5,564,783
Quemetco (CA)	94,556	18,000,000			
Quemetco (IN)	115,468	20,712,408	1,955,105	1,035,620	2,990,725
RSR	145,133	23,758,174	2,242,604	1,187,909	3,430,512
Sanders	245,173	32,541,498	3,071,687	1,627,075	4,698,762
Total		**403,094,087**	**36,350,158**	**19,254,704**	**55,604,862**

	WESP ACFM	Furnace Only ACFM
Doe Run	446,428	266,855
East Penn	167,436	42,601
EnviroFocus	79,986	35,550
Exide Baton Rouge	203,901	126,340
Exide Forest City	95,362	95,362
Exide Frisco	253,113	52,001
Exide Muncie	224,391	26,497
Exide Reading	286,727	88,779
Exide Vernon	251,490	127,105
Gopher Eagan	325,023	106,060
Quemetco CA	94,556	94,556
Quemetco IN	115,468	48,692
RSR	145,133	113,211
Sanders	245,173	191,322
	2,934,187	1,414,930

Activated Carbon Injection Model Costs

Facility/Unit ID / Facility name / FacilityID	Annual operating hr/yr	Exhaust gas flow rate (Q) dscfm	Operating labor rate $/hr	Activated carbon cost (ACC) $/lb	Dust disposal cost (DDC) $/ton	Capital recovery factor, 20-yr equipment life, 7% interest (CRF) = [i x (1 + i)^n] / [(1 + i)^n - 1], where i = interest rate, n = equipment life	Cost index 2008	Cost index 1990	ACI Adjustment Factor (AF) for HG control	ACI Adjustment Factor (AF) for D/F control	Capital Investment Total $ = 4,500 x (Q/1,976)^0.6 x (1.2 retrofit factor) x (575.4/361.3)	Unit cost $/dscfm = $ / Q
Doe Run	8500	266855	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$163,226	$0.61
East Penn	8500	42601	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$54,284	$1.27
EnviroFocus	8500	35550	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$48,700	$1.37
Exide Baton Rouge	8500	126340	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$104,219	$0.82
Exide Forest City	8500	95362	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$88,034	$0.92
Exide Frisco	8500	52001	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$61,183	$1.18
Exide Muncie	8500	26497	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$40,826	$1.54
Exide Reading	8500	88779	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$84,335	$0.95
Exide Vernon	8500	127105	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$104,597	$0.82
Gopher Eagan	8500	106060	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$93,833	$0.88
Quemetco CA	8500	94556	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$87,586	$0.93
Quemetco IN	8500	48692	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$58,816	$1.21
RSR	8500	113211	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$97,579	$0.86
Sanders	8500	191322	$51.26	$1.38	$42.14	0.09439	575.4	361.3	1.00		$133,685	$0.70

$1,220,904

Activated Carbon Injection Model Costs

Unit-specific field

Facility/Unit ID	Direct Annual					Indirect Annual			Total Annual Cost	
Facility name	Operating labor	Supervisory labor	Maintenance	Activated carbon	Dust disposal	Overhead	Property taxes, insurance, and administration	Capital recovery	Total cost	($/yr) / dscfm
	$/yr	$/yr	$/yr	$/yr	$/yr	$/yr	$/yr	$/yr	$/yr	
FacilityID	= (0.25 hr/8-hr shift) x H x LR	= 0.15 x (operating labor)	= 0.2 x TCI	= 0.00127 x Q x H x ACC x AF	= 0.00127 x Q x (1 ton/2,000 lb) x H x DDC x AF	= 0.6 x (labor + maintenance materials)	= 0.04 x TCI	= CRF x TCI	= Direct Annual Costs + Indirect Annual Costs	= ($/yr) / Q
Doe Run	$13,616	$2,042	$32,645	3975365.621	60696.34321	$28,982	$6,529	$15,407	$4,135,284	$15.50
East Penn	$13,616	$2,042	$10,857	634631.3571	9689.625141	$15,909	$2,171	$5,124	$694,041	$16.29
EnviroFocus	$13,616	$2,042	$9,740	529596.8707	8085.946424	$15,239	$1,948	$4,597	$584,865	$16.45
Exide Baton Rouge	$13,616	$2,042	$20,844	1882095.145	28736.04689	$21,901	$4,169	$9,838	$1,983,241	$15.70
Exide Forest City	$13,616	$2,042	$17,607	1420617.25	21690.14889	$19,959	$3,521	$8,310	$1,507,363	$15.81
Exide Frisco	$13,616	$2,042	$12,237	774664.0971	11827.66125	$16,737	$2,447	$5,775	$839,346	$16.14
Exide Muncie	$13,616	$2,042	$8,165	394725.0397	6026.707672	$14,294	$1,633	$3,854	$444,356	$16.77
Exide Reading	$13,616	$2,042	$16,867	1322542.192	20192.72753	$19,515	$3,373	$7,961	$1,406,110	$15.84
Exide Vernon	$13,616	$2,042	$20,919	1893496.889	28910.13003	$21,947	$4,184	$9,873	$1,994,989	$15.70
Gopher Eagan	$13,616	$2,042	$18,767	1579986.426	24123.41594	$20,655	$3,753	$8,857	$1,671,800	$15.76
Quemetco CA	$13,616	$2,042	$17,517	1408610.188	21506.82366	$19,905	$3,503	$8,268	$1,494,969	$15.81
Quemetco IN	$13,616	$2,042	$11,763	725369.5932	11075.02705	$16,453	$2,353	$5,552	$788,224	$16.19
RSR	$13,616	$2,042	$19,516	1686515.588	25749.91554	$21,104	$3,903	$9,211	$1,781,658	$15.74
Sanders	$13,616	$2,042	$26,737	2850138.001	43516.23744	$25,437	$5,347	$12,619	$2,979,453	$15.57

$22,305,698

AmbMonitoring Cost

	Cost	Annual cost per monitor	Number of monitors / site	Total Annual cost	Total cost- 14 facilities
Ambient Lead Monitoring (lab analysis) per test	127	7725.8	2	15452	216,323
Ambient Monitoring Equipment Annual Lease	2500	2500	2	5000	70,000
Labor to collect and ship samples, analyze data	22	1338.3	2	2677	37,473
Total monitoring cost				23,128	323,797

Ambient monitors tested once every 6 days

References:
Table 3.5 - Additional Testing and Monitoring Costs, Primary Lead Smelting Technical Support document

Appendix D
BUSCH FEF-50 Quote

BUSCH INTERNATIONAL

10431 PERRY HIGHWAY, WEXFORD, PA 15090
PHONE 724-940-2326 FAX 724-940-4140

TO: ENVIRON INTERNATIONAL CORPORATION
ATTN: RUSSELL KEMP

FROM: LOIS MCELWEE, X 208

SUBJECT: PRELIMINARY PROPOSAL V-6750

DATE: MAY 6, 2011

Russell,

Per your request, we are pleased to furnish budget pricing for Carbon Steel construction, as follows:

One (1) FEF Model FEF-50 air filtration units 50,000 CFM with the following:

- Fully-welded unit housing with full structural base and open grating in filter section. Grating is Carbon Steel.
- Pyramidal hopper shipped loose
- HEPA header sealing system with stainless steel frames and HEPA filter bolt lock type.
- High capacity absolute 2000 cfm; 99.97% DOP HEPA filters with neoprene gasketing downstream. HEPA filters will be shipped loose for installation by others.
- Pre-piped pulse system with header, pulse pipes and pulse valves with solenoids. Header and pipes of carbon steel with industrial enamel finish.
- Primary filtration section includes filter cages, Galvanized Steel 11 gauge wire and pulse filter media installed. Thimbles are 360 degree seal welded.
- Dirty side – back wall, side walls, roof, tube sheet, doors and inlet collar constructed of Carbon Steel. Floor grating is Carbon Steel.
- Clean side – two (2) compartments side walls, roof, doors and floor constructed of Carbon Steel.

BUSCH INTERNATIONAL

10431 PERRY HIGHWAY, WEXFORD, PA 15090
PHONE 724-940-2326 FAX 724-940-4140

- Fan - Backward Inclined belt driven 50,000 CFM with 125 HP motor
- Outlet Volume Control Damper; manual control
- Shipped complete with fan and motor wired and installed

Walls and roof are minimum 10 Gauge material and Tube Sheet and floor are minimum 7 Gauge material. Structural base is carbon steel with standard finish. Sandblast epoxy available at additional cost and is recommended for outdoor locations.

Approximate Unit dimensions: 31' long x 11'6" wide x 12' high; hopper top flange is approximately 17' long x 10' wide. T.O.P. is bottom of hopper flange suited for a 9" screw conveyor by others. T.O.P. is flange of fan outlet damper and inlet flange on top of unit.

Total net budgetary price for (1) FEF-50 unit..... $ 298,000

FOB Factory; freight collect; shipment 22-24 weeks after drawing approval.

Allow 6-8 weeks for drawings.

Pricing is firm for 30 days

Terms net 30 days – progress payments: 20% down payment, 20% completion of sub vendor order placement, 20% issue of shop orders for fabrication, and 40% shipment. Terms and conditions attached.

Lois McElwee

BUSCH INTERNATIONAL

F:\DATA\PROP RELATED\V-PROP\V-67XX\V-6750 ENVIRON CORP - FEF\PROPOSAL\PROPOSAL V6750.DOC

FEF SERIES

Fugitive Emission Filtration Units

BUSCH INTERNATIONAL

A CECO Environmental Company

10431 Perry Highway • Wexford, PA 15090
Phone: 724.940.2326 • Fax: 724.940.4140
busch@cecoenviro.com

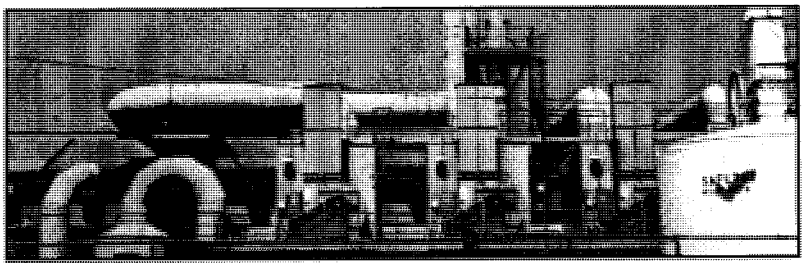
Provides Secondary Emissions Control of Metallurgical Fumes

Busch International FEF SERIES industrial grade, fugitive emission filtration units use high efficiency self-cleaning fabric filtration tubes. The equipment removes heat and fugitive dusts from metallurgical melting process applications. The modules are factory assembled with filtration system, pulse cleaning, fabric tubes, controls, and main air blower on a common structural base.

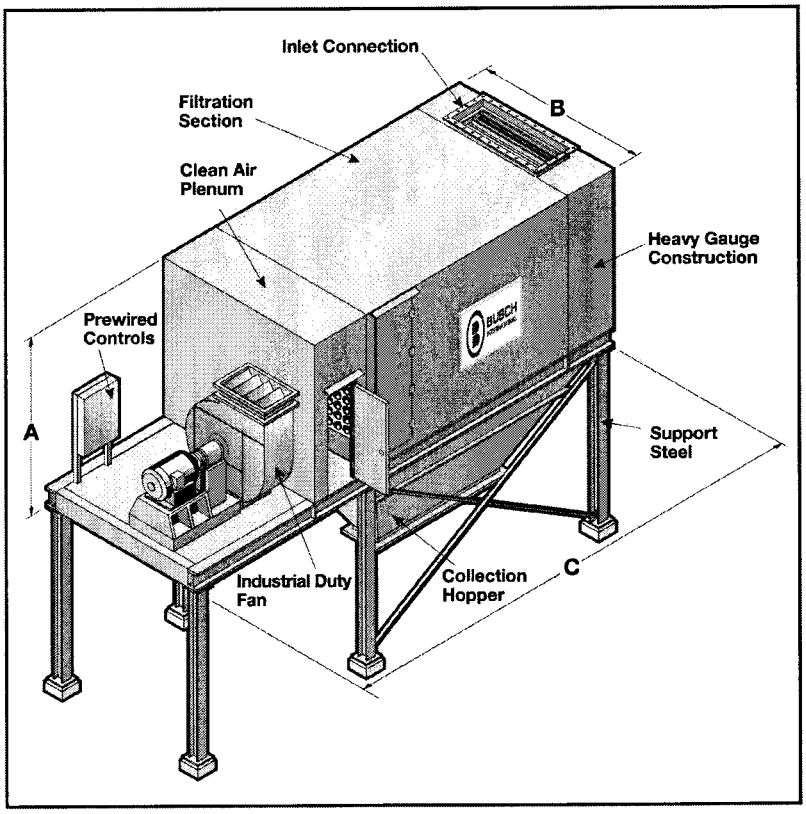
Significant cost savings over field assembled systems are realized because the FEF SERIES units are shipped pre-assembled, wired and factory tested. Minimum field labor is required for unit installation. Only connection to main power and compressed air source is necessary to initiate operation. Multiple modules are arranged for a built-up system with air volume capacity as required to satisfy the project requirements.

The FEF SERIES units come in standard sizes available for simple installation. Unit arrangement and dimensions, location, connections, materials of construction and wiring can be modified to meet individual user specifications. Project costs are often lower when compared to built up systems consisting of baghouse modules, interconnecting duct and separate fans. Construction features include a structural base, steel plate floor, heavy gauge welded housing panels and heavy duty door hardware. Centrifugal fans are minimum Class III construction and are backwardly inclined power limiting design. Direct driven fans eliminate belt maintenance. Electrical enclosures are NEMA 12 or NEMA 4 with wiring in rigid or flexible conduit. Optional electrical enclosures are available to suit plant standards.

FEF SERIES units are designed to store dust within the base of the compartment or storage hopper below.



Collection of secondary lead oxide emissions using four FEF SERIES units.



A typical FEF Series unit arrangement.

Accessories and Options

- Alternate paint systems
- Hoppers for dust storage
- Gas adsorption
- Sound attenuator
- Variable speed drives
- HEPA safety filters
- Dampers
- Screw conveyor
- Stainless steel construction
- Support steel and platforms

Dimensional Data

MODEL NO.	CAPACITY SCFM	DIMENSIONS		
		A	B	C
FEF-10	10,000	5'-6"	5'-0"	18'-0"
FEF-20	20,000	7'-6"	7'-0"	20'-6"
FEF-30	30,000	9'-6"	7'-6"	24'-0"
FEF-40	40,000	10'-0"	10'-0"	26'-0"
FEF-50	50,000	11'-0"	12'-0"	30'-0"

Dimensions and sizes are for reference only.

Bulletin No. FEF-802

Appendix E

EPA's Draft Summary of the Technology Review for the Secondary Lead Smelting Source Category

ERG
www.erg.com

MEMORANDUM

To: Chuck French, U.S. Environmental Protection Agency, OAQPS

From: Mike Burr, Donna Lazzari, and Danny Greene, ERG

Date: April 2011

Subject: Draft Summary of the Technology Review for the Secondary Lead Smelting Source Category

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This memorandum summarizes the results of an analysis to identify developments in practices, processes, and control technologies for emissions sources of hazardous air pollutants (HAP) from the Secondary Lead Smelting source category. This analysis is part of EPA's review efforts in accordance with section 112(d)(6) of the Clean Air Act (CAA). This memorandum is organized as follows:

1.0 BACKGROUND

1.1 Requirements of Section 112(d)(6) of the CAA

Section 112 of the CAA requires EPA to establish technology-based standards for sources of HAP. These technology-based standards are often referred to as maximum achievable control technology, or MACT, standards. Section 112 also contains provisions requiring EPA to periodically revisit these standards. Specifically, paragraph 112(d)(6) states:

(6) REVIEW AND REVISION. – The Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emissions standards promulgated under this section no less often than every 8 years.

1.2 Description of the Secondary Lead Smelting Source Category and Requirements of the Current NESHAP

The current National Emissions Standards for Hazardous Air Pollutants (NESHAP) for the Secondary Lead Smelting source category was promulgated on June 13, 1997 (62 FR 32216) and codified at 40 CFR part 63, subpart X. As promulgated in 1997, the NESHAP applies to affected sources of HAP emissions at secondary lead smelters. The current NESHAP (40 CFR 63.542) defines "secondary lead smelters" as "any facility at which lead-bearing scrap material, primarily, but not limited to, lead-acid batteries, is recycled into elemental lead or lead alloys by smelting." The secondary lead smelting process consists of: (1) pre-processing of lead bearing materials, (2) melting lead metal and reducing lead compounds to lead metal in the smelting furnace, and (3) refining and alloying the lead to customer specifications. The NESHAP for the Secondary Lead Smelting source category does not apply to primary lead smelters, lead remelters, or lead refiners.

Today, there are 14 secondary lead smelting facilities that are subject to the NESHAP. No new secondary lead smelters have been built in the last 20 years, and no new secondary lead smelting facilities are anticipated in the foreseeable future, although one facility is currently in the process of expanding their operations.

HAP are emitted from secondary lead smelting as stack releases (i.e., process emissions, and process fugitive emissions) and fugitive dust emissions. Process emissions include exhaust gases from feed dryers and from blast, reverberatory, rotary, and electric furnaces. The HAP in process emissions are comprised primarily of metals (mostly lead compounds, but also some arsenic, cadmium, and other metals) and also may include organic compounds that result from incomplete combustion of coke that is charged to the smelting furnaces as a fuel or fluxing agent, combustion of natural gas or other fuels, or combustion of small amounts of plastics or other materials that get fed into the furnaces along with the lead-bearing materials. Process fugitive emissions are released from various sources throughout the smelting process, including smelting furnace charging and tapping points, refining kettles, agglomerating furnace product taps, and drying kiln transition equipment. Process fugitive emissions are comprised primarily of metal HAP. Fugitive dust emissions are emissions that are not associated with a specific process or process fugitive vent or stack. Process fugitive emissions are comprised of metal HAP and result

from the entrainment of HAP in ambient air due to material handling activities, vehicle traffic, wind, and other activities.

The current NESHAP applies to process emissions from blast, reverberatory, rotary, and electric smelting furnaces, agglomerating furnaces, and dryers; process fugitive emissions from smelting furnace charging points, smelting furnace lead and slag taps, refining kettles, agglomerating furnace product taps, and dryer transition equipment; and fugitive dust emissions from roadways, battery breaking areas, furnace charging and tapping areas, refining and casting areas, and material storage areas. For process sources, the current NESHAP specifies numerical emissions limits for total hydrocarbons (THC) and lead compounds for blast furnaces and collocated blast and reverberatory furnaces. Additionally, emissions limits for lead are specified for reverberatory, electric, and rotary furnaces. Lead compound emissions from all smelting furnace configurations are limited to an outlet concentration of 2.0 milligrams per dry standard cubic meter (mg/dscm) (0.00087 grains per dry standard cubic foot (gr/dscf)) (40 CFR 63.543(a)). THC emissions from collocated blast and reverberatory furnaces are limited to an outlet concentration of 20 parts per million volume (ppmv) (expressed as propane) corrected to 4 percent carbon dioxide (CO_2). THC emissions are limited to 360 ppmv (as propane) at 4 percent CO_2 from existing blast furnaces and 70 ppmv (as propane) at 4 percent CO_2 from new blast furnaces (40 CFR 63.543(c)). The current NESHAP does not specify limits for THC emissions from reverberatory furnaces not collocated with blast furnaces, rotary furnaces, or electric furnaces.

The current NESHAP requires that process fugitive emissions sources be equipped with an enclosure hood meeting minimum face velocity requirements or be located in a total enclosure subject to general ventilation that maintains the building at negative pressure (40 CFR 63.543(b)). Ventilation air from the enclosure hoods and total enclosures are required to be conveyed to a control device. Lead emissions from these control devices are limited to 2.0 mg/dscm (0.00087 gr/dscf) (40 CFR 63.544(c)). Lead emissions from all dryer emissions vents and agglomerating furnace vents are limited to 2.0 mg/dscm (0.00087 gr/dscf) (40 CFR 63.544(d)). The current NESHAP also requires the use of bag leak detection systems for continuous monitoring of baghouses in cases where a high efficiency particulate air (HEPA) filter are not used in series with a baghouse (40 CFR 63.548(c)(9)).

For fugitive dust sources, the current NESHAP requires that facilities develop and operate according to a standard operating procedures (SOP) manual that describes, in detail, the measures used to control fugitive dust emissions from plant roadways, battery breaking areas, furnace areas, refining and casting areas, and material storage and handling areas.

2.0 DEVELOPMENTS IN PRACTICES, PROCESSES, AND CONTROL TECHNOLOGIES

For the purposes of this technology review, a "development" was considered to be a (n):

- add-on control technology or other equipment that was not identified during the development of the current NESHAP for the source category;
- improvement in add-on control technology or other equipment that was identified and considered during development of the current NESHAP for the source category that could result in significant additional HAP emissions reductions;
- work practice or operational procedure that was not identified during development of the current NESHAP for the source category; or
- applicable process change or pollution prevention alternative that was not identified and considered during the development of the current NESHAP for the source category.

We investigated developments in practices, processes, and control technologies for three categories of HAP emissions sources from secondary lead smelters: (1) stack emissions of lead and other metal HAP, (2) stack emissions of organic HAP, and (3) fugitive emissions of lead and other metal HAP. To identify developments, we conducted searches of EPA's RACT/BACT/LAER (Reasonably Achievable Control Technology/Best Available Control Technology/Lowest Achievable Emissions Rate) clearinghouse and the Internet for information on secondary lead smelting and similar processes, examined the Section 114 information collection request (ICR) responses from the 14 secondary lead smelting facilities, reviewed technologies employed by similar industries, and reviewed new or updated NESHAPs for other source categories. The results of these analyses are presented in the following sections.

2.1 Stack Emissions

The current NESHAP specifies emissions limits for metal HAP (using lead as a surrogate) and organic compounds (using THC as a surrogate) from stacks. This section of the technology review will focus on developments in practices, processes, and control technologies applicable to emissions of metal HAP and organic compounds from stacks.

a. Metal Hap Emissions from Stacks

Based on a review of the ICR responses, the most common control technology employed by the industry to control emissions of metal HAP from stacks is fabric filtration (or baghouses). Several types of baghouses are currently used by the industry, including shaker, pulse jet, and reverse pulse jet bag filters. One facility uses a wet electrostatic precipitator (WESP) downstream of a baghouse to further reduce emissions of metal HAP from stacks. Two other facilities have plans to install similar WESP units. Several facilities also reported using HEPA filters as an add-on control downstream of their baghouses. Additionally, some facilities reported using cartridge collectors; however these types of controls are generally suited to reduce

metal HAP emissions from sources that have lower inlet concentrations and are typically not used to control metal HAP in smelting furnace exhaust.

The first part of our analysis included attempting to determine which control technology (e.g., fabric filter, WESP, HEPA filter, cartridge collectors) achieves the greatest control efficiency for metal HAP. We could not directly calculate control efficiencies due to lack of inlet concentration data; however, we compared the outlet lead concentrations from the different control technologies based on emissions data that we received in the ICR.

As displayed in Figure 2-1, the average stack outlet lead concentration from the baghouse and WESP combination was almost 50 times lower than the outlet concentration achieved by using baghouses alone. HEPA filters used downstream of a baghouse achieved approximately 20 percent lower outlet lead concentrations than baghouses alone. Cartridge collectors appear to achieve outlet lead concentrations approximately three times lower than baghouses; however, as mentioned, cartridge collectors are generally limited to emissions points with lower flow rates and inlet loading concentrations.

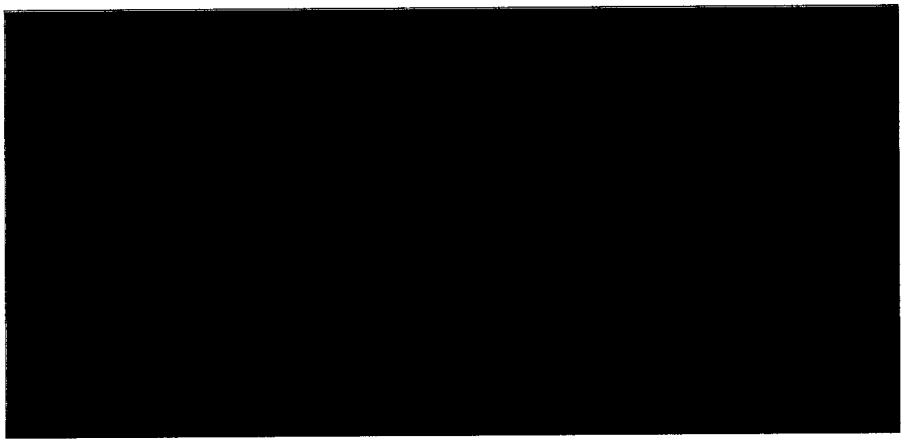

Figure 2-1. Comparison of Control Device Outlet Lead Concentrations from Different Technologies.

Based on emissions data received in the ICR, we also compared the relative performance of each baghouse across facilities and attempted to determine the factors that correlate best with low outlet lead concentrations. The factors that we considered include baghouse type (e.g., shaker, pulse jet, reverse bag pulse), filter material, and age of the unit. Figure 2-2 shows the results of these analyses. Based on our analysis, the most significant factor affecting baghouse performance is the age of the unit. We found that units installed prior to 1989 generally had significantly higher outlet lead concentrations than the newer units. Shaker baghouses appear to have higher outlet lead concentrations than those of the pulse jet or reverse bag pulse type.

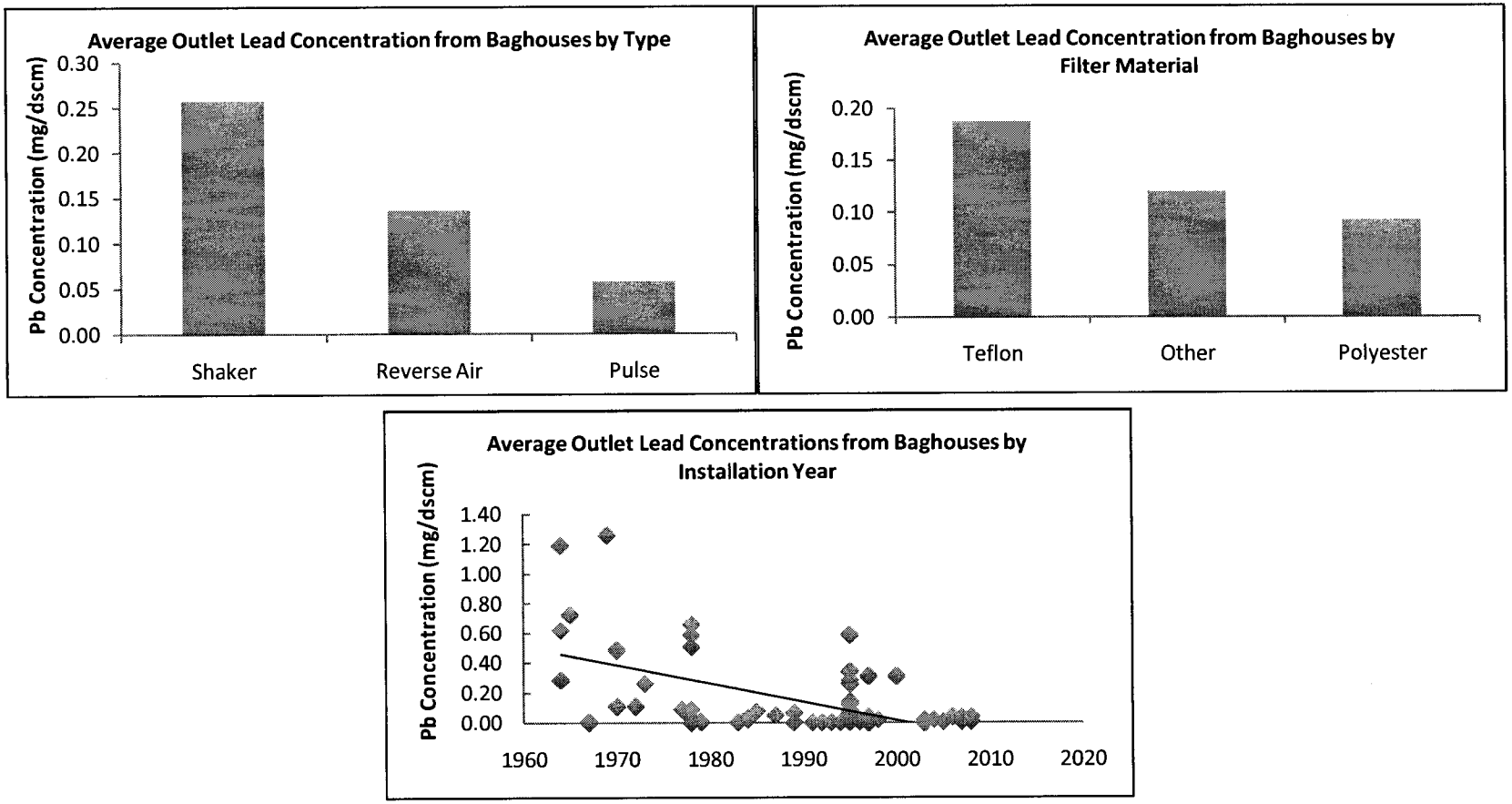

Figure 2-2. Comparison of Baghouse Outlet Lead Concentrations Based on Type (Upper Left), Filter Media (Upper Right), and Installation Year (Bottom).

However, the majority of the older units appear to be shaker types, and thus the age of the baghouse may be the controlling factor. We did not find a significant correlation between the outlet lead concentration and the filtration media used in the baghouses, although one company in the industry suggested, based on its experience, that Teflon (polytetrafluoroethylene) bags specifically supplied by Gore-Tex© performed better than other bag types. The company also suggested that the most critical factors influencing baghouse performance are proper installation and maintenance practices. They mentioned specific practices such as ensuring proper installation of the bags and properly sealing all ducts and dust conveyance devices. Additionally, they claim that replacing torn bags, rather than repairing them, can significantly improve baghouse performance.

Based on our analyses, we believe that the most important development in the control of stack emissions of metal HAP from this source category has been improvement in the performance of baghouses throughout the industry. The biggest indicator of such improvements is the level of metal HAP emissions currently being achieved in the industry in relation to the allowable level in the current NESHAP (referred to as "MACT-allowable"), which is a lead based concentration standard of 2.0 mg/dscm for all stacks. Figure 2-3 shows the lead concentrations reported by the industry in the ICR compared to the lead concentration limit in the current NESHAP. As illustrated by Figure 2-3, the outlet lead concentrations currently being achieved by the industry are far below, and in most cases orders of magnitude below, the concentration limit specified in the current NESHAP. The average reported stack lead concentration was 0.16 mg/dscm with a median of 0.04 mg/dscm. This large discrepancy between actual and MACT-allowable stack lead concentrations is likely a result of improvements in practices, processes, and control technologies that have significantly improved the performance of baghouses employed by this industry since the promulgation of the current NESHAP. We also believe that the concentration data presented in Figure 2-3 clearly show that improvements in baghouse technology and operation have occurred that resulted in the capability of achieving significantly lower stack lead emissions than what is required by the current NESHAP.

b. Organic HAP and Dioxin and Furan Emissions

Based on our review of the ICR responses, we found that emissions of organic HAP from smelting furnaces vary substantially among the different furnace types. In general, emissions of organic HAP from blast furnaces are much higher than those from other furnace types. Information collected in the ICR indicates that this is likely due to the much lower exit temperature of the blast furnace exhaust relative to the other furnace types. The majority of facilities that operate blast furnaces use afterburners to control emissions of organic HAP. The exhaust of reverberatory furnaces is sufficiently hot that the use of an afterburner is generally not

required to meet the current THC limit. Some facilities that operate both blast and reverberatory furnaces comingle the hotter reverberatory furnace stream with the cooler blast furnace stream to control organics in the blast furnace stream. We did not identify new control technologies or developments in the mentioned existing control technologies that would achieve reductions in organic HAP emissions beyond the limits established in the current NESHAP.

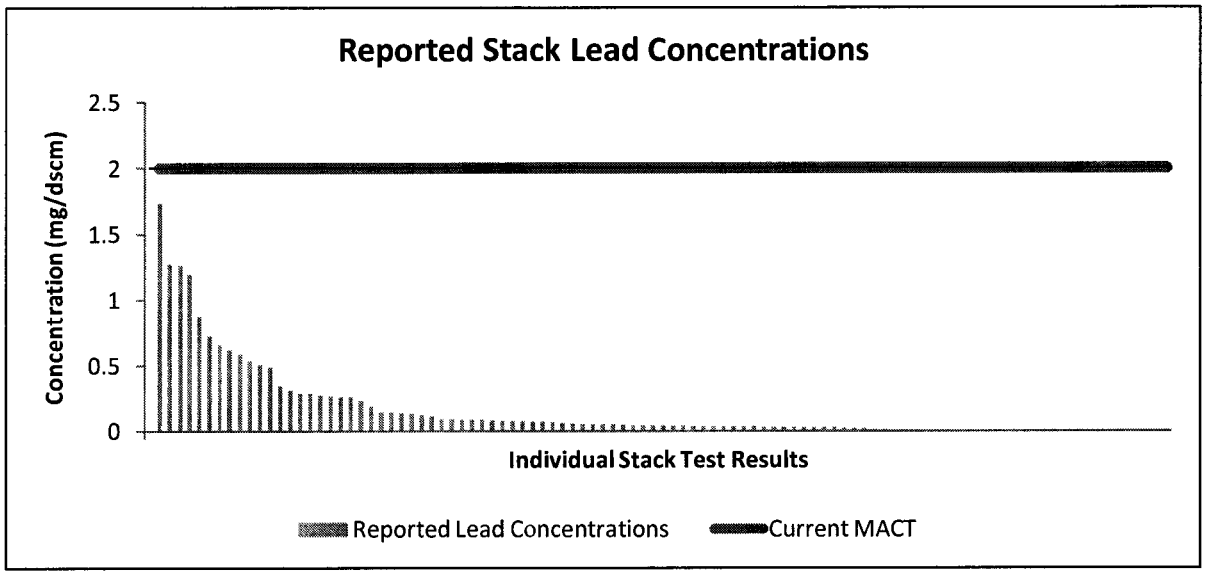

Figure 2-3. Comparison of Stack Lead Concentrations Reported by the Industry with the Current MACT Standard.

Although dioxin and furan (D/F) emissions limits are not specified in the current NESHAP, we investigated technologies available for prevention and/or control of D/F emissions from the smelting furnaces. Based on data submitted by the industry in the ICR, D/F emissions from blast furnaces are one to three orders of magnitude higher than emissions from reverberatory and electric furnaces. The key conditions typically associated with higher D/F emissions, listed in order of relative importance[1], are:

- Poor combustion conditions,
- High particulate concentration in the flue gases of a combustion process,
- Increased residence time for particulate in critical temperature window (150 - 450 degrees Celsius),
- Particulate matter containing metals that can catalyze formation to dioxin,
- Waste or fuel that is comprised of complex organic or lignin-like structure, and

[1] Gullett, Brian (EPA) and Seeker, Randy (EER Corporation), *Chlorinated Dioxin and Furan Formation Control and Monitoring.* Presentation at the Industrial Combustion Coordinated Rulemaking Meeting. September 17, 1997.

- Sufficient chlorine.

We believe the controlling factor for D/F formation in blast furnaces is the relatively low exit temperature of the exhaust stream in comparison to other furnace types.

We identified two technologies employed by this source category that have demonstrated effective control of D/F emissions from blast furnaces: (1) incineration of the furnace exhaust, and (2) comingling of the blast furnace exhaust with the hotter reverberatory furnace exhaust. Based on information submitted in the ICR and information in the literature on dioxin destruction efficiency, operating an afterburner at sufficient temperature (approximately 1,600 degrees Fahrenheit) with adequate residence time (approximately 2.0-2.5 seconds) can achieve significant reductions in D/F emissions from blast furnaces[2]. Additionally, emissions data submitted in the ICR indicate that D/F emissions from collocated blast and reverberatory furnaces are generally lower than emissions from a blast furnace alone. Average exhaust D/F concentrations of the various furnace types are summarized in Table 2-1.

Table 2-1. Summary of Exhaust D/F Concentrations by Furnace Type.

Furnace Type	Average D/F (nanograms/dscm)
Reverberatory furnaces not collocated with blast furnaces, and reverberatory furnaces mixed with electric furnaces	0.10
Blast Furnaces	38.83
Collocated Blast and Reverberatory Furnaces	0.19
Rotary Furnaces	0.14

A review of technologies employed by other industries to control D/F emissions concluded that injecting activated carbon into the exhaust stream can also achieve significant reductions of D/F emissions; however, the costs associated with this technology for this source category were determined to be high (see Draft Cost Impacts of the Revised NESHAP for the Secondary Lead Smelting Source Category).

Because the presence of chlorine is necessary for D/F formation, we also examined the potential sources of chlorine in the feed materials charged to the smelting furnaces. Historically, the plastic battery casings used in the construction of automotive batteries contained polyvinyl chloride (PVC). Although battery casings are no longer made of PVC, the battery casings can sometimes contain small amounts of chlorinated flame retardants. This material may be introduced into the furnace through incomplete separation of the battery casing material from the

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[2] Ficarella, Domenico and Laforgia, Domenico, *Numerical Simulation of Flow-Field and Dioxins Chemistry for Incineration Plants and Experimental Investigation,* Waste Management, 20 (2000) 27-49. http://www.bvsde.paho.org/bvsacd/cd43/antonio.pdf

lead-bearing material in the feed preparation process. Chlorine may also be present in the coke fed to the furnace as a fuel and reducing agent. Moreover, we believe that occasionally some older batteries that still contain PVC casings could be processed.

Based on our review, the main control of D/F emissions occurs due to measures initially implemented to control organic HAP emissions (i.e., incineration and co-mingling of furnace exhaust streams). We identified one other control technology with the potential to reduce D/F emissions (i.e., carbon injection); however, the costs to apply this technology were determined to be high.

2.2 Fugitive Emissions

As outlined in section 1.2 of this memorandum, the pollutants emitted from fugitive emissions sources in this source category are metal HAP. Therefore, we focused on identifying advancements in practices, processes, and control technologies related to fugitive emissions of metal HAP. Sources of fugitive emissions at secondary lead smelters include dust from plant roadways, battery breaking operations, material storage areas, and process fugitives that are not captured by a control device.

The minimum requirements for control of fugitive emissions in the current NESHAP for the following specified fugitive sources are:

- Plant roadways – must be cleaned twice per day;
- Battery breaking area – partial enclosure of storage piles and wet suppression with twice daily pavement cleaning;
- Furnace and refining and casting areas – partial enclosure and pavement cleaning; and
- Material Storage and Handling Areas – partial enclosure, wet suppression, and vehicle wash at exits.

Based on our analysis of information received in the ICR, we grouped the facilities into three categories that describe the level of fugitive emissions control implemented. Table 2-2 defines these categories and Table 2-2 summarizes our categorization for each facility.

Table 2-2. Enclosure Category Definitions.

Enclosure Category	Description
Level 1 Enclosure	Facilities described as having Level 1 enclosure meet the enclosure requirements in the current NESHAP. The facilities rely primarily on enclosure hoods to capture process fugitive emissions and partial enclosures with wet suppression for process units and storage areas.
Level 2 Enclosure	Facilities described as having Level 2 enclosure generally employ, in addition to enclosure hoods for process fugitive sources, a combination of negative pressure total enclosures and partial enclosures with wet suppression for process units and storage areas.

Enclosure Category	Description
Level 3 Enclosure	Facilities described as having Level 3 enclosure generally employ, in addition to enclosure hoods for process fugitive sources, negative pressure total enclosures for all process units and storage areas.

Table 2-3. Enclosure Category Assigned to the 14 Secondary Lead Smelting Facilities.

Facility	Enclosure Category
Exide Technologies – Baton Rouge, LA	Level 1
Exide Technologies – Forest City, MO	Level 2
Exide Technologies – Frisco, TX	Level 2
Exide Technologies – Muncie, IN	Level 3
Exide Technologies – Reading, PA	Level 2
Exide Technologies – Vernon, CA	Level 3
Revere Smelting And Refining – Middletown, NY	Level 3
Quemetco Inc. – Industry, CA	Level 3
Quemetco Inc. – Indianapolis, IN	Level 3
Sanders Lead Co. – Troy, AL	Level 1
EnviroFocus Technologies – Tampa, FL	Level 2
Gopher Resources – Eagan, MN	Level 3
Buick Resource Recycling Facility – Boss, MO	Level 1
East Penn Manufacturing – Lyons, PA	Level 3

As displayed in Table 2-3, our analysis concludes that 11 of the 14 facilities are controlling fugitive emissions beyond the levels required by the current NESHAP. Additionally, seven of the 14 facilities have placed all of their process areas in total enclosures under negative pressure with ventilation to a control device. Furthermore, an 8th facility (EnviroFocus Technologies) has a current project to implement level 3 enclosure. Of the seven facilities that are currently level 3 enclosures, several facilities claimed performing additional work practices (beyond the enclosures) that exceed the requirements of the current NESHAP to further limit the formation of fugitive dust in other areas of their facilities. Examples of these work practices include:

- more complete vehicle washing inside buildings;
- improved roadway cleaning techniques and frequency;
- pavement of entire facility grounds;
- cleaning of building roofs and exteriors;

- use of daily ambient monitoring to diagnose plant activities that lead to exceedances of the National Ambient Air Quality Standards (NAAQS) for lead;
- timely cleaning of accidental releases;
- inspection of outside battery storage areas for broken batteries; and
- performance of all maintenance activities inside total enclosures operated under negative pressure.

Our analysis of ambient lead concentration data measured near the facilities indicates that facilities with level 3 enclosure that implement the work practices described above are generally achieving much lower lead concentrations near their property boundaries (see Figure 3-2). For this reason, we believe that developments in practices, processes, and control technologies with regard to fugitive emissions of metal HAP have occurred that can result in reduced metal HAP emissions from fugitive sources beyond the standards contained in the current NESHAP.

3.0 RECOMMENDED REVISIONS BASED ON DEVELOPMENTS IN PRACTICES, PROCESSES, AND CONTROL TECHNOLOGIES

Based on the analyses presented above, we are recommending the following revisions to the current NESHAP with regards to stack and fugitive emissions from the Secondary Lead Smelting source category.

3.1 Stack Emissions

As described in section 2.1 of this memorandum, the concentrations of lead in stacks reported by this industry in the ICR are far below the level specified in the current NESHAP, indicating improvements in the control of metal HAP emissions since promulgation of the current NESHAP. Our analysis indicates that this is primarily a result of improved performance of baghouses. Therefore, we recommend revising the current NESHAP to reflect the level of performance currently being achieved by facilities that implement well-performing baghouses to control emissions of metal HAP from stacks.

When considering the most appropriate form of a revised lead standard for this source category, we considered alternatives to the current form (i.e., outlet lead concentration). However, our analysis indicates that a concentration-based lead standard continues to be the most appropriate form for this industry. We then attempted to determine the appropriate reduction to the current lead concentration limit of 2.0 mg/dscm. As outlined in section 2.1, the average stack concentration of lead reported by the industry in the ICR was 0.16 mg/dscm with a median concentration was 0.04 mg/dscm. Over 96 percent of the reported concentrations were less than half the current limit of 2.0 mg/dscm and over 80 percent of the reported concentrations were at least an order of magnitude less than the current limit. Our analyses conclude that advancements in the performance of baghouses appear to be the controlling factor for these lower concentrations and that reducing the current lead concentration limit from 2.0 to 0.2

mg/dscm would reflect the level of control achieved in practice by facilities that implement well-performing baghouses.

Figure 3-1 compares the lead concentrations reported by the industry in the ICR with a potential revised lead concentration limit of 0.2 mg/dscm. Although the majority of stacks reported concentrations well below 0.2 mg/dscm, a limited number of stacks would need improvements, possibly in the form of improved maintenance practices on their existing baghouses or installation of newer, more efficient units. To provide the facilities flexibility in determining the best approach to meeting a revised concentration limit, we considered proposing a facility-wide flow-weighted average lead concentration limit of 0.2 mg/dscm. For this limit, facilities would assign a weighting factor to each stack lead concentration based on the flow rate of the stack. They would then sum the flow-weighted concentration of all the stacks at their facility to get a facility-wide flow-weighted concentration. A limit in this form would reflect the level of metal HAP emissions control being achieved in practice by well performing baghouses while providing flexibility to the facilities in determining the most cost-effective approach to achieving the necessary reductions.

As required under section 112(d)(6), we considered the costs and other impacts associated with revising the lead concentration limit in the manner described above. As described in the Draft Cost Impacts of the Revised NESHAP for the Secondary Lead Smelting Source Category, we estimate that three baghouses at two facilities would need to be replaced as a result of the revised limit. The estimated total capital cost is $7.7 million with a total annualized cost of $1.7 million. We estimate that the revised limit would result in annual reductions of metal HAP of approximately 5.9 tons with co-reductions in emissions of particulate matter (PM) of approximately 56 tons. We do not anticipate additional energy use associated with this revised limit, as only replacement baghouses, as opposed to new additional units, are expected. Furthermore, we do not anticipate any adverse non-air environmental impacts associated with the implementation of this revised limit.

For these reasons, we are recommending that a flow-weighted average lead concentration limit of 0.2 mg/dscm be applied to the sum of all stacks at each facility in this source category. To limit the potential impacts of any individual stack, we are also recommending that a maximum lead concentration limit of 1.0 mg/dscm be applied to individual stacks in this source category. This is warranted given the fact that, as described above, over 96 percent of stack lead concentrations reported in the ICR were less than 1.0 mg/dscm.

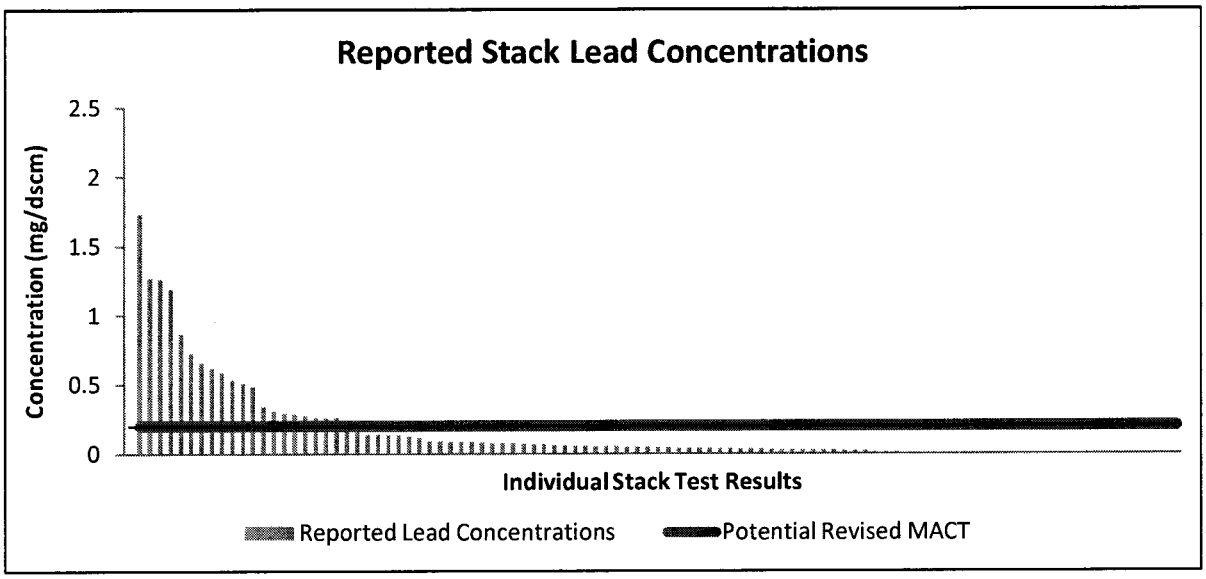

Figure 3-1. Comparison of Stack Lead Concentrations Reported by the Industry with a Potential Revised Lead Concentration Limit.

3.2 Fugitive Emissions

As outlined in section 2.2 of this memorandum, several facilities in this source category are currently implementing controls for fugitive emissions of metal HAP that exceed what is required in the current NESHAP. Based on our analyses, we are recommending revising the current NESHAP to reflect the level of control currently being achieved by the better performing facilities in this source category with regards to fugitive emissions of metal HAP.

Because fugitive emissions cannot be directly captured or measured, the most feasible limit is a work practice standard. Although lack of direct measurement makes comparisons of the efficiency of different control technologies challenging, analysis of ambient lead monitoring data near the facilities has generally been considered an accurate indicator of the level of fugitive emissions of metal HAP. The Draft Residual Risk Assessment for the Secondary Lead Smelting Source Category presents dispersion modeling results for this source category indicating that fugitive emissions are overwhelmingly the most significant source contributing to ambient lead concentrations near the property boundaries of secondary lead smelting facilities. The same modeling results indicate that fugitive lead emissions from this source category could result in exceedances of the lead NAAQS at 12 of the 14 facilities.

We analyzed available ambient monitoring data to determine which facilities were implementing the most effective controls for fugitive emissions of metal HAP. Figure 3-2

displays the annual average lead concentrations at ambient monitoring locations around facilities based on the enclosure category assigned to the facility in section 2.2 of this memorandum. The figure includes concentration data for 12 of the 14 facilities (monitoring data near Exide Baton Rouge and Exide Forest City were not available). All data in this figure were taken from http://www.epa.gov/airexplorer/monitor_kml.htm. The most recent year's monitoring data available (either 2008 or 2009 for each facility) was selected for each facility. In cases where data were available at multiple monitoring locations around a facility, we chose the monitor with the highest annual lead concentration.

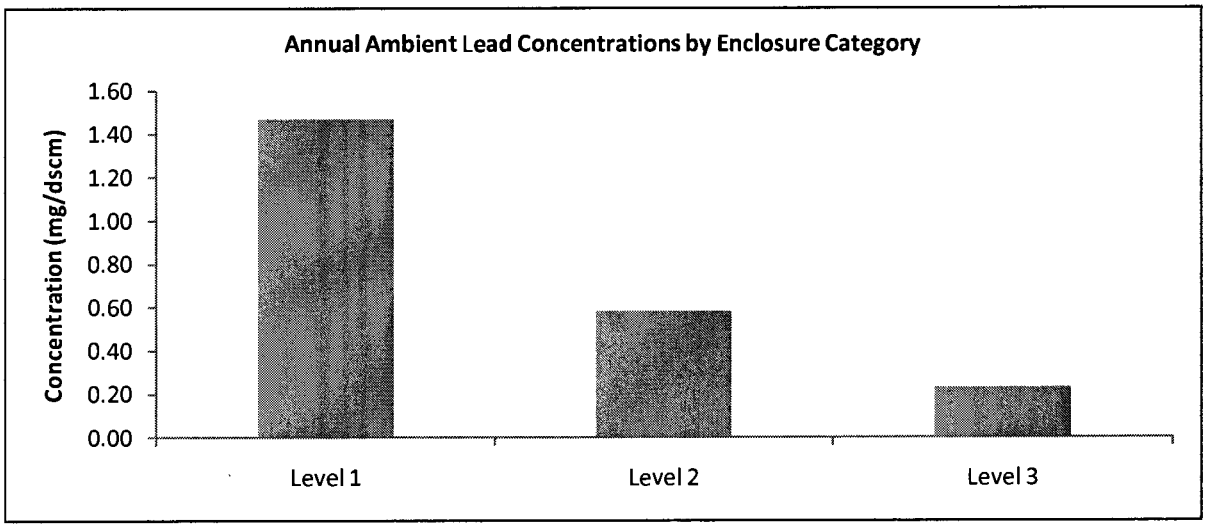

Figure 3-2. Comparison of Annual Ambient Lead Concentrations for Each Enclosure Category.

As the figure shows, facilities categorized as level 3 enclosures achieved significantly lower ambient lead concentrations than those classified as level 1 or 2 enclosures. As previously mentioned, seven of the 14 facilities are currently classified as level 3 enclosures, with an 8th facility planning to implement level 3 enclosures in the near future. Of the facilities classified as having level 3 enclosures, four facilities also implement some or all of the additional work practices mentioned in section 2.2 to further prevent the formation of fugitive dust in other areas of their facilities. Based on this analysis, we concluded that level 3 enclosure plus the implementation of additional fugitive control work practices is necessary to achieve ambient lead concentrations below the NAAQS near the fence line of a facility. Because several facilities are already implementing these controls and because we estimate that these controls are necessary to ensure to ensure ambient lead concentrations below the NAAQS, we recommend revising the current NESHAP to require these controls.

As with the revised stack lead concentration limit discussed in section 3.1 of this memorandum, we considered the potential cost impacts of revising the fugitive emissions standard in the current NESHAP to include the controls mentioned above. As described in the Draft Cost Impacts of the Revised NESHAP for the Secondary Lead Smelting Source Category, we estimate that the total capital cost to implement level 3 enclosure and additional fugitive control work practices throughout the industry is approximately $40 million with a total annualized cost of approximately $9.6 million. We estimate reductions in metal HAP emissions of 9.5 tons per year resulting from this revised standard with co-reductions of PM of approximately 104 tons. We do not anticipate any adverse non-air environmental impacts associated with this recommended standard. However, we do anticipate some additional energy use associated with the operation of the new total enclosure. After consideration of the costs, emissions reductions, and other potential impacts, we believe the revision of the fugitive emissions standard for this source category to include the control measures described in this memorandum is warranted and necessary.

As an alternative to requiring level 3 enclosure and the implementation of an extensive list of fugitive control work practices, we recommend that facilities be allowed to demonstrate compliance through ambient lead monitoring. If facilities are able to demonstrate ambient lead concentrations near their facility that are below the lead NAAQS using practices other than those specified above, then it can be concluded that they are achieving a similar level of control as would be achieved by the control measures described in this memorandum. Providing such an alternative would allow the facilities flexibility in determining the most appropriate and cost-effective method of achieving the necessary reductions in fugitive emissions of metal HAP.

4.0 CONCLUSIONS

This review identified several developments in practices, processes, or control technologies that have been implemented in this source category since promulgation of the current NESHAP. Our analysis indicates that several facilities have significantly reduced stack emissions of metal HAP, primarily though improved performance of baghouses. Additionally, several facilities have implemented fugitive emissions control practices that exceed the requirements of the current NESHAP. Based on our review, we conclude that it is feasible and cost-effective for facilities to achieve a facility-wide, flow-weighted average lead concentration of 0.2 mg/dscm with a limit of 1.0 mg/dscm for any individual stack. We conclude that it is feasible for all facilities to fully enclose all process areas under negative pressure of and implement a prescribed list of work practices to limit fugitive emissions. As an alternative, facilities could demonstrate a similar level of control for fugitive emissions by monitoring ambient lead concentrations at or near the facility boundaries to ensure that concentrations remain below the lead NAAQS (i.e., 0.15 $\mu g/m^3$). Implementing these controls would achieve

reductions in lead emissions of approximately 13.3 tons with total metal HAP reductions of approximately 15 tons. Additionally, we expect total co-reductions of PM emissions of approximately 160 tons. We estimate that between 48 and 76 tons of the total PM reductions will be reductions in particles with diameters less than 2.5 microns ($PM_{2.5}$), depending on the nature of the particle size distribution of emissions from this source category. For these reasons, we believe that these controls and measures are cost-effective measures that reflect achievable performance for this industry.

Appendix F

HB3151-25 Excess Emissions Calculation

APPENDIX F

EXIDE HB 3151-25 EXCESS LEAD EMISSIONS

Quemetco room ventilation baghouse exhaust lead concentrations test data

Baghouse ID	Pb Conc. ug/dscm
A	0.567
B	2.840
C	2.780
D	1.300
E	10.100
F	1.060
G	2.850
H	2.280
I	0.661
Average	**2.715**

Exide Torit dust collector exhaust lead concentrations test data

Collector ID	Pb Conc. ug/dscm
North	8.93
South	9.68
Average	**9.305**

HEPA control efficiency on R2 emissions (E)

E = (1 - 2.715/9.305)*100 = **70.819 Percent**

Excess Pb Emissions (based on test data)

Collector ID	Pb, R2, lbs/hr	Excess Factor	Excess Pb, lbs/hr	Excess Pb, lbs/day
North	0.0029	0.7082	0.0020	**0.0486**
South	0.0042	0.7082	0.0030	**0.0714**
Totals	0.0071		0.0050	**0.1200**

Assumptions: Similar filter media have similar exhaust gas concentrations

EXHIBIT D

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of: Exide Technologies 2700 South Indiana Street Los Angeles, CA 90058 ID No. CAD097854541 Respondent.	Docket HWCA 2009-2208 STIPULATION AND ORDER Health and Safety Code Section 25187

The California Department of Toxic Substances Control (Department) and Exide Technologies (Respondent) enter into this Stipulation and Order (Order) and agree as follows:

1. A dispute exists regarding the Enforcement Order issued by the Department on August 12, 2010, and the First Amendment to Enforcement Order issued by the Department on March 6, 2012 (Docket No. HWCA 2009/2208) (collectively, "First Amendment to Enforcement Order;" Orders Attached as Exhibit 1).

2. The parties wish to avoid the expense of further litigation and to ensure prompt action to achieve the Schedule for Compliance below.

3. Jurisdiction exists pursuant to Health and Safety Code section 25187.

4. Respondent waives any right to a hearing in this matter.

5. This Order shall constitute full settlement of the violations alleged in the First Amendment to Enforcement Order, but does not limit the Department from taking appropriate enforcement action concerning other violations.

6. By entering into this Order, Respondent does not admit any of the alleged violations.

RESPONDENT'S OPERATION

7. The Department authorized Respondent to manage hazardous waste pursuant to an Interim Status Document issued on December 12, 1981 for its Facility located at 2700 South Indiana Street, Los Angeles, CA (Facility). Respondent submitted a Hazardous Waste Permit Application (Part B Application) on November 8, 1988. On April 19, 2010, the Facility submitted a new permit application which is currently under review by the Department. Respondent may continue to manage hazardous waste, but shall do so pursuant to its Interim Status Document and in accordance with the provisions of this Stipulation and Order.

If and when Respondent's permit becomes effective, that permit will supersede the terms governing the management of hazardous waste in Paragraph 8 of this Order. Respondent shall follow the terms and conditions of its permit rather than the hazardous waste management terms set forth in Paragraph 8 of this Order.

If the Department decides to not issue a permit to Respondent, this Order shall not be construed as authorization to the Respondent to continue to manage hazardous waste. If the Department decides not to issue a permit to Respondent, the Department shall invoke the permit denial procedures pursuant to California Health and Safety Code section 25186 and Chapters 20 and 21 of title 22 of the California Code of Regulations.

SCHEDULE FOR COMPLIANCE

8. Respondent shall comply with the following:

8.1 Effective immediately, Respondent shall not store hazardous waste dross on its loading dock without authorization from the Department.

8.2 Pending review of Respondent's revised permit application (see Paragraph 7 herein), which application includes permitting the Storm Water Retention Pond as a surface impoundment, Respondent shall comply with Paragraph 8.3 herein and its subsections The Storm Water Retention Pond is currently an unauthorized storage unit and cannot be used to store hazardous waste.

8.3 Effective immediately, Respondent shall operate and maintain the Facility Storm Water Retention Pond as follows:

8.3.1 Respondent shall maintain the integrity of the Facility's Storm Water Retention Pond and the Pond's liner;

8.3.2 Respondent shall measure the water level in the Facility's Storm Water Retention Pond daily during periods when the Pond contains measurable quantities of water above the upper level of the sumps (3 inches or greater from the bottom of the Pond). When the level of the Pond is lower than 3 inches and/or can no longer be measured by inches, Respondent shall estimate the level of water in the Pond in either inches, or by volume, and record this estimate in its daily log.

8.3.3 Respondent shall record all rain events at the Facility by recording when the rain begins and when it ends;

8.3.4 Respondent shall record when all pumping from the Facility's Storm Water Retention Pond begins and ends;

8.3.5 Any Storm Water Retention Pond pump failure at the Facility must be repaired or replaced within 48 hours of failure;

8.3.6 The Facility shall withdraw a minimum volume of 80,000 GPD of water from the Storm Water Retention Pond until the Pond contains 3 inches or less of water. Within one hour after the water level reaches 3 inches from the bottom of the Pond, Respondent shall initiate removal of any lead-containing material, including sludge, from the entire surface area of the Pond. Removal of lead-containing material is required to be completed as soon as possible, and no later than 6 calendar days after the time initiation of the removal was required.

8.3.7 Respondent shall maintain accurate records detailing when the Facility's Storm Water Retention Pond is empty;

8.3.8 If Respondent removes sludge from the Facility's Storm Water Retention Pond, Respondent shall notify the Department in writing or electronically (by e-mail or facsimile) that it has removed sludge from the Storm Water Retention Pond. In the event that the sludge is not treated or processed on-site, Respondent shall notify the Department of the final disposition of the sludge from the Facility's Storm Water Retention Pond.

8.3.9 Respondent shall comply with all applicable waste discharge requirements, if any, issued to the Facility by the State Water Resources Control Board or a California regional water quality control board.

8.4 Respondent must notify the Department immediately in writing if Respondent is unable to meet any of the compliance requirements set forth in this Order.

9. Submittals: All submittals from Respondent pursuant to this Order shall be sent to:

Mukul Agarwal
Supervising Hazardous Substances Scientist
Enforcement and Emergency Response Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, CA 91311

10. Communications: Any approval and decision of the Department made regarding such submittals and notifications shall be communicated to Respondent in writing by a Branch Chief, Department of Toxic Substances Control, or his/her designee. No informal advice, guidance, suggestions, or comments by the Department regarding reports, plans, specifications, schedules, or any other writings by Respondent shall be construed to relieve Respondent of its obligation to comply with this Order.

11. Department Review and Approval: If the Department determines that any report, plan, schedule, or other document submitted for approval pursuant to this Order fails to comply with the Order or fails to protect public health or safety or the environment, the Department may:

a. Modify the document as deemed necessary and approve the document as modified; or

b. Return the document to Respondent with recommended changes and a date by which Respondent must submit to the Department a revised document incorporating the recommended changes.

12. Compliance with Applicable Laws: Respondent shall carry out this Order in compliance with all local, State, and federal requirements, including but not limited to requirements to obtain permits and to assure worker safety.

13. Endangerment during Implementation: In the event that the Department determines that any circumstances or activity (whether or not pursued in compliance with this Order) are creating an imminent or substantial endangerment to the health or welfare of people on the Site or in the surrounding area or to the environment, the Department may order Respondent to stop further implementation for such period of time as needed to abate the endangerment. Any deadline in this Order directly affected by a Stop Work Order under this section shall be extended for the term of such Stop Work Order.

14. Liability: Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current, or future operations of Respondent, except as provided in this Order. Notwithstanding compliance with the terms of this Order, Respondent may be required to take further actions as are necessary to protect public health or welfare or the environment.

15. Site Access: Access to the Site shall be provided at all reasonable times to employees, contractors, and consultants of the Department, and any agency having jurisdiction. Nothing in this Order is intended to limit in any way the right of entry or inspection that any agency may otherwise have by operation of any law. The Department and its authorized representatives may enter and move freely about all property at the Site at all reasonable times for purposes including but not limited to: inspecting records, operating logs, and contracts relating to the Site;

reviewing the progress of Respondent in carrying out the terms of this Order; and conducting such tests as the Department may deem necessary. Unless records are protected as trade secrets, include confidential business information, or are protected under evidentiary privilege, Respondent shall permit such persons to inspect and copy all records, documents, and other writings, including all sampling and monitoring data, in any way pertaining to work undertaken pursuant to this Order.

16. Sampling, Data, and Document Availability: Respondent shall permit the Department and its authorized representatives to inspect and copy all sampling, testing, monitoring, and other data, including, but not limited to the records required by paragraph 8, generated by Respondent or on Respondent's behalf in any way pertaining to compliance with this Order. Respondent shall allow the Department and its authorized representatives to take duplicates of any samples collected by Respondent pursuant to this Order. Respondent shall maintain a central depository of the data, reports, and other documents prepared pursuant to this Order. All such data, reports, and other documents shall be preserved by Respondent for a minimum of five years after the conclusion of all activities under this Order. If the Department requests that some or all of these documents be preserved for a longer period of time, Respondent shall either comply with that request, deliver the documents to the Department, or permit the Department to copy the documents prior to destruction. Respondent shall notify the Department in writing at least six months prior to destroying any documents prepared pursuant to this Order.

17. Government Liabilities: The State of California shall not be liable for injuries or damages to persons or property resulting from acts or omissions by

Respondent or related parties in carrying out activities pursuant to this Order, nor shall the State of California be held as a party to any contract entered into by Respondent or its agents in carrying out activities pursuant to this Order.

18. Incorporation of Plans and Reports: All plans, schedules, and reports that require Department approval and are submitted by Respondent pursuant to this Order are incorporated in this Order upon approval by the Department.

19. Extension Requests: If Respondent is unable to perform any activity or submit any document within the time required under this Order, Respondent may, prior to expiration of the time, request (in writing) an extension of time. The extension request shall include a justification for the delay.

20. Extension Approvals: If the Department determines that good cause exists for an extension, it will grant the request and specify in writing a new compliance schedule or term. .

PAYMENTS

21. Within 30 days of the effective date of this Order, Respondent shall pay the Department a total of $195,000.00, of which $82,000 is a penalty for the violations occurring in 2009 and 2010, and $113,000 is a penalty for the violations occurring in 2011. Respondent's check shall be made payable to Department of Toxic Substances Control, and shall be delivered together with the attached Payment Voucher to:

Department of Toxic Substances Control
Accounting Office
1001 I Street
P.O. Box 806
Sacramento, California 95812-0806

A photocopy of the check shall be sent:

To:

Mukul Argawal
Supervising Hazardous Substances Scientist
Enforcement and Emergency Response Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, CA 91311

To:

Debra Schwartz
Office of Legal Counsel
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, CA 91311

If Respondent fails to make payment as provided above, Respondent agrees to pay interest at the rate established pursuant to Health and Safety Code section 25360.1 and to pay all costs incurred by the Department in pursuing collection including attorney's fees.

OTHER PROVISIONS

22. Penalties for Noncompliance: Failure to comply with the terms of this Order may subject Respondent to civil penalties and/or punitive damages for any costs incurred by the Department or other government agencies as a result of such failure, as provided by Health and Safety Code section 25188 and other applicable provisions of law.

23. Parties Bound: This Order shall apply to and be binding upon Respondent and its officers, directors, agents, receivers, trustees, employees, contractors, consultants, successors, and assignees, including but not limited to individuals, partners, and subsidiary and parent corporations, and upon the Department and any successor agency that may have responsibility for and jurisdiction over the subject matter of this Order..

24. Effective Date: The effective date of this Order is the date it is signed by the Department.

25. Integration: This agreement constitutes the entire agreement between the parties and may not be amended, supplemented, or modified, except as provided in this agreement.

Dated: March 4, 2013.

Respondent

Dated: 3-13-2013

Department of Toxic Substances Control

EXHIBIT 1

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of: Exide Technologies 2700 South Indiana Street Los Angeles, California 90058 ID No. CAD 097 854 541 Respondent.	Docket HWCA 2009-2208 ENFORCEMENT ORDER Health and Safety Code Section 25187

INTRODUCTION

1.1. Parties. The State Department of Toxic Substances Control (Department) issues this Enforcement Order (Order) to Exide Technologies (Respondent).

1.2. Site. Respondent generates, handles, treats, and stores hazardous waste at the following site: 2700 South Indiana Street, Los Angeles (Facility).

1.3. The Department authorized Respondent to manage hazardous waste pursuant to an Interim Status Document issued in 1981.

1.4. Jurisdiction. Section 25187 of the Health and Safety Code authorizes the Department to order action necessary to correct violations and assess a penalty when the Department determines that any person has violated specified provisions of the Health and Safety Code or any permit, rule, regulation, standard, or requirement issued or adopted pursuant thereto.

DETERMINATION OF VIOLATIONS

2. The Department has determined that:

2.1.1 Respondent violated Health and Safety Code section 25202, in that on or about April 29, 2009, Respondent illegally stored hazardous waste lead contaminated

sludge in an unauthorized unit, to wit: During a Compliance Evaluation Inspection (CEI) conducted at the Facility on April 29, 2009, Respondent stored lead contaminated sludge in the Storm Water Retention Pond. Subsequent to the inspection, Respondent submitted documentation that it cleans out the Pond once a year.

2.1.2 Respondent violated California Code of Regulations, title 22, section 66265.193 subdivision (c) (4) and Consent Order HWCA 97/98-3021, in that on or about April 29, 2009, Respondent failed to remove lead-contaminated sludge from the Storm Water Retention Pond within 24 hours or in as timely a manner as possible, to wit: During a CEI conducted on April 29, 2009, the Storm Water Retention Pond contained lead-contaminated sludge. Subsequent to the inspection Exide submitted documentation that they only clean out the pond once a year.

SCHEDULE FOR COMPLIANCE

3. Based on the foregoing Determination of Violations, IT IS HEREBY ORDERED THAT:

3.1.1 Effective immediately the Respondent shall cease storing any hazardous waste in the Storm Water Retention Pond, including hazardous waste sludge without authorization from the Department.

3.1.2 Effective immediately the Respondent shall remove any hazardous waste, including hazardous waste sludge, which accumulates in the Storm Water Retention Pond within 24 hours of accumulation, or in as timely a manner as possible, to prevent harm to human health or the environment.

3.2. Submittals. All submittals from Respondent pursuant to this Order shall be sent simultaneously to:

To: Roberto Kou
Acting Performance Manager
Enforcement and Emergency Response Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

To: Mukul Agarwal
Supervising Hazardous Substances Scientist
Enforcement and Emergency Response Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

To: Debra Schwartz
Senior Staff Counsel
Office of Legal Affairs
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

3.3. Communications. All approvals and decisions of the Department made regarding submittals and notifications will be communicated to Respondent in writing by the Branch Chief, Department of Toxic Substances Control, or his/her designee. No informal advice, guidance, suggestions, or comments by the Department regarding reports, plans, specifications, schedules, or any other writings by Respondent shall be construed to relieve Respondent of the obligation to obtain such formal approvals as may be required.

3.4. Department Review and Approval. If the Department determines that any report, plan, schedule, or other document submitted for approval pursuant to this Order fails to comply with the Order or fails to protect public health or safety or the environment, the Department may:

a. Modify the document as deemed necessary and approve the document

as modified, or

b. Return the document to Respondent with recommended changes and a date by which Respondent must submit to the Department a revised document incorporating the recommended changes.

3.5. Compliance with Applicable Laws: Respondent shall carry out this Order in compliance with all local, State, and federal requirements, including but not limited to requirements to obtain permits and to assure worker safety.

3.6. Endangerment during Implementation: In the event that the Department determines that any circumstances or activity (whether or not pursued in compliance with this Order) are creating an imminent or substantial endangerment to the health or welfare of people on the site or in the surrounding area or to the environment, the Department may order Respondent to stop further implementation of this Order for such period of time as needed to abate the endangerment. Any deadline in this Order directly affected by a Stop Work Order under this section shall be extended for the term of the Stop Work Order.

3.7. Liability: Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current, or future operations of Respondent. Notwithstanding compliance with the terms of this Order, Respondent may be required to take further actions as are necessary to protect public health or welfare or the environment.

3.8. Site Access: Access to the site shall be provided at all reasonable times to employees, contractors, and consultants of the Department, and any agency having jurisdiction. Nothing in this Order is intended to limit in any way the right of entry or

inspection that any agency may otherwise have by operation of any law. The Department and its authorized representatives shall have the authority to enter and move freely about all property at the Site at all reasonable times for purposes including but not limited to: inspecting records, operating logs, and contracts relating to the Site; reviewing the progress of Respondent in carrying out the terms of this Order; and conducting such tests as the Department may deem necessary. Respondent shall permit such persons to inspect and copy all records, documents, and other writings, including all sampling and monitoring data, in any way pertaining to work undertaken pursuant to this Order.

3.9. Data and Document Availability. Respondent shall permit the Department and its authorized representatives to inspect and copy all sampling, testing, monitoring, and other data generated by Respondent or on Respondent's behalf in any way pertaining to work undertaken pursuant to this Order. Respondent shall allow the Department and its authorized representatives to take duplicates of any samples collected by Respondent pursuant to this Order. Respondent shall maintain a central depository of the data, reports, and other documents prepared pursuant to this Order. All such data, reports, and other documents shall be preserved by Respondent for a minimum of six years after the conclusion of all activities under this Order. If the Department requests that some or all of these documents be preserved for a longer period of time, Respondent shall either comply with that request, deliver the documents to the Department, or permit the Department to copy the documents prior to destruction. Respondent shall notify the Department in writing at least six months prior to destroying any documents prepared pursuant to this Order.

3.10. Government Liabilities: The State of California shall not be liable for injuries or damages to persons or property resulting from acts or omissions by Respondent or related parties in carrying out activities pursuant to this Order, nor shall the State of California be held as a party to any contract entered into by Respondent or its agents in carrying out activities pursuant to the Order.

3.11. Incorporation of Plans and Reports. All plans, schedules, and reports that require Department approval and are submitted by Respondent pursuant to this Order are incorporated in this Order upon approval by the Department.

3.12. Extension Request: If Respondent is unable to perform any activity or submit any document within the time required under this Order, the Respondent may, prior to expiration of the time, request an extension of time in writing. The extension request shall include a justification for the delay.

3.13. Approvals: If the Department determines that good cause exists for an extension, it will grant the request and specify in writing a new compliance schedule.

OTHER PROVISIONS

4.1. Additional Enforcement Actions: By issuance of this Order, the Department does not waive the right to take further enforcement actions.

4.2. Penalties for Noncompliance: Failure to comply with the terms of this Order may also subject Respondent to costs, penalties, and/or punitive damages for any costs incurred by the Department or other government agencies as a result of such failure, as provided by Health and Safety Code section 25188 and other applicable provisions of law.

4.3. Parties Bound: This Order shall apply to and be binding upon Respondent,

and its officers, directors, agents, employees, contractors, consultants, receivers, trustees, successors, and assignees, including but not limited to individuals, partners, and subsidiary and parent corporations.

4.4. Time Periods. "Days" for purposes of this Order means calendar days.

4.5. Compliance with Waste Discharge Requirements: Respondent shall comply with all applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board.

PENALTY

5. Based on the foregoing DETERMINATION OF VIOLATIONS, the Department sets the amount of Respondent's penalty at $ 103,200.00. Payment is due within 30 days from the effective date of the Order. Respondent's check shall be made payable to the Department of Toxic Substances Control, and shall identify the Respondent and Docket Number, as shown in the heading of this case. Respondent shall deliver the penalty payment to:

Department of Toxic Substances Control
Accounting Office
1001 I Street, 21st floor
P. O. Box 806
Sacramento, California 95812-0806

A photocopy of the check shall be sent to:

To: Roberto Kou
Acting Performance Manager
Enforcement and Emergency Response Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

To: Mukul Agarwal
Supervising Hazardous Substances Scientist
Enforcement and Emergency Response Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

To: Debra Schwartz
Senior Staff Counsel
Office of Legal Affairs
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

RIGHT TO A HEARING

6. Respondent may request a hearing to challenge the Order. Appeal procedures are described in the attached Statement to Respondent.

EFFECTIVE DATE

7. This Order is final and effective fifteen days from the date it is served on Respondent, unless Respondent requests a hearing within the fifteen-day period.

Date of Issuance August 12, 2010

Roberto Kou, Acting Performance Manager
Enforcement and Emergency Response Program
Department of Toxic Substances Control
Chatsworth

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

IN THE MATTER OF: Exide Technologies 2700 South Indiana Street Los Angeles, California 90058 EPA ID NO. CAD 097 854 541 Respondent.	Docket No. HWCA 2009-2008 FIRST AMENDMENT TO ENFORCEMENT ORDER Health and Safety Code Sections 25187 and 25200.14

INTRODUCTION

On August 12, 2010, the Department of Toxic Substances Control (DTSC) issued an administrative Enforcement Order (Order) to Exide Technologies (Respondent) regarding alleged violations related to the operation and management of Respondent's facility, located at 2700 South Indiana Street, Los Angeles, California, 90058 (Facility). DTSC hereby amends the Order with this First Amendment to Enforcement Order (First Amendment) as follows:

1. Section 2.1.1 Respondent violated Health and Safety Code section 25202, in that on or about April 29, 2009, April 13, 15, 22, and 28, 2010, February 28, 2011 and March 2, 3, and 7, 2011, Respondent illegally stored hazardous waste lead contaminated sludge in an unauthorized unit, to wit: During a Compliance Evaluation Inspection (CEI) conducted at the Facility on April 29, 2009, April 13, 15, 22 and 28, 2010, February 28 2011 and March 2, 3, and 7,

2011, Respondent stored lead contaminated sludge in the Storm Water Retention Pond for longer than ninety days. Subsequent to the inspection, Respondent submitted documentation that it cleans out the Pond once a year.

2. Section 2.1.2. Respondent violated California Code of Regulations, title 22, section 66265.193 subdivision (c) (4) and Consent Order HWCA 97/98-3021, in that on or about April 29, 2009, April 13, 15, 22 and 28, 2010, February 28, 2011 and March 2, 3, and 7, 2011, Respondent failed to remove lead-contaminated sludge from the Storm Water Retention Pond within 24 hours or in timely a manner as possible, to wit: During a CEI conducted on April 29, 2009, April 13, 15, 22 and 28, 2010, February 28, 2011 and March 2, 3 and 7, 2011, the Storm Water Retention Pond contained lead-contaminated sludge. Subsequent to the inspection Exide submitted documentation that it only cleans out the pond once a year.

3. Section 2.1.3. Respondent violated Health and Safety Code 25202, in that on or about February 28, 2011, Respondent illegally stored hazardous waste lead contaminated dross in an unauthorized unit, to wit: During a Compliance Evaluation Inspection (CEI) conducted at the Facility on February 28, 2011, Respondent stored thirty drums of lead contaminated lead dross on a loading dock next to the rail spur.

4. Section 3.1.1. Effective immediately Respondent shall cease storing any hazardous waste in the Storm Water Retention Pond, including hazardous waste sludge without authorization from the Department.

5. Section 3.1.2. Effective immediately Respondent shall remove any hazardous

waste, including hazardous waste sludge, which accumulates in the Storm Water Retention Pond within 24 hours of accumulation, or in as timely a manner as possible, to prevent harm to human health or the environment.

6. Section 3.1.3. Effective immediately Respondent shall cease storing any hazardous waste on the loading dock, including hazardous waste dross without authorization from the Department.

7. Section 5. Based on the foregoing DETERMINATION OF VIOLATIONS, DTSC sets the amount of Respondent's penalty at $ 243,125.00. Payment is due within 30 days from the effective date of the Order.

Except as amended by this First Amendment, the provisions of the Order shall remain in full force and effect. This First Amendment shall take effect upon the date when this First Amendment is executed by DTSC.

DATE: March 6, 2012 BY: _____

Roberto Kou, Acting Supervising HSS II
Enforcement and Emergency Response Branch
Department of Toxic Substances Control

EXHIBIT E

EXIDE TECHNOLOGIES

Global Leader
in Stored Electrical Energy

October 29, 2013

Exide Technologies
2700 S. Indiana Street
Vernon, CA 90058
Phone 323.262.1101
Fax 323.269.1906

VIA E-MAIL AND PERSONAL DELIVERY

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21865 Copley Drive
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Re: Exide's Initial Comments to PAR 1420.1 Rulemaking

Dear Ms. Nakamura and Mr. Eckerle:

Exide Technologies hereby submits these initial comments to the proposed amendments to Rule 1420.1. Exide has been working diligently in recent months to reduce emissions and associated theoretical health risks related to operation of its facility, conducting several weeks of source tests under complete District oversight, and submitting a comprehensive Risk Reduction Plan (RRP) setting forth substantial projects that Exide will undertake in the coming 12-18 months. Exide continues to work with the District to address District concerns regarding source testing and the RRP. Exide understands the need to balance its operations with environmental and health protections, but is concerned that the District's proposed 1420.1 rule amendments establish unreasonable standards not supported by law. The proposed rule amendments do not take into account the fundamentally different methods of operation and production equipment utilized at the Quemetco facility and the Exide facility, essentially imposing a "one size fits all" approach mandating a particular control technology rather than focusing on the aspect that should be the most central – exposure and risk.

In general, the proposed rule amendments take a flawed, technology-based approach with regard to setting emissions limits. In effect, the amendments constitute a "backdoor" requirement that Exide either shut down its blast furnace or install a Wet Electrostatic Precipitator (WESP). Neither option is feasible. Shutting down the blast furnace would have significant adverse effects on Exide's North American battery operations, and Exide has already demonstrated that the WESP is technologically and economically infeasible for its basic production equipment configuration. Thus, under the amended rule, there is likely to be no feasible compliance solution for Exide. Exide opposes the rule as drafted because the District is improperly undertaking to control management of Exide's facility and the design of its pollution control equipment. Exide also believes the rule is not reasonably necessary to achieve the District's regulatory aims, and imposes economic burdens on Exide that are unjustified and unlawful.

Moreover, the technology-based approach results in unreasonable emission levels for organics without appropriately considering the different categories of sources within this

industry. If the concern is public health -- and it should be -- then the more prudent approach would be to create a risk-based rule that allows Exide to invest heavily in the plant by installing its proposed RRP measures (and working with the District on potential additional measures) that are expected to reduce risk to levels well below Rule 1402 standards.

Exide also has significant concerns regarding the ambient arsenic monitoring standards, the curtailment provisions, and the requirements on pressure monitoring. For instance, the proposed production curtailments have no foundation, the requirement for a multi-metals CEMS is vague, and there is no explanation as to why the pressure monitoring metric was selected or why pressure monitoring will be an effective indicator of emission performance. With regard to public notification issues, Exide is concerned that the requirement for third-party audits of "unplanned" events will lead to an endless cycle of investigations that will not provide the public with useful information. The rule should also make clear that public notification is only required for events that actually impact emissions, not routine maintenance events that take less than hour and do not involve the shutdown of any pollution control device.

In conclusion, though Exide believes this is a flawed rule, Exide remains willing to work with the District to pass a rule that protects public health and the environment in a reasonable manner.

The District's Overall Approach to the Rule is Flawed Because Emissions Limits Should Be Risk-Based, Not Technology-Based

A Risk-Based Standard Protects Public Health While Allowing Each Facility An Opportunity to Select the Method of Operation or Technology Required for Compliance

The District has stated that this is a technology-based standard (the District started making this comment in public before ever publicly considering any alternative approaches). Although Exide supports the District's efforts to reduce air emissions, the District's goals should be to reduce risk, rather than to impose technologies. The emissions limits in the proposed rule should be based upon risk goals. Risk goals, by definition, are limits that are necessary to protect public health. In contrast, a technology-based goal looks only to what is achievable through the latest technology, regardless of whether it is necessary to achieve levels consistent with public health protection, or whether the increment of risk reduction beyond what is necessary to protect public health comes at a justifiable cost.

Exide has already taken action to reduce risk under existing Rule 1402. By proposing to amend 1420.1 with technology-based standards, the District is imposing a compliance schedule that is not only more aggressive than 1402, but also largely only applies to Exide. [*See* Staff Report, p. 2-3, stating that the mass emissions rate is based on "emission controls used at the Quemetco facility"; *see also*, Draft Environmental Assessment, p. 2-4 and *passim*, which states that much of the rule impacts only Exide, and references all the projects that Exide (but not Quemetco) will need to complete]. This technology-based approach is unjustified, and the District provides insufficient analysis regarding the necessity for this rule.

To the extent that the District finds Rule 1402 insufficiently stringent, the better approach would be to amend 1402 or amend 1420.1 to set different risk standards applicable to Exide and Quemetco (and any secondary lead smelter in the future). For instance, Exide proposes that the District could cut in half the 1402 Action Risk Level (from 25/1,000,000 to 12.5/1,000,000 on the MICR and similar reductions to the HI and cancer burden) and the time allowed to meet the Action Risk Level in case of an exceedance (from 3 years to 18 months). This would be a dramatic reduction that would benefit public health while allowing the affected facilities a range of operational and control options to satisfy the risk standard. This is preferable to setting emissions limitations that are not related to actual risk.

A risk-based approach is in keeping with the District's prior procedure in setting emissions limits under Rule 1420.1. For example, the current stack emission rate limit was derived and established on the basis of dispersion modeling conducted by the District, which found that the 0.045 lb/hr facility-wide lead emission rate was necessary to achieve compliance with the National Ambient Air Quality (NAAQS) health-protective ambient standard of 0.15 ug/m^3 of lead. Emission levels for the proposed rule should be derived in the same or similar fashion. The District should establish an appropriate and health protective risk level, and then set the emissions standard based on what is necessary to achieve that standard.

The Proposed Rule Cannot Effectively Require a WESP Without Considering Critical Differences in the Two Affected Facilities

Although the proposed rule does not go so far as to explicitly require a particular technology to achieve compliance with the rule, the proposed technology-based changes de facto require implementation of a particular technology – WESP – because the emissions limits proposed by the rule are based upon what is achievable with the WESP at Quemetco. The regulated facilities should retain the ability to select the technologies they will implement in order to achieve compliance with the proposed emission limits. To impose emission standards that are achievable only by a particular technology effectively mandates use of that technology. In fact, EPA rejected WESP as MACT during its recent revision to the National Emission Standards for Hazardous Air Pollutants for this industry. See the preamble to the Proposed Rule for revising the NESHAP for Secondary Lead Smelting at 76 FR 97, May 19, 2011, page 29058. This conclusion by EPA was upheld by the United States Court of Appeals for the District of Columbia Circuit USCA Case #12-1129 on May 28, 2013 – see page 10 of the Decision. *Ass'n of Battery Recyclers, Inc. v. EPA*, 716 F.3d 667, 673-74 (D.C. App. 2013)

The proposed rule adds limitations on organic compounds that are again not based on the emission levels necessary to achieve specific risk outcomes but rather simply on the basis of requiring a "match" to what Quemetco's emissions have reportedly been. This is too simplistically justified and does not adequately consider the different physical setting of the facilities (Quemetco having residences much closer than Exide) and, more importantly, the differences in available space and the underlying production equipment at the two facilities. With careful consideration of these factors, Exide has already proposed significant projects in its RRP that are designed to reduce emissions and concurrent risk (and Exide will work with the District to address perceived deficiencies in the RRP).

In sum, the District cannot and should not set emissions limits via a "technology-based" standard that essentially compels Exide to use a WESP to meet Quemetco's standard when a WESP is not technologically or economically feasible for Exide. [*See* Exide Feasibility Study].

Without a Risk-Based Approach, Exide Has No Reasonable Compliance Alternatives

As currently written, without a risk-based target, the rule does not reasonably allow Exide to implement emissions-reduction alternatives to the emissions limits. With this rule, the District essentially forecloses the possibility that Exide can reach equivalent performance through implementation of its RRP projects. Pursuant to the District's October 24, 2013 letter taking action on Exide's RRP, Exide is analyzing whether alternatives other than those proposed in the RRP (such as a wet scrubber) may allow Exide to comply with the amended rule. However, given uncertainty regarding the District's approval of the recently-completed source tests (which followed AQMD protocols), Exide cannot at this time determine whether economically feasible alternatives exist to comply with the rule. The only options currently available appear to be: (i) install a WESP, which is infeasible, or (ii) shut down the blast furnace to achieve the improperly established organic emission limits, both of which could have a significant and adverse effect on Exide's North American battery operations.

Comments Regarding the Basis for the Rule and Emissions Limits

The Preliminary Staff Report States that the Rule is For Public Health Protection, But the Basis for the Rule is Unclear

The original 1420.1 was a rule intended to achieve the National Ambient Air Quality Standard (NAAQS) for lead of 0.15 ug/m3 on a 90 day average (1420.1 reduced the average to 30 days). In addition to being a NAAQS rule, the District initially asserted that 1420.1 was also a Best Achievable Retrofit Control Technology (BARCT) Rule for lead. However, the District then eliminated the description of 1420.1 as a BARCT rule in later staff comments, apparently no longer considering 1420.1 a BARCT Rule. [November 2010 1420.1 Staff Report]. Because there is no NAAQS for arsenic, 1, 3 butadiene or benzene, these amendments are presumably not a NAAQS requirement. As such, what is the basis for the proposed amendments? Is it BARCT? Best Available Control Technology for Toxics (T-BACT)? An Air Toxics Control Measure? Or something else? This is a fundamental question. Without a basis, Exide cannot properly comment on the rule, and is denied its full due process rights to respond and comment.

The District Must Provide a BARCT Analysis, Considering Facility-Specific Economic Impacts.

Based on its own analysis, Exide believes that, even though not stated in the Preliminary Staff Report, this is a BARCT rule (or a BARCT for toxics/T-BARCT rule). BARCT is defined as follows: "An air emission limitation that applies to existing sources and 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.

The District has not provided any BARCT evaluation. First, the District has not provided an analysis of control technology that it believes can achieve the maximum degree of reduction. The District claims this is a technology-based rule, but provides no analysis concerning feasibility for Exide of the emissions standards or technology that it seeks to impose. Second, the District has no evaluation of control effectiveness specific to Exide (one of only two business currently impacted by this Rule). Third, the District has no analysis concerning cost-effectiveness, which must be conducted in a top-down fashion starting with the most effective control technology and must consider site-specific concerns such as: (i) physical limitations, (ii) operational characteristics of the equipment at Exide, (iii) equipment costs, (iv) installation costs, (v) annual operating costs, and other factors that must all be analyzed to generate an evaluation of cost-effectiveness per ton of pollutants reduced.

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].

If This is a T-BACT Rule, The District Should So State and Perform a T-BACT Analysis

Exide believes this is a BARCT rule as set forth above. However, there is language in the Draft Environmental Assessment suggesting that the rule amendments are intended to "requir[e] health risks to be lowered to levels equivalent to Rule 1401." [Draft Environmental Assessment, 1-1]. Rule 1401 is a New Source Review rule that applies only to "new, relocated, and modified permit units." Rule 1401 does not apply to Exide and any attempt by the District to force Exide to comply (whether directly or indirectly) with Rule 1401 and/or related T-BACT or risk requirements is unjustified and legally improper.

If the District does assert that this is a T-BACT rule, then Exide objects to that classification and demands that the District explain its rationale and perform the necessary analysis to determine T-BACT, which is defined as follows: "The most stringent emissions limitation or control technique which: (i) has been achieved in practice for such permit unit category or class of source; or (ii) any other emissions limitation or control technique, including process and equipment changes of basic and control equipment, found by the Executive Officer to be technologically feasible for such class or category of sources, or for a specific source."

Importantly, under T-BACT, like under BARCT, the District must make a determination by permit unit or source category, and cannot analyze Exide and Quemetco together because the two facilities operate using fundamentally different equipment to process reverberatory furnace slag (blast furnace vs. electric arc furnace). The District must assess whether the rule imposes limits that are technologically feasible for Exide to achieve, taking into account Exide's unique operations and existing control equipment.

If This is an Air Toxics Control Measure (ATCM), The District Should So State and Perform an ATCM Analysis

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.

Section (f)(1) Regarding Point Source Emission Controls is Flawed

The added language in section (f)(1) is vague and can be misinterpreted. Without further detail and analysis it is impossible for Exide to determine or project the potential cost of compliance with this proposed rule and it is equally impossible for the District to conduct a proper economic analysis. In particular, the modified language states that emissions from EACH arsenic point source must be vented to an arsenic emission control device. Verbal statements made by District staff at the October 9, 2013 working group meeting indicated that staff felt that "arsenic control device," while nowhere defined in the proposed rule, should be a device that also controls gaseous forms of arsenic. Such an interpretation makes a great deal of difference and the proposed rule language does not support such. Not all point sources that emit some level of arsenic involve a substantial potential for unfilterable forms of arsenic. That is, for some point sources of arsenic, mechanical filtration of the particulate forms (with baghouses and/or HEPA filters) of arsenic is entirely appropriate and sufficient. Of great note is that on an annual basis, the amount of arsenic emitted from point sources at Quemetco that only perform mechanical filtration is roughly equivalent to the amount coming from the WESP-controlled point source. Is the District now saying with (f)(1) that this situation at Quemetco would not satisfy the new proposed rule? The point is that if (f)(1) is going to be emphasized and interpreted in the fashion indicated verbally by staff on October 9, much more consideration and specificity is needed. There must either be *de minimis* levels or other means to distinguish amongst arsenic-emitting point sources before vaguely setting up an interpretation that any "arsenic emission control device" must control for gaseous forms of arsenic.

While maintaining its objections to the "technology-based" rulemaking approach in general, Exide adds that if that basis is used to settle on a 10 lb/year arsenic emission limit facility-wide, the facilities should be free to select whatever mix of control technologies each feels is appropriate to meet that limit. This added section (f)(1) language, as interpreted and described by staff, mandates the use of controls targeting potentially gaseous forms of arsenic where such controls may well not be necessary to achieve the emission limit. In this way the District is departing from its early statements in this proceeding that it would not be mandating technology per se, but rather just mandating emission rates consistent with the performance of what it believes to be the

best technology. If (f)(1) is interpreted as now being described by staff, the District would, in fact, be mandating either WESP or wet scrubbing on a wide range of stacks.

Section (f)(2) Emissions Limits Should Be Determined By Category Of Source.

The rule proposes one standard of emissions limits for all secondary lead smelters governed by the rule, regardless of the processes by which those smelters operate. The District states that the emissions limits in section (f)(2) of the rule are "technology based" and based on the lowest achieved in practice annual emissions from Quemetco (Preliminary Staff Report 2-3).

The establishment of organic emission limits for all secondary lead smelters on the basis of performance of a single facility does not appropriately consider the subcategories of sources in the industry. Furthermore, both BACT and BARCT require that the District set emissions limits based on each source or category of source. The District must consider "impacts by each class or category of source." H&S Code § 40406.

It is inappropriate to characterize all smelters as one source or category of source. In fact, as noted in the Staff Report comments, smelting of the slag produced by a reverberatory furnace (common to both facilities) can be achieved by either blast furnace (Exide) or electric arc furnace (Quemetco). These two processes are entirely different and distinct from each other, rendering it inappropriate to establish one set of emissions standards that would apply to both processes.

In development of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for this industry, EPA applied the same emission criteria for lead specifically, and as a surrogate for other toxic metals like arsenic, to all facilities regardless of furnace technology. But, importantly, EPA imposed different emission limits on organic emissions on a subcategory basis in accordance with furnace type in recognition that they have inherently different emission characteristics. EPA at the federal level has no expectation that a blast furnace should have organic emissions as low as an electric arc. And, EPA consciously chose, therefore, not to mandate as MACT for existing OR NEW sources that the furnace processing reverb slag must be an electric arc instead of a blast furnace. That is, not only does EPA NOT mandate that existing units be replaced with a different type, the EPA does not even say NEW units have to be of a particular type. See Table 2 to 40 CFR 63 Subpart X in which different limits for organic HAPs are assigned to different furnace types with the highest limits being granted to blast furnaces, recognizing their inherent nature to generate more organic emissions. See also Docket item EPA-HQ-OAR-2011-0344-0042 which presents the approach by which EPA determined and assigned these organic limits to different "furnace groups," or categories.

Given the vast differences between the method by which smelting of reverberatory furnace slag occurs in a blast furnace (Exide) as compared to an electric arc furnace (Quemetco), the District should promulgate emissions standards based on the type of emissions source. The District's proposed rule is unprecedented and not legally justified in that, by imposing Quemetco's performance standard on Exide, the District is effectively requiring Exide to stop operating its blast furnace.

The District Should Take Into Account Emissions Variability

The District does not account for the range of emissions that have been measured over time from the same stacks with their current control technology in place. For a true "technology-based" standard, the emission limits should be based upon the statistical performance across a number of testing events to establish upper confidence limits, properly accounting for process variability as is done in the development of federal MACT standards. To simply take the latest results and add a 25% buffer does sufficiently compensate for variability during source testing. To the extent the District will adopt technology-based emissions limits in subsection (f)(2), the limits should be determined based on the statistical performance across a number of testing events to establish upper confidence limits, properly accounting for process variability as is done in the development of MACT standards. Presently, the emissions limits proposed by the rule were derived from a multiple of the tested performance in a single point in time at the Quemetco facility. This approach is far too simplistic and lacks sufficient rigor in light of the progress that has been made in this area of calculation in the federal MACT arena.

The Proposed Rule Goes Beyond What Is Necessary To Protect Public Health.

The proposed rule would set more stringent emissions limits than are necessary to protect public health. Although the District has authority to set more stringent limits, it must do so subject to a finding of necessity under Health & Safety Code § 40727. The District's necessity finding is not supported by the evidence.

First, there is no evidence to support the District's conclusion that the amendments to the rule are necessary because of prior elevated arsenic emissions at Exide. [Preliminary Staff Report, ES-1]. Following existing law, Exide has taken significant actions in the past few months to reduce emissions and associated risks. The District can seek further improvement via existing AQMD Rules -- indeed, the District has already cited Rule 1402 in demanding that Exide submit a revised Risk Reduction Plan. This demonstrates that the existing rules work and there is no necessity for rule amendments.[1]

Second, although the proposed rule purports to "further protect" public health, it does so without any analysis of the incremental cost of going to that "further" level. As stated in these Comments, the District must analyze Exide's compliance cost.

The District Should Consider Cost Of Compliance When Implementing Emissions Standards Greater Than What Is Necessary To Protect Human Health.

The stated purpose of the proposed rule is to "further protect[] public health by adding to the scope of the rule the reduction of the exposure and emissions of toxic air contaminants... from large lead-acid battery recycling facilities. (Staff Report, p. 2-1.) The emissions limits in the proposed rule seek to achieve emissions standards below those levels that are necessary to protect human health. Exide does not disagree with the District's goal to reduce emissions to protect public health. However, if the District

[1] For the reasons set forth herein, the amended rule is also insufficiently clear as many provisions are vague, and the rule may be in conflict with Federal and State law. [Cal. H&S Code 40727].

decides to implement more protective standards it should consider whether the benefit to public health from a marginal reduction to risk is justified by the extraordinary cost of compliance. The District has performed no economic analysis whatsoever. Whether as a BARCT, T-BACT or other rule, the District should consider Exide's cost of compliance.

First, because the emissions limits in the rule are based on Quemetco's very different technology, the District should consider the economic impact of forcing Exide to abandon its blast furnace in order to comply. The loss of the blast furnace at Vernon would force Exide to choose between two alternatives, both of which are likely to be economically unsustainable. Exide would either have to replace the blast furnace with an electric arc furnace (at high capital cost) to process the slag generated by its Vernon reverberatory furnace or containerize and ship that slag to a different smelter out of state for processing (significantly increasing material handling costs and the generation of fugitive dust from multiple handling and transfer steps). Without the existing blast furnace, the entire Vernon plant may become unsustainable economically and the facility may be forced to shut down, which in turn would have significant adverse effects on Exide's North American battery operations. The District must consider this economic impact.

Second, because the District's rule is based on emissions achieved by Quemetco's control technology, the District must consider the technical and economic feasibility of installing the same technology (WESP) at Exide. Exide has already established that a WESP is technically and economically infeasible. [*See* Exide Feasibility Study]. As stated in its Risk Reduction Plan, the WESP has a very high cost and Exide has physical space limitations rendering WESP installation impossible. Even if a WESP could be installed at Exide, based on EPA cost estimates and information presented in the Feasibility Study, a WESP would cost at least $30 million and provide only a marginal risk reduction benefit over the much more cost-effective projects set forth in Exide's Risk Reduction Plan.

In short, the District does not consider the "availability and cost-effectiveness of alternatives" to the 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].

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]. Exide requests that the District conduct this analysis.

Compliance Schedule

Subsection (d)(5)(A) would require regulated facilities to submit a Compliance Schedule within 30 days of the rule adoption date describing how the final performance standards for arsenic, benzene, and 1,3-butadiene will be achieved by January 1, 2015. Subsection (d) then continues by setting forth the specific information that must be provided in the Compliance Schedule. Given the amount of information that must be included, 30 days is too short of a timeframe to properly analyze what will be required to comply with the rule. The District should allow regulated facilities 90 days to prepare and submit the Compliance Schedule.

Likewise, the permit application timing in subsection (d)(5)(B) should be extended to 120 days after adoption.

Ambient Standard & Monitoring Requirements

First, while Exide supports the District's 10.0 ng/m3 ambient arsenic limit and believes it can comply, Exide is concerned that the standard will take effect on January 1, 2014. In order to be consistent with the effective date of the mass emission rate limits, Exide proposes that the arsenic ambient standard take effect on January 1, 2015. As the District is aware and as set forth in the Risk Reduction Plan, Exide is undertaking multiple capital projects in 2014 that are designed to have emission-reduction impacts. Exide should be allowed to complete these projects before the new arsenic ambient standard takes effect. Recall that the District adopted the 1420.1 lead ambient standard in late 2010 and it took effect in January 2012, affording the affected facilities just over 1 year to take necessary steps to comply. Similar timing should be adopted here.

Second, subsection (j)(4) should specify the sample analysis method to be used for arsenic. Without such a method, this part of the rule will be subject to continuous dispute and uncertainty.

Third, monitoring should occur in areas where there are actual population exposure scenarios, meeting all EPA monitor siting criteria and meeting the definition of "ambient air." Conducting monitoring within the perimeter of the facility does not meet the definition of ambient air and gives an inaccurate portrayal of potential exposure to the community.

Finally, the District has added (d)(7) to require multi-metals CEMS if measured ambient arsenic exceeded 10 ng/m^3 on a single day. This provision is ambiguous. Does the District mean that this new (d)(7) provision would require the installation of such a CEMS on EVERY arsenic point source at the facility, just the largest arsenic point source, or some other subset? These units are exceptionally expensive and this vaguely stated

requirement has not been sufficiently developed. To not provide such detail could lead to the interpretation that installation of these uncertified units on every point source is triggered. At BOTH subject facilities this would involve a large number of stacks. The District must explain the meaning and rationale for this provision.

Curtailment

In October 2013, the District issued revised amendments to the rule that included multiple pages regarding production curtailment in the event of a mass emissions or ambient air exceedance for lead or arsenic. Exide has several comments to section (p) of the rule:

- Late Amendments Require Explanation: The curtailment provisions were very recently added on October 15, even after the District issued the initial rule amendments. There is nothing regarding curtailment (or any of the other late changes) in the staff report. The affected facilities deserve a fair and reasonable opportunity to understand the District's basis for these late additions and comment as appropriate.

- Rule Needs a Waiver Clause: As the Hearing Board noted in the 2008 proceedings regarding Exide, depending on the circumstances, production curtailment may not solve the issue that lead to the emissions increase. [Case 3151-18, Findings and Decision pp. 15-17.] An exceedance of either the ambient or mass emission rate standard may also be related to an outside cause not within one of the affected facilities' reasonable control. As such, consistent with Exide's Compliance Plan and as a matter of fairness and due process, the rule should contain a waiver provision such as: "An affected facility may avoid the mandatory curtailments set forth in section (p) by seeking a waiver from the Executive Officer. Such request for waiver must be supported by substantial and credible evidence that the facility is not the cause of the exceedance or that the facility has definitely identified and corrected the cause of the exceedance. The foregoing shall not prevent the affected facility from seeking relief from these requirements upon application to the Hearing Board."

- Lead Ambient Standard Curtailment: The original Rule 1420.1 established the need for a Compliance Plan in the event that a facility exceeded an ambient air concentration of 0.12 ug/m3 over a 30-day average. Exide submitted a Compliance Plan under the rule and the District approved it. The Compliance Plan includes specific curtailment provisions. The rule amendments effectively trump Exide's Compliance Plan by imposing curtailment requirements beyond those in the negotiated Compliance Plan. Specifically, Exide objects to extending the curtailment period for a lead exceedance in section (p)(1)(A) to 30 rolling calendar days below 0.150 ug/m3. The existing 15 day requirement in the Compliance Plan has been sufficient to ensure prompt compliance with the NAAQS and 1420.1.

- Arsenic Ambient Curtailment: As set forth in Section F above, Exide requests that the proposed arsenic ambient standard take effect on January 1, 2015, meaning the associated curtailment provisions should take effect at the same time. In addition, to be consistent with language for lead in Exide's

Compliance Plan, the curtailment period should last until the affected facility demonstrates ambient results below the arsenic standard for 15 consecutive days.

- Arsenic and Lead Mass Emission Rate Curtailment: On what basis did the District determine the curtailment levels proposed for an exceedance of the mass emission rates for arsenic or lead? There is nothing in the staff report to explain this significant new provision. The affected facilities cannot fairly comment on this change. In addition, the fact that curtailment must remain in place until the next round of source testing is onerous, as source tests are difficult to schedule, plan and get approved (and they require close cooperation with the District), meaning curtailments could last almost indefinitely, which is prejudicial.

Compliance Plan Requirement

The original 1420.1 required the affected facilities to submit one Compliance Plan if they reached a 0.120 ug/m3 30-day average "trigger." This requirement was reasonable and helped assure that the affected facilities had proper plans in place to avoid exceedances of the NAAQS and 1420.1. The District now proposes an amendment that a new Compliance Plan must be submitted each time there is an exceedance of the 0.120 "trigger" for lead or the new arsenic standard. A Compliance Plan is intended to be an overall document that guides facility compliance efforts. Requiring a new Plan every time the facility goes over 0.120 ug/m3 (which importantly is NOT a 1420.1 or NAAQS violation) establishes a regime whereby the affected facilities may have to submit a plethora of "Compliance Plans" even though they did not violate any emissions standard. As written, the rule may even require a Compliance Plan to be submitted every single day (*i.e.*, "each time") an affected facility is above 0.120 on a 30-day average (or over the arsenic ambient standard). This is an onerous requirement both for the facilities and for the District, which will have multiple Plans to review. There will be no certainty over what "Plan" must be followed. Rather than requiring a new Compliance Plan "each time" there is an exceedance, a reasonable compromise would be to require that the affected facility submit one report within 45 days as to the cause and corrective actions taken (or that will be taken) to address any actual exceedance of the lead or arsenic ambient standard.

Pressure Monitoring

Subsection (f)(3) requires pressure monitoring of the furnace relative to the outside atmosphere. There is no discussion, however, justifying the selection of this metric over other mechanisms nor is there any explanation why this metric is an indicator of emission performance. The first paragraph of (f)(3) states that the performance standard should be that "the monitoring device shall be maintained at equal or greater absolute quantity of measured negative static pressure than recorded in the most recent District-approved source test used for compliance with this rule. First, such a statement does not consider the possibility that emissions during testing might meet the required (f)(2) emission standards with the furnace pressure at a slightly positive non-negative pressure. Second, the proposed rule as worded does not specify either the averaging period for the metric or for use in considering the parameter values during the testing periods. It is not appropriate to mandate that the furnace pressure always be more negative in every future 15 minute period than the most negative 15-minute value

observed during all testing. It is more appropriate to limit future values to remain below the average value observed across the testing periods.

Third, this approach, with correction, might be appropriate; however, the further specification in (f)(3)(B) is contradictory to the basic concept of comparison to testing data and is arbitrary in its selection. No basis or discussion is given justifying the selection of the (f)(3)(B) 0.02 inches water negative pressure value nor the 15-minute averaging period. It has not been determined through testing that any particular value or any level of pressure below 0 is required to achieve compliance with the underlying emissions standards proposed by the rule. Fourth, specification of a particular negative pressure value for reverberatory furnaces may well be counter-productive in terms of metallurgical performance, draft management, and management of generation of other pollutants such as NOx. Reverberatory furnaces are targeted to typically operate at a nominal pressure of nearly neutral for all metallurgical purposes. Thus, it is not desirable to draw in excess air into the furnace.

As to static pressure, it is premature and presumptive to state that measuring static pressure within any smelting furnace is either a reliable parameter or a feasible approach. The District should provide an explanation of this requirement.

Source Testing

Subsection (k)(7) would require source testing at 80% of permitted capacity. It would be more representative of actual conditions and thus, better predictive of actual risk to require that source testing occur at at least 80% of the mean operating rate, as measured (demonstrated) over the highest 90-day period during the previous 365 days.

Notification Requirements.

Subsection (n)(2) would require notification to "the public" within one hour of any unplanned shutdown of any emission control device subject to the rule. The rule should be revised as follows. First, notification distribution should be limited to those companies and individuals within an impacted area (i.e. the maximum exposed resident or within 500 yards). Based on the staff report for the original 1420.1 in 2010, it was clear that the intent was to provide notice to those members of the public in "close proximity" to the facilities in order that they may "plan their lifestyle to minimize . . . exposure." [2010 Staff Report, 2-14 and A-33]. As explicitly stated by AQMD in 2010, this rule was never intended to be as broad as the District may now be interpreting it and as drafted the notification rule is vague as to who must be notified. Second, the rule should specify that notification to the District should be made through a single point of contact. Third, the rule should make clear that public notice is not required for events lasting less than one hour and those that do not result in the shutdown of a lead control device or result in emissions. [2010 Staff Report, 2-14 and A-33].

Subsection (n)(2)(B) should be eliminated. This subsection would require audits, inspections, and investigations by independent third party. This rule would open companies to an endless cycle of independent third parties without any qualifying or limiting parameters. As drafted, the rule does not include any criteria, or any required expertise that the third party must possess in order to conduct the investigation. It does not state who will pay for the investigation. The rule does not require concurrence from the facility being investigated and does not include any performance standard for the

third party report. In addition, as this is not a Department of Toxic Substances Control (DTSC) rule, there is no explanation for why the DTSC should obtain a copy of the report. Finally, the requirement that the supposedly "independent" third party must be approved by the Executive Officer casts doubt on the meaning of the term "independent." There are no criteria established for how the Executive Officer will make his or her determination on "independence" or how the Executive Officer will conduct his or her review of the report. The affected facility is also prejudiced with no specifically identified right to challenge or appeal the designation of the "independent" third party, that party's report or any District decision that may result.

Penalties

The District has added a provision that failing to comply with any provision of the rule "will result" in a violation for each day of non-compliance. As worded, the District may be seeking to grant itself powers beyond what the legislature has approved. Because the District already has certain enforcement powers under the Health & Safety Code, the basis and necessity for this provision is unclear and the provision may operate in an unfair or prejudicial manner. First, this provision restricts any reasonable discretion on the part of the agency, for instance in situations where a third party caused any alleged violation. Second, the affected facility should not be subject to an automatic daily penalty in certain situations, such as where there is a need for source testing to confirm compliance with the mass emission rate.

Pace of Rulemaking

Exide is concerned not just with the substance of the rule, but also the extraordinary pace of rule development and anticipated passage. The District released a first draft of the rule in late September 2013, released a revised version in October (with no revised staff report), released a massive CEQA document in October, has not prepared any other needed documents (such as the socioeconomic analysis), and yet still proposes an adoption date of December 6, 2013. This is a highly complicated rule that substantially impacts Exide. The comment periods and the proposed adoption date (and the sometimes almost immediate effective date of the rule) is premature and should be extended at least 12 months. It is inappropriate and legally prejudicial (and a denial of due process) to rush a rule of this magnitude, especially considering the following:

The District has released two different versions of the rule (the second released on October 15) but did not issue a new staff report or extend the comment period. Many of the revisions in the second iteration were very significant (such as multiple pages on curtailment). Exide deserves a reasonable, due process, opportunity to comment on the rule and any subsequent staff reports, and expects reasonable future opportunities to comment.

The District has yet to release any socioeconomic impact analysis. This will likely be a significant document that will require public comment.

The District released a CEQA "Draft Environmental Assessment" on October 9, 2013, but nothing about the document was stated publically until October 23, 2013. This document will likely result in significant public comment. Upon initial review, Exide is concerned that the District's CEQA analysis fails to adequately account for various environmental impacts that may result as the result of rule passage. Given the timing,

there is no reasonable opportunity to review and comment on the CEQA analysis and then have the District make any required changes before rule adoption.

The speed of this rule allows for insufficient public comment and review. There is simply insufficient time to provide for meaningful discussion, especially if there are material revisions to the rule. [H&S Code § 40726]

Some of the more problematic areas of the "potentially" proposed rule that we are forced to comment against are available in no more detail than as entries in PowerPoint slides from working group meetings stating aspects that the District will be "adding" to the proposed rule, presumably in early November at the time of actual proposal. To have to comment only against ideas like this having no specificity of rule language is inappropriate. These issues are highly detailed and meaningful comments can only be generated in light of actual detailed proposed rule language and a corresponding staff report.

The District did not publish a notice of potential changes to Rule 1420.1 as required by H&S Code 40923. Therefore, to pass the rule amendments in such an expedited fashion, the District must either explain the necessity and rationale for doing so, or take a step back and develop an approach that allows for due process and an appropriate opportunity to be heard.

Regulatory Taking

Because of the high costs of complying with the rule as it is currently formulated, the enactment of the rule may result in a shut down of Exide's operations at Vernon. The Vernon facility has operated as a battery recycling facility since the 1920s, and Exide has no other use for the property within its existing business operations. The plant is of considerable economic importance to Exide's overall U.S. operations. In recent years, Exide has spent millions of dollars in pollution control upgrades requested or required by AQMD, with the expectation that these expenditures would allow the facility to continue operations into the future. The proposed rule is not reasonably necessary to address AQMD's stated concerns about health, particularly in light of other available risk reduction measures that Exide has offered to implement at a far less substantial cost. The rule is likely to cause Exide's business operations at the facility to become economically infeasible, and prevent Exide from obtaining a reasonable return on its investment in the property, and on the recent investments in air quality improvements that Exide has made. Under these circumstances, the rule as applied to Exide may constitute an unlawful regulatory taking of private property.

* * * *

Exide appreciates the District's consideration of these comments and reserves the right to provide further comment to this rule as appropriate.

Very truly yours,

Frederick Ganster
Exide Technologies, Inc.

SMRH: 411634459.1

Response to Comment Letter #3
Sheppard Mullin Richter & Hampton, LLP, Dated November 7, 2013

Response to Comment 3-1

The SCAQMD respectfully disagrees with the commenter's opinion that the proposed rule is unnecessary, unjustified and unlawful. The California Health and Safety Code §39650(c) states the Legislature finds "[t]hat it is the public policy of the state that emissions of toxic air contaminants should be controlled to levels which prevent harm to the public health," and that "it is necessary to take action to protect public health." (Cal. H&S Code §39650(e)) Further, the Legislature conferred upon the SCAQMD "the responsibility for comprehensive air pollution control," and noted that "it shall have the duty to represent the citizens of the basin in influencing the decisions of other public and private agencies whose actions might have an adverse impact on air quality in the basin." (Cal. H&S Code §40412) Rule 1420.1 was originally adopted 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.

The necessity and justification for the proposed amendments to Rule 1420.1 are to continue the task of protecting public health by reducing arsenic, benzene, and 1,3-butadiene, in addition to lead, from large lead-acid battery recycling facilities. The objectives of PAR 1420.1, as noted on page 1-2 of the Draft EA, include regulating point source emission limits for arsenic, benzene, and 1,3-butadiene, as well as requiring arsenic ambient air quality concentration limits, differential pressure, monitoring and source testing. As part of the rule development process, the socioeconomic effects, including economic burdens and benefits, from implementing rule modifications are evaluated and publicly disclosed in a Socioeconomic Assessment (http://www.aqmd.gov/rules/proposed/1420-1/DraftSocio-30day.pdf). According to the Executive Summary of the Socioeconomic Assessment, jobs foregone amount to "less than 0.0003 percent of the total employment in the four-county region" and affected facilities would experience a "rise in its relative cost of services by 0.022 percent and a rise in its delivered price by 0.011 percent in 2020 from the implementation of the proposed amendments." Therefore, the anticipated minor socioeconomic burden from the implementation of the proposed amended rule is not justification to eliminate the proposed amendments. The proposed rule and potential corresponding economic burden is not intended to be discriminatory; it is logical to assume that those sources generating emissions are responsible for complying with health protective rules such as PAR 1420.1. Finally, the Governing Board reviews all documents prepared for the rule proposals and evaluates potential issues such as operational viability before making an approval decision.

Response to Comment 3-2

The commenter summarizes its concerns with analysis in the Draft EA. Each comment is specifically addressed later in the letter and corresponding responses are provided below. Please see Response to Comment 3-7 in regard to the project description; Response to Comment 3-8 in regard to project baseline; Response to Comment 3-9 in regard to economic impacts; Response to Comment 3-10 in regard to land use impacts; and Response to Comment 3-11 in regard to project alternatives. Please see Responses to Comments 3-12 through 3-18 in regard to the potential environmental impact analysis. More specifically, for the following impact areas, please see: aesthetics (Response to Comment 3-15), air quality (Response to Comment 3-16), energy (Response to Comments 3-17 and 3-18), seismic (Response to Comment 3-19), and noise (Response to Comment 3-20). Please see Response to Comment 3-5 in regard to consulting (interested and responsible public agencies) regarding the proposed project.

Response to Comment 3-3

The commenter requests that the SCAQMD withdraw the proposed rule in favor of a risk-based alternative. The commenter states that SCAQMD must conduct extensive additional environmental review of the proposed rule that fully discloses potential significant environmental impacts and considers a reasonable rate of project alternatives.

As discussed in the Response to Comments in the Draft Staff Report, Appendix A (Page A-1, http://www.aqmd.gov/rules/proposed/1420-1/DSR-30day.pdf) regarding an alternative approach to rule compliance, "Establishing emission limits allows each affected facility the flexibility to select the emission control strategy that best fits their operation. PAR 1420.1 does not specify the pollution control equipment or the emission control strategy that a facility must use to demonstrate compliance; it leaves the engineering and design decisions to the discretion of the affected facility provided they meet the emission limits of the proposed amended rule. Moreover, staff's best engineering judgment indicates that more than one potential control technology can meet these limits." Thus, a technology-based approach ensures that the reductions are taking place while providing flexibility to the affected source.

Furthermore, the technology-based approach provides greater certainty than a risk-based approach since it specifies emission levels that are both achievable and health protective. A risk-based approach would not specify a specific emission limit to meet, but rather an overall health risk level. Using an emission-based approach also enables other provisions of PAR 1420.1 to be added in order to support and ensure that the emission limits are met. These include requirements for ambient air concentration limits and furnace point source pressure differential monitors. These requirements provide important safeguards for meeting the health protective PAR 1420.1 emission limits. The SCAQMD staff considers a risk-based approach, such as contained in Rule 1402 - Control of Toxic Air Contaminants from Existing Sources, as a complementary tool to using an emission-based approach. The commenter should note that implementation of Rule 1402 is still being pursued on a separate but parallel track. Finally, a risk analysis similar to what is required under Rule 1402 was used during the rule development process in order to verify that the PAR 1420.1 emission limits are health protective.

To assist in reaching this decision and other rule development decisions, the SCAQMD established a working group to provide an opportunity to discuss the proposed amended rule in greater detail and provide input to the SCAQMD staff throughout the rule development process. The PAR 1420.1 Working Group is composed of environmental and community representatives, industry, consultants, and lawyers for affected industry, government agencies including the Department of Toxic Substances Control (DTSC), and interested parties. The PAR 1420.1 Working Group discussed various feasible, effective approaches and requirements to meet the objectives of the proposed project while maintaining a level of flexibility for affected facilities to comply. The Working Group has met four times, and there have been two public workshops held to discuss PAR 1420.1 in specific detail. All meetings have been open to the general public. Thus, the development of the proposed amended rule has taken place with deliberation and public process; therefore, withdrawal of the proposal rule is not warranted or necessary.

The Draft EA was prepared in accordance with SCAQMD Rule 110 and the CEQA Guidelines requirements, and provides an extensive environmental review in compliance with CEQA's procedural and substantive mandates. The Draft EA was properly noticed to the required and interested parties; posted online the day of public circulation; noticed in the regional newspaper in a timely manner; and distributed for public review and comment in accordance with the CEQA Guidelines. The Draft EA provided a robust project description, a project location, a finding of non-significance, and an Initial

Study examining the potential adverse impacts from all environmental topics areas as required by the CEQA Guidelines. Since circulation of the Draft EA, no substantial project revision has occurred and no new information was added to Draft EA that would generate new avoidable significant effects. Therefore, no further analysis is required that would necessitate recirculation of the Draft EA.

Because the proposed project did not trigger a significance determination, a range of reasonable alternatives to the project were not required to be developed and included in Draft EA. (CEQA Guidelines §15126.6(f).) SCAQMD staff's responses to comments address the concerns enumerated in the comment letters received on the Draft EA and therefore, no delay in rulemaking is required based on the CEQA analysis. However, in order to consider recent source testing data from one of the large lead acid battery recycling facilities, PAR 1420.1 will now be proposed for adoption at a Public Hearing in January 2014.

Response to Comment 3-4

The commenter highlights CEQA legislation regarding the role of public agencies and purposes of CEQA, as well as CEQA case law quotes regarding the expectations of an EIR analysis and judicial review. SCAQMD staff agrees with the commenter regarding the basic purpose of CEQA to inform governmental decision makers about environmental effects, to identify ways to avoid environmental damage, to prevent significant damage, and to disclose reasons for approval to the public. For that reason, the development of the Draft EA for PAR 1420.1 complied with the CEQA Guidelines in the preparation of environmental checklist analysis, quantification of the reasonably foreseeable impacts, and establishment of the objectives for the proposed project. All the analysis and discussions were disclosed in the Draft EA circulated for public review and comment.

The Draft EA for PAR 1420.1 was adequately prepared with a sufficient degree of analysis to provide decision makers with the ability to make an informed decision and enable those who did not participate in its preparation to understand the information. The Draft EA included a robust project description (Chapter 1), including the September 20, 2013 proposed amended rule wording (Appendix A), and a detailed analysis of all the environmental topics in the environmental checklist from the CEQA Guidelines (Chapter 2). Further, SCAQMD recognizes the need to fully comply with CEQA to maintain its important public purpose. With regard to the determination of significance, the SCAQMD determined there is no substantial evidence that the project may have a significant effect on the environment. Since impacts were not found to be significant, no feasible mitigation measures were identified or necessary, and no project alternatives were required to be analyzed. (CEQA Guidelines §15126.4(a)(3) and §15126.6(f))

Response to Comment 3-5

The commenter states that SCAQMD failed to comply with CEQA's and SCAQMD's mandatory procedural requirement to consult with other agencies.

The proposed project requires large lead-acid battery recycling facilities to limit mass emissions for arsenic, benzene and 1,3-butadiene. As noted in the Draft EA, the proposed project does not require a specific method or procedure to comply with proposed toxic limits. For affected facilities, "there are a variety of different engineering modifications and use of control equipment scenarios that Exide could use to achieve the emission limits in PAR 1420.1." (Page 2-4, Draft EA, SCAQMD, October 9, 2013) Therefore, the proposed project *itself* does not require the approval of any other agencies. However, we recognize that complying with the proposed project might require affected facilities to take action that results in physical changes. Pursuant to the CEQA Guidelines §15064(d), SCAQMD staff evaluated

the "direct physical changes to the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project." Because the proposed project does not require the use of any specific technology, it was necessary to involve "some degree of forecasting" (CEQA Guidelines §15144). To comply with the mass toxic emissions in the proposed amended rule, the evaluation considered those compliance options that would potentially result in foreseeable indirect physical changes in the environment.

Because no source testing studies or company decisions were available that could assist in the determination of which compliance method would be used at the time of the document preparation, the analysis examined the two reasonably foreseeable scenarios: 1) replacement of a scrubber and addition of a regenerative thermal oxidizer, and 2) installation of a WESP. The most likely compliance path is the first scenario, as this is the least costly compliance option and will require fewer physical modifications within the facility than installation of a WESP. For the purpose of this CEQA document, staff analyzed both scenarios together. It is assumed that implementation of both scenarios would result in the most physical environmental changes as compared to implementation of just the first or second scenario by themselves. It should also be noted that with scenario 1, the facility could install an additional scrubber or replace their existing scrubber with a larger one. However, he environmental analysis assumed that the scrubber would be replaced as there would be more physical modifications and potential adverse impacts associated with removal and installation of a larger scrubber versus installation of an additional scrubber.

During the rulemaking process, the SCAQMD has been meaningfully consulting with the Department of Toxic Substances Control (DTSC). Beginning in June 2013, staff contacted DTSC staff via phone to request information on the Proposed Temporary Stormwater Management Plan for Exide Technologies and the storm water containment pond. In addition to obtaining online links to that material (see Response to Comment 3-12), SCAQMD staff acquired information regarding the piping problems and temporary storm water collection system. DTSC staff stated that the storm water collection and aboveground storage tank system was approved to handle the storm water. This storm water collection and aboveground storage tank system was used in the SCAQMD's analysis as a reasonably foreseeable replacement of the storm water retention pond should that scenario be implemented. Upon inquiry, DTSC later informed the SCAQMD that soil below the retention pond has not been tested and that treatment would not be required unless it was found to exceed contamination concentration thresholds. If hazardous waste is treated, stored or disposed at a facility, such as in the storm water pond or storage tanks, a DTSC hazardous waste facility permit is required (http://www.dtsc.ca.gov/HazardousWaste/upload/hazwaste_facility_permits.pdf). According to the DTSC website, Exide currently holds a federally equivalent permit pursuant to the Resource Conservation and Recovery Act of 1976 (http://www.envirostor.dtsc.ca.gov/public/report_permitted_public.asp). Finally, DTSC representatives have participated in the working group meetings and public workshops noted in Response to Comment 3-3.

In addition to DTSC, the SCAQMD staff has been in discussions with the City of Vernon, cities surrounding Vernon, and other agencies such as the Los Angeles County Sanitation District (LACSD) during rule development generally and specifically with regard to analyzing the potential adverse environmental impacts.

The City of Vernon staff from both the Health department and Building division, via phone, has stated that depending upon what Exide chooses to do to comply with PAR1420.1, permits could be required. For example, if installing permanent new storage tanks, a building permit might be warranted, or if installing new or additional foundation, plumbing/piping, electrical or mechanical equipment,

corresponding permits could be necessary. Permits might not be necessary if existing foundation, plumbing/piping, electrical are continued to be used to comply with PAR 1420.1. Their conditional use permit (CUP) would not need to be modified unless there is an increase in capacity of existing equipment, which is not anticipated to occur as a result of the proposed project.

The LACSD staff provided, via phone and email, the Exide permit limits, and peak daily discharge, and the rule that a facility is generally allowed to discharge up to 25 percent over their permitted limit before a change is required to their permit.

The issuance of any permit by other government agencies (e.g., new foundation, tanks, etc.) would result in no new known adverse impacts on the environment because they were already analyzed in the Draft EA.

Furthermore, all interested and affected government agencies have been sent public meeting notices and CEQA notices. DTSC was also listed on the State Clearinghouse Reviewing Agency form as one of the state agencies to be provided the Draft EA by the Secretary of Resources as required by the CEQA Guidelines. The form and 15 copies of the Draft EA were sent to the Office of the Secretary of Resources on October 9, 2013 and agencies were provided the required 30-day public review and comment period. There was no request from DTSC to extend that comment period, and no comments were received on the Draft EA from DTSC.

The potential environmental impacts from the closure of the storm water retention pond and installation of replacement storage tanks were analyzed in the Draft EA (Chapter 2, pages 2-4 through 2-55, and Appendix B). However, no new, known adverse environmental impacts are anticipated from the issuance of a DTSC permit or City of Vernon permit beyond what was already analyzed in the Draft EA.

The commenter also mentions the City of Vernon in the footnote to this comment and the District's conversations with the City of Vernon regarding permitting has been previously discussed. The City of Vernon has sent representatives to the working group and electronic copies of the Notice of Completion of a Draft EA were sent to the City of Vernon. Along with other government agencies and interested parties, they were provided the required 30-day public review and comment period. There was no request from the City of Vernon to extend that comment period, and no comments were received on the Draft EA from the City of Vernon. No comments were received from any other agency, so SCAQMD staff believes that the consultations and contacts with interested public agencies were meaningful and complied with mandatory CEQA procedures.

Response to Comment 3-6

The SCAQMD staff respectfully disagrees with the assertion the agency failed to consider a potential impact or "proceed in the manner required by law" as the commenter quotes from CEQA case law. As discussed in Response to Comment 3-3, the Draft EA was prepared in accordance with SCAQMD Rule 110 and the CEQA Guidelines, and examined the entirety of the proposed project; therefore, no further analysis is required that would necessitate recirculation of the Draft EA. SCAQMD staff's response to comments addresses the concerns numerated in the comment letters received on the Draft EA and therefore, no delay in rulemaking is required based on the CEQA analysis. Please see Response to Comments 3-7 through 3-9 in regard to the project description; Response to Comment 3-10 in regard to project baseline; Response to Comment 3-11 in regard to economic impacts; Response to Comment 3-12 in regard to land use impacts; and Response to Comment 3-12 in regard to project alternatives.

Response to Comment 3-7

The commenter states that the project description is incomplete and misleading because changes have been made to the amendments after the September 20, 2013 version of the rule, which was released with the Draft EA.

As the commenter states, a description of the proposed project is presented in the Draft EA on pages 1-7 to 1-10. In addition to the project description in Chapter, 1, the Draft EA provided the wording of the September 20, 2013 version of the proposed amended rule in Appendix A in order to supply a robust, complete and accurate project description. The proposed amended rule included in Appendix A of the Draft EA was available at the time of the document release. That version was dated September 20, 2013, as noted by the commenter. However, the later versions of the proposed amended rule did not change the core requirements or objectives of the proposed project, the potential environmental impacts, or the determination of no significant impacts. The most recent version of the rule includes the following changes to the September 20, 2013 version provided with the Draft EA:

- added three definitions
- clarified arsenic concentration requirement
- added requirement to implement a multi-metals continuous emissions demonstration program
- clarified requirement for venting total enclosure
- delayed requirement for static differential furnace pressure monitoring device on smelting furnaces
- clarified requirement for a Continuous Furnace Pressure Monitoring Plan
- modified curtailment provisions if there is an exceedance of the ambient arsenic concentration
- added curtailment provisions if total facility lead or arsenic emissions exceed limits or there is an exceedance of the ambient lead concentration
- added requirement to submit and update periodically a Compliance Plan for ambient lead or arsenic concentrations
- added requirement to collect arsenic samples
- clarified new source test requirements
- clarified requirements for unplanned shutdowns
- clarified Lead Emission Rate Feasibility Study requirements
- added provision for severability

Potential adverse environmental impacts from implementation of Proposed Amended Rule 1420.1 originate from installation of pollution controls to meet arsenic, benzene, and 1,3-butadiene emission limits and to meet the arsenic ambient concentration limit. Revisions to PAR 1420.1 since the September 20, 2013 version would not require installation of additional pollution control equipment or modifications to the facility that would result in additional adverse environmental impacts.

The proposed rule's curtailment provisions have been amended since the release of the September 20, 2013 version of the rule. New curtailment provisions are triggered if total facility lead or arsenic emissions exceed limits or there is an exceedance of the ambient lead concentration. The curtailment provisions in subdivision (p) require mandatory curtailment of process feed rates if a facility exceeds either the ambient air concentration and/or point source emission limits for lead or arsenic. The curtailment provisions in the proposed amended rule use a tiered approach where the greater the exceedence, the greater the curtailment. There are four increments of curtailments starting at 15 percent, then increasing to 25 percent, 50 percent, and 75 percent. This approach is consistent with the approach in the existing Rule 1420.1 Compliance Plans for lead, and both affected facilities are already subject to existing curtailment requirements with the exception of the 75 percent curtailment provision which is unique to PAR 1420.1. The purpose of the curtailment provision is to provide a strong deterrent for non-compliance. Since the inclusion of curtailment provisions in 2011 each of the facilities' compliance plans, there has been only one incident that triggered the curtailment provision and it was at the lowest threshold of 15 percent. The higher curtailment provisions of 25 percent and

50 percent were never triggered by either facility. It is expected that the 75 percent curtailment would provide an even greater deterrent. While Proposed Amended Rule 1420.1 adds new levels for arsenic and includes an extra curtailment tier of seventy five percent for exceedances beyond 2.5 times the emission limit, the basic curtailment approach is still the same. As a result, this provision does not change the nature or extent of any existing impacts during curtailment periods. The commenter is referred to Chapter 2 in the Draft Staff Report for a detailed discussion of the curtailment requirements and tables listing the ambient air concentration limits, point source emission limits, and their respective process curtailment requirements.

With regard to Exide potentially sending its batteries elsewhere for processing during curtailment, because Exide did not transport material to an alternate location when it was shutdown in the Spring of 2013 by DTSC, it is not likely that Exide would send its batteries elsewhere if it is required to curtail its furnace operations. The Temporary Suspension Order was issued on April 24, 2013, so the following day Exide should have shut down their furnaces. Then the temporary injunction was in place on June 17, 2013, so the furnaces were shut down for approximately 54 days. Similarly, twice in September 2013, Exide was ordered to cut furnace production by 15 percent when air monitors near the plant showed it had exceeded permissible levels of airborne lead and at that time there was no change in material handling operations (e.g., recycled battery receiving and crushing), which can be conducted separate from furnace operations.

The proposed rule changes listed above either clarify requirements already listed in the September 20, 2013 version of the rule or add requirements that would not generate any adverse environmental impacts (e.g. submit a compliance plan, collect samples); accordingly, environmental impacts evaluated in the Draft EA would not change or worsen. Therefore, the latest proposed amended rule wording is within the scope of the CEQA analysis in the Draft EA. Thus, in accordance with CEQA Guidelines §15073.5, because no substantial project revision or new information was added to Draft EA that would generate new avoidable significant effects, no further analysis is required that would necessitate recirculation of the Draft EA.

The commenter also states that the project description fails to disclose fundamental and legally required information regarding "the nature, scope and location of the expected physical changes to the environment resulting from the Project," citing CEQA Guidelines Section 15124. Section 15124 does not require this information in the project description; rather, it calls for a general description of the project's environmental characteristics "considering the principal engineering *proposals…*" Here, the rule proposes only emission limitations, not physical structures. Further, Section 15124 warns that agencies "should not supply extensive detail beyond that needed for evaluation." The content of the rule is fully described in the project description. Information on the nature, scope and location of the expected physical changes are outlined in Chapter 1, including a detailed description of the facility's processes and possible control equipment to assist in compliance with the proposed amended rule. The physical changes to the facility are appropriately analyzed in Chapter 2 of the Draft EA. This is acknowledged by the commenter who in the same comment enumerates the potential changes that may occur because of the proposed project and cites page 2-4 of the EA.

Response to Comment 3-8

The commenter states that the EA analyzed a single scenario and the project description omits discussion of each component of the anticipated physical changes to Exide's facility. The commenter opines that the project description is amorphous, confusing and unstable; and then quotes *Sierra Club v. City of Orange* (2008) 163 Cal. App. 4th, 523, 533, stating that "to fulfill its role of ensuring the lead agency and the public have enough information to ascertain the projects environmentally significant

effects, assess ways of mitigating them, and consider alternatives, an EIR must provide an accurate, stable and finite project description."

The commenter is not accurate in stating that the Draft EA analyzed one single scenario but rather analyzed two different reasonably foreseeable scenarios to comply with the proposed project. Since the proposed project does not dictate how the affected facilities would meet the toxic emission limits, SCAQMD staff analyzed the reasonable forecasted scenarios that would generate the most potential adverse environmental impacts, as opposed to process changes or engineering modifications that would likely have negligible adverse secondary environmental impacts. The scenarios were developed based on the possible control technologies listed in the detailed section titled Emission Control Technologies, pages 1-10 through 1-13 of the Draft EA. The two scenarios are clearly presented on page 2-4 of the Draft EA and repeated in detail by the commenter.

SCAQMD staff evaluated modifications to the Exide facility and was sensitive to the facility's possible spatial constraints. In light of the possible spatial constraints, the analysis evaluated the scenario in which the storm water retention pond is removed to make space for the potential wet ESP, and storm water tanks with pumps are installed to replace the role of the storm water retention pond. The commenter implies that because the two scenarios analyzed were not detailed in the section titled "project description," the Draft EA is insufficient.

First, the installation of the wet ESP and the need to place it where the existing storm water pond currently stands are not components of the proposed project. Second, the Draft EA analyzed the direct and indirect impacts from the two different reasonably foreseeable scenarios that would result from the implementation of the proposed project. The integral components of the proposed project are the arsenic, benzene and 1,3 butadiene mass emission level reductions at the two affected facilities that could be achieved with a variety of actions. The actions necessary to achieve those reductions will be required to be submitted after the rule adoption by the affected facility in a "Compliance Schedule." However, instead of concluding that, without the facility's compliance schedule, the potential impacts are unknown the analysis is based on reasonable assumptions as to what actions could be taken. As stated in the Draft EA, Exide may choose to replace the existing scrubber with a larger scrubber instead of installing the wet ESP and/or decide to make process changes or engineering modifications to comply with the proposed project. Even if the wet ESP option is chosen, it does not have to be placed where the existing storm water pond currently stands, but could be placed in other areas that would not require as much demolition or construction. However, based on the current status of the stormwater pond, information from DTSC, and evaluation of the facility, this was a viable location for the wet ESP. Most potential adverse impacts would result from the scenario of putting the wet ESP at this location, so if placed somewhere else, there would be less potential adverse impacts.

With regard to the project description as amorphous, confusing and unstable, the SCAQMD respectfully disagrees. It submits that the project description of the proposed rule is complete and fulfills CEQA's requirements. The proposed project is clearly described both in Chapter 1 of the Draft EA and provided in the detailed September 20, 2013 proposed amended rule wording in Appendix A. As such, in light of the project description in Chapter 1, the September 20, 2013 rule wording in Appendix A, and the possible indirect impacts which may be caused by the proposed project in Chapter 2, the project description is not amorphous, confusing or unstable.

Contrary to the CEQA case law examples provided by the commenter, the analysis did not fail to disclose actual impacts from the project. The control technology (wet ESP), its potential location and its environmental impacts are fully disclosed in the Draft EA. Finally, the Draft EA determined that the

project's adverse environmental impacts are not significant, so no mitigation measures or project alternatives are required pursuant to the CEQA Guidelines §15126.4(a)(3) and §15126.6(f).

Response to Comment 3-9

The commenter states that the project description must include a detailed map with the precise location and boundaries of the proposed project, as well as a "general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposed if any and supporting public service facilities" (CEQA Guidelines §15124). The commenter states that the EA's project description provides no information regarding the number, size, dimension, capacity or locations for the replacement storm water tanks or their supporting equipment and infrastructure.

As discussed in detail above in responses to Comments 3-7 and 3-8, the project description in the Draft EA of the proposed rule satisfies CEQA requirements. The SCAQMD rules are regional regulations, and in the case of proposed amended rule 1420.1, the rule affects any existing or future large lead-acid battery recycling facilities in the SCAQMD jurisdiction. Therefore, the project location for PAR 1420.1 is provided on page 1-2 of the Draft EA with a detailed map of the boundaries of the SCAQMD's jurisdiction. While the Draft EA recognizes there are currently two affected facilities within the District's jurisdiction, the proposed amended rule will affect any large lead-acid battery recycling facilities built in the future in the District's jurisdiction. However, at this time it is impossible to forecast where any such facilities might be located.

The commenter seems to be confusing the proposed project, which requires that facilities comply with mass toxic emission limits, with the potential forecasted action taken by affected facilities to comply with the proposed project, upon which the indirect impacts are evaluated. As noted above, in compliance with CEQA Guidelines, the Draft EA discussed the project description in detail in both Chapter 1 and Appendix A, and generally described the project's technical, economic and environmental characteristics (CEQA Guidelines §15124(c)). The proposed project's technical detail is presented in the Emissions Control Technology section (pages 1-10 through 1-13) and in the introduction of the Discussion and Evaluation of Environmental Impact section (page 2-4), as well as, in the Environmental Checklist (pages 2-4 through 2-55). The proposed project's economic information is implicit in the Emissions Control Technology section (pages 1-10 through 1-13). The technologies presented are feasible technologies that have been used at either one or both of the affected facilities. The environmental characteristics are presented in project background (pages 1-3 and 1-4), Air Toxic Regulations (page 1-5), Affected Facilities section (pages 1-5 and 1-6), Regulatory Approach (page 1-6), the Lead-acid Battery Recycling Process and Arsenic, Benzene, 1-3-butadiene Emission Points section (page 1-7), in the introduction of the Discussion and Evaluation of Environmental Impact section (page 2-4), as well as, in the Environmental Checklist (pages 2-4 through 2-55) Because the rule does not propose or require any specific control technology or re-design of the affected facility, the Draft EA's project description is not required to provide specific number, sizes, dimensions, capacity, or location of existing or new equipment. Those decisions will ultimately have to be made by the affected facility in order to comply with the proposed project to lower toxic emissions.

See Response to Comment 3-11 regarding the economic impact from the proposed project that could result in physical impacts. It is important to note that according to the CEQA Guidelines, "economic or social effects of a project shall not be treated as significant effects on the environment" (CEQA Guidelines §15131(a)). In addition, a socioeconomic analysis for PAR 1420.1 was prepared and can be downloaded at http://www.aqmd.gov/rules/proposed/1420-1/DraftSocio-30day.pdf.

Exide would be responsible for choosing how it will comply with PAR 1420.1 and is responsible for preparing the engineering proposals. The number, size, dimension, capacity or locations for the replacement storm water tanks or their supporting equipment and infrastructure will also be a decision by Exide and, thus, is not known at the time of analysis. However, in analyzing the reasonably foreseeable impacts from the two different scenarios, details of the new and removed equipment and material as it pertains to the analysis of the environmental impacts were estimated. Such details can be found in Chapter 2 under the Air Quality Section III, Energy Section VI, Hydrology Section IX, Noise Section XI, and Solid Waste Section XVI. In addition, Appendix B provides the detailed assumptions, raw data, emission factors, equations, and emission calculations for each of the construction phases (e.g., demolition, material fill, paving, etc.) as well as for the operation of the equipment.

However, for the sake of forecasting and providing a quantitative analysis in the Draft EA, it was anticipated that the footprint of the storm water retention pond would be adequate to provide the space needed for a WESP and the replacement storm water tanks. Based on discussions with SCAQMD permitting staff and DTSC staff, it is reasonably foreseeable that these tanks could be placed on existing foundations and that the storm water tanks would be installed before the existing storm water pond was closed. The adverse impacts from installing the storm water storage tanks on an existing foundation would not be greater than the closing of the existing storm water pond, and the installation of the wet ESP.

The commenter cites CEQA Guidelines §15124, stating that the project description fails to satisfy the requirements to list any permits or other approvals to implement the project and to list any consultation requirements.

Implementation of PAR 1420.1 is expected to result in additional SCAQMD permits and permit modifications for new and existing pollution control equipment. SCAQMD permits for pollution control equipment would be needed for replacement of a scrubber, addition of an RTO, or, if the facility elects to install a Wet ESP, for the operation of a WESP. There may be modifications to existing permits to specify conditions to ensure compliance with the requirements in PAR 1420.1 but the potential environmental impacts from the actions taken pursuant to permit issuance were fully analyzed in the Draft EA. In addition, affected facilities are required to submit a Compliance Schedule, as outlined in the PAR 1420.1 wording provided in both Chapter 1 and Appendix A of the Draft EA, and a compliance plan for differential pressure monitors.

Permits from other agencies, if needed, are not anticipated to generate any indirect secondary adverse environmental impacts from their administrative issuance. Every lead agency and responsible agency has a duty to ensure compliance with the CEQA requirements before issuance of a permit. All known interested government agencies have been contacted with either a CEQA notice or Draft EA for their review and comment. No comments on the Draft EA have been received from any government agency. Environmental impacts were evaluated from construction and operation of equipment under the two reasonably foreseeable scenarios to comply with PAR 1420.1.

With regard to consultation, DTSC was consulted about the possible replacement of the storm water retention pond with storm water storage tanks. The filing of the closure plan and permits would not generate adverse environmental impacts. Any approvals by DTSC are not expected to generate adverse environmental impacts. The physical installation of the storage tanks might have potential adverse environmental impacts, and these potential adverse impacts were evaluated in the Draft EA. In regard to consultation with other agencies see Response to Comment 3-5.

Response to Comment 3-10

The commenter states that the EA is deficient because it relies on admittedly outdated and inaccurate data to form its existing conditions baseline used to measure all of the projects potential impacts. The commenter cites page 1-7 of the Draft EA, which states that some of the source test were conducted prior to the completion of emission controls needed to meet Rule 1420.1 point source requirements, thus it is expected that overall point source emissions have been reduced from what is shown in Table 1-1.

The Draft EA provides the point source toxic air contaminant emissions in Table 1-1 based on the available validated information at the time of the release of the environmental analysis on October 9, 2013, and included in the September 2013 preliminary draft staff report (http://www.aqmd.gov/rules/proposed/1420-1/PAR1420-1PDSR.pdf). The emissions presented in Table 1-1 are based on the emissions in the approved March 2013 HRA for Exide. The emissions in the March 2013 HRA are based on source tests conducted in 2010 and 2012. The 2010 source test was conducted before full implementation of the effective dates in the version of Rule 1420.1 adopted in 2010 and therefore did not capture emission reductions from implementation of the current Rule 1420.1. The 2012 source test did capture the effects from full implementation of the current Rule 1420.1 adopted in 2010. However, the 2012 source test did not capture emissions at the higher equipment capacity ("minimum of 80% of equipment maximum capacity" pursuant to Rule 1420.1 (k)(7)) so, as a result, the SCAQMD staff averaged the 2010 and 2012 source tests.

As the footnote to the comment states, at the time that the draft EA was released, SCAQMD staff was still reviewing Exide's most recent source test reports that the commenter mentions. These August and September 2013 source tests (http://www.aqmd.gov/prdas/AB2588/Exide/Exide-SourceTestAug-Sept.pdf) were not formally issued and published until October 17, 2013, after the Draft EA was released for public comment and review on October 9, 2013. Thus, the point source toxic air contaminant emissions provided in Table 1-1 in the Draft EA represent the point source toxic air contaminant emissions baseline, based on the validated information at the time the Draft EA was released. The CEQA Guidelines specifies the description of the physical environmental conditions "at the time environmental analysis is commenced" (CEQA Guidelines §15125), so the analysis in the Draft EA is not in violation of CEQA.

It should be noted that point source emissions in Table 1-1 show the level of toxic emissions at that time at both affected facilities, and they demonstrate the anticipated need for one facility to take action in order to comply with the proposed arsenic, benzene, and 1,3-butadiene emission limits in the proposed amended rule. Thus, after the commencement of the CEQA analysis, the "dramatically reduced emissions" in the recent source tests as noted by the commenter would actually bring Exide closer to meeting the mass toxic emission levels required in the proposed project. However, SCAQMD staff cannot rely solely on the results of the recent source tests to conclude that these results will continue in the long term. As discussed in the SCAQMD staff's letter to Exide regarding the "Rejection of Rule 1402 Risk Reduction Plan for Exide Technologies" on October 24, 2013, even with the revised source tests, the SCAQMD staff concluded that the "proposed Exide RRP does not provide sufficient information to demonstrate that facility risks have been or can be reduced permanently below Rule 1402 risk reduction action levels." It is expected that measures and recommendations in the October 24 Risk Reduction Plan Rejection Letter will be implemented to meet the Rule 1420.1 emission limits. The key pollution controls are the replacement of the scrubber and installation of the RTO along with other engineering changes identified in the October 24th letter from the SCAQMD staff to Exide.

Thus, the actual effects from the project are within the scope of the analysis in the Draft EA and strengthen the conclusion of non-significant impacts. As such, relying on the data available at the time of the release of the environmental analysis does not invalidate the EA analysis, and is not misleading or without informational value, as the commenter claims.

Finally, the commenter seems to imply the elevated point-source toxic air contaminant emissions are the sole justification for the rule amendments, but this assertion is not accurate. As discussed in Response to Comment 3-3, there are a number of reasons for the amendments to Rule 1420.1, and these reasons helped define the project objectives outlined in Chapter 1 of the Draft EA.

With regard to the use of source test data to form the existing baseline conditions, it is important to understand that source tests provide a direct measurement of emissions under specified conditions by taking a "snap shot" of emissions. Source tests are to be conducted pursuant to specific source testing protocols, and there is a source testing plan in which conditions specific to the facility are to be implemented during the source test. The SCAQMD staff also incorporates operating conditions in SCAQMD permits that must be implemented during the source tests. Even with all of these elements, emissions can vary from the source tested emissions due to a variety of factors, such as fluctuations in airflow to pollution control equipment and variation in feedstock. Proposed Rule 1420.1 includes compliance tools beyond source testing to ensure emission reductions are achieved on a more continuous basis. These include ambient monitoring of arsenic, differential pressure monitors, and a requirement to implement multi-metal continuous emissions monitoring systems. With regard to developing the approaches to reduce toxic emissions, also discussed in Response to Comment 3-3, a PAR 1420.1 Working Group has been established to evaluate the need for the amendments and the appropriate approaches taken to effectively achieve the project objectives.

Response to Comment 3-11

The commenter cites a nonexistent CEQA Guidelines section, §15162.2, but apparently meant to refer to §15126.2. The commenter states that "if the forecasted economic or social effects of a proposed project directly or indirectly will lead to the adverse physical changes in the environment, then CEQA requires disclosure and analysis." The commenter continues to state that no analysis of the cost of implementing the project and feasibility of implementing the proposed project in light of economic and other considerations is contained in the EA. The commenter then cites Exide's Feasibility Study and states that the installation of the wet ESP is economically infeasible.

First, "economic or social effects of a project shall not be treated as significant effects on the environment" (CEQA Guidelines §15131(a)). The CEQA Guidelines do note that the economic "effects of a project may be used to determine the significance of physical changes caused by the project" (CEQA Guidelines §15131(b)). According to commenter, the economic effect of the proposed project could result in the physical change of closing the Exide facility, which the commenter is alluding to with alternative locations for their products. It is not the intent of PAR 1420.1 to establish requirements that would shutdown a business, and such a shutdown is not, as explained below, a reasonably foreseeable impact of the project.

Point source requirements under PAR 1420.1 were developed to protect public health by reducing arsenic, benzene, and 1,3-butadiene emissions, and are not intended to shutdown Exide or any other business. The point source emission limits under PAR 1420.1 are based on arsenic, benzene, and 1,3-butadiene emissions that have been achieved at a large lead-acid battery recycling facility. In addition, these emission limits were increased by 30 percent to account for fluctuations during source testing and to provide a compliance margin. The emission limits for arsenic, benzene, and 1,3-butadiene under

PAR 1420.1 allow compliance flexibility, thereby allowing facilities to select the compliance path that best fits their operation. The SCAQMD staff has identified two reasonably foreseeable compliance paths for Exide: (1) installation of a WESP; and (2) installation of an additional scrubber and RTO. Both compliance paths are viable; however, it is expected that Exide will select the least costly compliance option, and it is expected that Exide will meet the point source emission limits by installing a scrubber and RTO to reduce arsenic, benzene, and 1,3-butadiene emissions within the facility. Both compliance paths were analyzed to ensure that all potentially significant adverse environmental impacts were analyzed.

It is not a reasonably foreseeable impact that PAR 1420.1 will result in Exide shutting down. Exide has already committed to invest additional resources in the Vernon plant as noted by a recent published article in heraldonline.com (October 7, 2013): "Exide announced plans to invest more than $7 million over the next two years to upgrade its Vernon battery recycling facility as part of a comprehensive agreement with California Department of Toxic Substances Control (DTSC)." Similarly, the Los Angeles Times reported on October 18, 2013 that "Exide Chief Executive Robert M. Caruso said the company's nearly $8-million commitment would bring its investment in the plant since 2008 to $18 million. He said the company has test results that would prove the effectiveness of the improvements, and that Exide has been cooperating with regulators." (http://articles.latimes.com/2013/oct/18/local/la-me-1019-exide-aqmd--20131019). With Exide having already spent or committed to major investments in its Vernon plant, it is not reasonable to assume that they would choose plant closure as a result of PAR 1420.1.

Furthermore, Exide's website states that Exide Technologies has "operations in more than 80 countries [and] is one of the world's largest producers and recyclers of lead-acid batteries. The company's global business groups provide a comprehensive range of stored electrical energy products and services for industrial and transportation applications." In meetings with representatives from Exide, they have explained to SCAQMD staff that their battery recycling operations are integral to their battery manufacturing operations, as the recycling operations provide lead to their manufacturing operations. In an online article in Bloomberg on June 10, 2013, Exide's Chief Financial Officer Phillip Damaska stated that as a result of the April 2013 shutdown "the closing of the Vernon plant will cut about $24 million from Exide's earnings…." Closing the Vernon plant would require Exide to "tap other sources of lead, driving up costs and cutting earnings" based on a Los Angeles Times article on June 10, 2013. In an October 29, 2013 letter from Exide Technologies to the SCAQMD, Exide stated that the "Vernon facility has operated as a battery recycling facility since the 1920s, and Exide has no other use for the property within its existing business operations. The plant is of considerable economic importance to Exide's overall U.S. operations." "Shutting down the blast furnace would have significant adverse effects on Exide's North American battery operations…" Based on this information that recognizes the importance of the Vernon facility to Exide's overall operation, the SCAQMD staff did not analyze the closure of its existing facility because it was not considered reasonably foreseeable based on information from Exide, reports about the facility's operations, and the compliance options available to Exide.

Even though the requirements under PAR 1420.1 are not intended to shutdown Exide, if Exide were to close the Vernon facility, critical information necessary to conduct a meaningful analysis of environmental impacts from a shutdown is unavailable at this time. As noted by the commenter, indirect impacts from the shutdown would include site-cleanup activities, trips to alternative facilities out-of-state, or increased operation at Quemetco. However, there is a variable amount of information needed for such an analysis including the amount of batteries to be recycled elsewhere, and the capacity of other battery recyclers to name a few.

With regard to any site cleanup operations it would be expected such activities would continue regardless of closure, generating an environmental benefit.

What is known, as noted in Exhibit C (Appendix D), is that Exide and Quemetco are the only two remaining active lead smelting facilities west of the Mississippi. As such, another facility built out of state to accommodate clients in the West would likely attract those batteries that are closer in distance to the out-of-state facility, as opposed to California. Truck trips delivering waste batteries and lead products to out-of-state processing facilities would likely originate from an out-of-state location, thus generating a lower environmental impact than if they traveled further west to California.

If closure of the Exide Vernon facility did occur, adverse environmental impacts (e.g., air quality, energy, etc.) from processing batteries would be eliminated from the Exide site and possibly transferred to the Quemetco facility so no significant regional impacts are expected, or if Quemetco is unable to absorb all of Exide's processing, then the overall regional impacts would be less than existing setting. In order to process additional waste batteries, Quemetco would be required to modify permits to allow for the increase in operation and an appropriate CEQA analysis would be required before the modified permits are issued. Qumetco did apply for a permit increase their throughput. If Exide were to shut down, it is not known at this time if Quemetco could handle Exide's entire throughput, assuming their permit application is approved.

It should be noted that an increase of feed at Quemetco, and any corresponding adverse impacts, could occur regardless of the proposed project. Even if Qumetco's permit applications are approved, they would still be required to meet the same emission limits under PAR 1420.1 and health risk values would have to comply with Rule 14202 thresholds. However, if Quemetco is unable to get approval for additional processing, material recycled at Exide would have to ship to an out of state facility or a new facility in California. SCAQMD staff is aware of other lead recycling facilities throughout the nation, but does not know their capacity to recycle additional batteries. Although Exide has closed recycling facilities in Frisco, Texas and Reading, Pennsylvania, the company still operates three recycling facilities in Canon Hollow, Missouri, Moncie, Indiana and Vernon, California. It is unlikely, that Exide would ship batteries to competitors' facilities, so SCAQMD staff assumes that all batteries processed by Exide's Vernon facility would be processed at other Exide facilities. SCAQMD staff is not aware of any Exide battery recycling facilities in Mexico, Canada and China. SCAQMD staff has not found any evidence that batteries would be sent to other countries if the Exide Vernon facility were to close. Therefore, SCAQMD staff assumes that all batteries would be processed at Exide's Canon Hollow, Missouri and Moncie, Indiana facilities, if the Vernon facility were to close. These facilities would need to be permitted to handle additional product but critical information such as amount to be transported, mode of transportation, and the location of the transfer is unknown.

With regard to the costs and feasibility of implementing the proposed project, the Draft EA presents feasible technologies that have been used at either one or both affect facilities. Economic factors are inherent in the Environmental Checklist, which is evaluated in Chapter 2 of the Draft EA. The socioeconomic analysis prepared for PAR 1420.1 (http://www.aqmd.gov/rules/proposed/1420-1/DraftSocio-30day.pdf) assumed a scenario where the affected facility would choose the least costly compliance path to install an additional scrubber and RTO and make additional enhancements to control arsenic, benzene, and 1,3-butadiene emissions. As a decision-making body, the SCAQMD Governing Board reviews and considers the proposed project, the supporting documentation including the environmental and socioeconomic impacts as well public comments and testimony. The Board also considers the impacts to business and to the community as noted in the agency mission statement (http://www.aqmd.gov/aqmd/index.html#mission). Also see Reponses to comments 3-1, 3-9, 3-11, and 3-27 in regard economic analysis related to the proposed project.

Response to Comment 3-12

The commenter states that the Draft EA fails to analyze the propose project's land use impacts. Land use and planning impacts were evaluated in the Draft EA on page 2-39 and 3-40. Construction and operational impacts related to the proposed project were also evaluated in Chapter 2 of the Draft EA.

The proposed project does not propose the closure of the pond and replacement with storage tanks. The proposed project does propose limits on arsenic, benzene and 1,3 butadiene. From an engineering perspective, based on the emission values at the Exide facility, the achievement of these toxic levels could occur through a variety of actions (see Page 2-4, Draft EA). One such action could be the operation of a WESP. As discussed in Response to Comment 3-8, the analysis forecasted the possibility that Exide would need space to install a WESP, if that action was chosen, and the area occupied by the storm water retention pond seemed a reasonable location. However, the proposed project does not dictate the control equipment or process method to comply with PAR 1420.1, or require the location of equipment.

According to the Stipulation and Order (Exhibit D) signed by both Exide and DTSC in March 2013 regarding a 2010 Enforcement Order concerning illegal storage of hazardous lead waste in the retention pond (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_EO-2010.pdf), both parties agreed "the Storm Water Retention Pond is currently an unauthorized storage unit and cannot be used to store hazardous waste" (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_SO-2013.pdf). An additional Stipulation and Order exists between Exide and DTSC has not been signed but would require the installation of control equipment in accordance with SCAQMD permitting and the replacement of the storm water conveyance system (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_Stip-Order.pdf). Because of this situation, according to the DTSC and SCAQMD enforcement staff, the storm water retention pond has not been in use since early 2013 (see Figure 3-1) and the pond is not the primary method in handling storm water, but rather an overflow "back up." The primary storm water and washdown water collection uses piping and four settling tanks that pump the water to the wastewater treatment facility. However, the piping is currently under repair (see Figure 3-2) so a temporary system was created (for more details on the application for approval of the stormwater system please refer to the "Stormwater Management System Replacement Plan": http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_SW_Mgmt_System_Replace_Plan_081913.pdf). Under the temporary system, water is collected in sumps then transferred to four to six 20,000 gallon Baker tanks (see Figure 3-3) before being sent to the wastewater treatment facility (the details are provided on page 8 of the following Exide Work Plan: http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/EXIDEWORKPLAN.pdf). The plan has received temporary authorization from DTSC (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_2013-08-21_Approval-_of_Temp_Auth_Reqt_SMSRP.pdf).

Therefore, there is no conflict with applicable land use and planning decisions from agencies with jurisdiction over the project. Instead, as shown by above documentation, there is a coordination of efforts and interests in avoiding and mitigating the environmental effect from contaminated wastewater at the Exide facility. See Response to Comment 3-33 for a more details on the existing storm water collection system at Exide.

Figure 3-1
Storm Water Retention Pond Not In Use

Figure 3-2
Current Replacement of Storm Water Piping

Figure 3-3
Green Baker Tank (left) and Green Pump (right) Next to the Raw Materials Processing System

The consequences of the existing Stipulation and Order between Exide and DTSC governing the operation of the storm water retention pond would not generate any change in Land Use and Planning in accordance with the CEQA Guidelines. There would be no change in zoning, no physical divide to a community, or no conflict with a habitat (CEQA Guidelines Appendix G, Environmental Checklist Form, Section X. Land Use and Planning (a)). The existing Stipulation and Order does not require the operation of the storm water retention pond, but if the pond is to operate, the Stipulation and Order dictates how the future use of the existing storm water retention pond should be operated according to DTSC regulation. In addition, the DTSC Stipulation and Order does not prevent Exide from reducing arsenic, benzene or 1,3 butadiene being released into the environment as proposed in the amended rule. Therefore, the proposed project and analysis of potential adverse impacts from scenarios to comply with the proposed project are not in conflict with the Stipulation and Order and would not generate a significant land use impact.

Response to Comment 3-13

The commenter states that the Draft EA failed to analyze any project alternatives and cites CEQA Guidelines §15126.5, which relates to environmental impacts reports. Because the environmental analysis of the proposed project concluded that a significant impact would not occur, a range of reasonable alternatives to the project were not required to be developed and included in Draft EA in accordance with CEQA Guidelines. (CEQA Guidelines §15126.6(f)) Therefore, the commenter is incorrect that project alternatives are required by law for the PAR 1420.1 Draft EA.

Response to Comment 3-14

As the commenter notes, courts "have looked not for perfection but for adequacy, completeness and a good faith effort at full disclosure." (CEQA Guidelines §15151). The commenter provides more quotes from CEQA case law regarding a sufficient EIR analysis. However, the analysis in the PAR 1420.1 Draft EA determined that the impacts would not be significant and that there is no substantial evidence that the project may have a significant effect on the environment.

Please see Responses to Comments 3-12 through 3-20 in regard to the potential environmental impact analysis. More specifically, aesthetics (Response to Comment 3-115), air quality (Response to Comment 3-16), energy (Response to Comments 3-17 and 3-18), seismic (Response to Comment 3-19), and noise (Response to Comment 3-20) impacts.

Response to Comment 3-15

The commenter states that the Draft EA does not support its conclusion that the new storm water tanks, new RTO and related equipment would not affect the visual character or quality of the site. However, as noted in the Draft EA, there are a number of facts supporting the conclusion. First, the City of Vernon, where the Exide facility is located, is a known industrial area and describes itself as an "industrial city" with more than 1,800 businesses in 5.2 square miles (http://www.cityofvernon.org/). Second, the Exide facility is surrounded by heavy industry, rail, and all-night operations requiring lighting and producing glare. Third, the Exide facility currently houses heavy industrial equipment such as conveyors, a hammer mill system, tanks, dryers, and a variety of furnaces. The Draft EA appropriately states, "the area is highly industrial, with rail staging areas, industrial storage, storage tanks and power lines visible from the streets in adjacent facilities, as well as stacks, ducting and power lines on the affected facility property currently visible from the streets. Therefore, while the control technology and additional equipment may be visible from outside of the affected property, it would not be inconsistent with views seen at adjacent facilities." These statements are supported by visits to Exide from SCAQMD staff and Google Map street views (see Figure 3-4 below for location of Exide, retention pond and neighboring facility).

Fourth, the Exide facility is currently operating a temporary storm water system that utilizes tanks and pumps (see Response to Comment 3-12 with links to Stipulation and Orders, and Response to Comment 3-33), and therefore, the commenter's concern about replacement of the retention pond fails to reflect the fact that the temporary tanks are already part of the existing setting at the facility. Thus, any new storm water tanks, if necessary or warranted, would not significantly change the existing setting. With regard to the size, number or location of the tanks, please refer to Response to Comment 3-9 regarding project description. Reasonably foreseeable tank descriptions can be found in Chapter 2 under "Discussion and Evaluation of Environmental Impacts," the Aesthetics Section I, Air Quality Section III, Energy Section VI, and Appendix B, which provides the detailed assumptions, raw data, emission factors, equations, and emission calculations for each of the equipment needed to install the tanks during construction.

The commenter cites *North Coast Rivers Alliance v. Municipal Water District Board of Directors*, (2013) 216 Cal. App. 4th 614, which discusses "impacts on vistas from homes, hiking trails and the highway." By contrast, Exide is on flat terrain in the middle of a highly industrial area; it is not visibly distinguishable from homes, hiking trails and highways. The aesthetics factors in the CEQA checklist concern scenic vistas, scenic highways, and visual character, none of which have been identified in the project vicinity. The Draft EA states that the nearest residential receptor is 1,400 meters to the north of

the facility. According to Google Map search, the nearest park is 3.5 miles north of the facility on the opposite side of the junction of the I-5, I-10 and 60 freeway. The nearest highway is the I-710, which is over a mile away to the east of the facility.

Based on the above discussion, the comment that the aesthetics analysis is unsupported by substantial evidence is incorrect.

Source: Google Maps 2013

Figure 3-4
Aerial Photo of Exide Facility Boundary, Location of the Storm Water Containment Pond at Exide and the Neighboring Facility

Response to Comment 3-16

The commenter states that a Public Records Act Request was not fulfilled as of the date that it submitted its comments. The Public Records Act Request was submitted on October 29, 2013 and was initially responded to on November 6, 2013. The contents of the request were then compiled and subsequently provided on November 12, 2013 (which was after this comment letter was submitted on November 7, 2013). The response was timely.

The contents of the response to the request included, along with other supplemental documentation as requested by the submitter, an excel spreadsheet version of Appendix B, since the Appendix B that was circulated for public review and comment and available online was in pdf format. However, it should be noted that all of the assumptions, underlying raw data, emission factors, and emission equations used to estimate air quality impacts were included in Appendix B of the Draft EA that was circulated to the public. Thus, even when Appendix B was available in a pdf format, the reader was provided all the necessary information to review the values and verify the calculations independently. So, while the

excel spreadsheet version is a convenient way for the user to view the calculations in each mathematical cell, Appendix B provided the same information. Therefore, the public's ability to fully and meaningfully review and comment on the EA's analysis was not hampered.

The excel spreadsheet did have one look-up table of all off-road equipment and corresponding emission factors derived by the California Air Resources Board (CARB) that was used to identify the correct emission factor to calculate emissions from the particular off-road equipment affected by each of the construction phases (e.g., demolition, filling, paving, etc.). In other words, each construction phase uses different types of off-road equipment, so the same look-up table was used in the process of calculating off-road equipment emissions from each phase. This look-up table was not included in Appendix B in the Draft EA; however, the emission factors of each off-road equipment type for each construction phase were copied from the look-up table and provided in the tables included in Appendix B.

The commenter states that underlying data for Tables 2-2, 2-3, 2-4 and 2-5 was not provided, which is not accurate. Tables B-1 through B-4 in Appendix B of the Draft EA provided all assumptions, underlying data, equations and emission calculations from each phase of construction. The summary of emissions per pollutant from each construction phase (demolition, fill, building and paving) is presented in Table 2-2. Tables B-5 and B-7 in Appendix B of the Draft EA provided all assumptions, underlying data, and equations used to calculate the operational emissions from motor vehicle and hauling trips in SCAQMD, as well as from the operation of a regenerative thermal oxidizer (RTO). The results of those emission calculations are summarized in Table 2-3. Because mobile source emission factors vary regionally, Table B-6 in Appendix B of the Draft EA provided all assumptions, underlying data, equations and calculations for operational trip emissions in the Mohave Desert AQMD and summarized those operational emissions from trips in MDAQMD in Table 2-4. These values were then compared to the significance thresholds in MDAQMD also provided in Table 2-4. Table B-7 in Appendix B of the Draft EA provided all assumptions, underlying data, equations and health risk calculations for the thermal oxidizer emissions that are summarized in Table 2-5. Because the information was included in the Draft EA, Exide and the public were given the ability to fully and meaningfully review and comment on the EA.

The other supplemental information provided in response to the Public Records Act Request included the following contents:

Content Provided	Used as Part of CEQA Analysis/Process
Annual Emission Reporting 2010-2012	Referenced
DTSC EIR	Referenced
Government Code 65962.5	Determination if affected facilities are on lists of hazardous material sites complied pursuant to Government Code Section 65962.5
Emission calculations spreadsheets	Appendix B
Form B-1 (Emissions from fuel combustion in boilers, ovens, furnaces & heaters)	Referenced
Email-LACSD	Wastewater discharge limits
SJVAPCD guide for assessing and mitigating air quality impacts	SJVAPCD significance thresholds – used in air impact analysis
MDAQMD CEQA Guidelines	MDAQMD significance thresholds – used in air impact analysis
Memo to file	Water discharge from Exide
Memo to file	Affected facilities on Cortese List Data Resources – determination if affected facilities are on lists of hazardous material sites complied pursuant to Government Code Section 65962.5

Content Provided	Used as Part of CEQA Analysis/Process
Memo to file	Flow rate to scrubber
Memo to file	Contamination under Stormwater Retention Pond
Email – Rule Group	Default emission factors for external combustion
Email – Engineering	Depth of the surface impoundment pond
SCAQMD Reporting Procedures for AB2588 Facilities	Default emission factors
US EPA Scrubber design manual	Used in water impact analysis

Each of these items provided guidance to the staff on the analysis or determination of significance. The items were either referenced or discussed in the Draft EA, thus not hampering the public's ability to fully and meaningfully review and comment on the EA's analysis. The fact that they were not included as part of the Draft EA does not change the analysis or the determination of significance. Thus, the request to extend the public comment period on the EA is not warranted.

Response to Comment 3-17

The commenter states that the Draft EA evaluated the direct GHG emissions from combustion and natural gas in a new RTO for the Reverb Furnace, but failed to evaluate indirect GHG emission from electricity consumption for a new wet ESP, the RTO or the additional storm water pumps that would be needed. The commenter states that the EA appears to assert that the wet ESP power requirement is 1,400 kilowatts, when the commenter believes that the total power required to implement the equipment contemplated by the proposed project is two megawatts.

As noted in the Draft EA, there would be direct GHG emissions generated from the operation of the scrubber or new wet ESP. Pumps are currently being operated for the storm water collection systems so it is reasonably foreseeable that no new or additional energy would be needed for the pumps and, thus, there would be no change to the existing setting. However, electricity consumption would be necessary for the operation of the RTO which was calculated and disclosed in the Draft EA (page 2-19 in Chapter 2). Direct GHG emissions from the RTO were calculated in Appendix B (Table B-7) of the Draft EA using default emission factors from Form B1 of the SCAQMD Annual Emissions Reporting Program and summarized in Chapter 2 (page 2-19) of the Draft EA.

Indirect GHG emissions from the generation of electricity to operate new equipment occur off-site at electricity generating facilities (EGFs). Emissions from electricity generating facilities are already evaluated in the CEQA documents for those projects when they are built or modified. The analysis in the Draft EA (Section VI. Energy b), c) and d)) demonstrates that there is sufficient capacity from power providers for the increased electricity consumption from PAR 1420.1. In addition, power producers are subject to the California Cap On Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Program that took effect in early 2012. The enforceable compliance obligation began on January 1, 2013, for GHG emissions. Under this program, power producers report their annual GHG emissions and are required to buy GHG emission credits on the open market. The price of buying these credits are reflected in the rates that consumers pay. Since GHG emissions in California are capped by this program, any new indirect GHG emission generated by power producers by electricity used for PAR 1420.1 must be offset by the purchase of GHG emission credits. Therefore, any indirect GHG emissions would be offset by the California Cap On Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Program.

Please refer to Response to Comment 3-18 in regard to additional storm water pumps. As discussed in Response to Comment 3-18, DTSC has ordered that Exide cease operation of the storm water retention pond. The existing temporary storm water system is supported by nine storm water pumps operating onsite and already transferring storm water from storage tanks to the wastewater treatment plant

(WWTP). Therefore, no additional energy, or corresponding GHG emissions, impacts are anticipated beyond the existing setting.

Therefore, there would not be any indirect GHG emission impacts from the electricity consumption by a new wet ESP, RTO, and storm water pumps. As stated above, the emissions from electricity generation off-site would be reduced by California Cap On Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Program. In addition, nine storm water pumps are currently being utilized by the temporary storm water system. The temporary storm water system is handling storm water storage (the storm water retention pond was required to cease operation by DTSC), and no additional storm water pumps are expected beyond the nine existing pump for any additional storm water storage required if the storm water retention pond is removed to provide space for a new wet ESP.

The commenter also states that the EA significantly underestimates the emissions resulting from additional truck traffic that would be required by the proposed project in light of the need to remove storm water and sediment from the storm water pond, remove and dispose offsite the liner system, import fill soil, manufacture, deliver and install replacement storm water storage tanks and related equipment and plumbing. The commenter cites Exhibit B for this claim. The only reference to the number of truck trips in Exhibit B to the comment letter states that 1,000 truck trips would be required for off-site disposal and import of backfill. As provided in Appendix B of the Draft EA and outlined below, the analysis evaluated more trips (2,444 round trips or 1,222 one-way trips) than recommended by the commenter so the analysis was not underestimated.

Storm water would be treated on-site in the existing system and disposed of in the sanitary sewer as is currently required. So no trips would be required for removing storm water in the pond. Sediment is required to be removed by the existing Rule 1420.1. So this is part of the existing setting.

Table B-1 in Appendix B of the Draft EA estimates that 17 one-way truck trips related to demolition of the storm water retention pond would occur per day for 16 days. Emissions estimated from the truck trips include a factor of two to account for the round trip. Therefore, emissions are estimated for 544 round trips related to demolition of the storm water retention pond.

Table B-2 in Appendix B of the Draft EA estimates that 19 one-way truck trips related to the filling of the storm water retention pond would occur per day for 50 days. Emissions estimated from the truck trips include a factor of two to account for the round trip. Therefore, emissions are estimated for 1,900 round trips related to the filling of the storm water retention pond. Therefore, 2,444 round trips or 1,222 one-way trips were estimated for the required off-site disposal and import of backfill, which is greater than the number estimated Exhibit B of the comment letter.

Table B-3 in Appendix B of the Draft EA estimates that 10 one-way truck trips related to paving would occur per day for 12 days. Emissions estimated from the truck trips include a factor of two to account for the round trip. Therefore, emissions are estimated for 120 round trips related to paving the area where the storm water retention pond was removed.

Table B-4 in Appendix B of the Draft EA estimates that 10 one-way truck trips for equipment delivery and installation would occur per day for 100 days. Emissions estimated from the truck trips include a factor of two to account for the round trip. Therefore, emissions are estimated for 1,000 round trips related to construction of the wet ESP, RTO and storm water retention tanks.

Based on the information in Appendix B of the Draft EA, the number vehicle trips estimated in the Draft EA is substantially greater than those presented in Exhibit B of the comment letter. Therefore, emissions estimated by the Draft EA are not underestimated. Based on the above discussion, the comment that the air quality analysis is unsupported by substantial evidence is incorrect.

Response to Comment 3-18

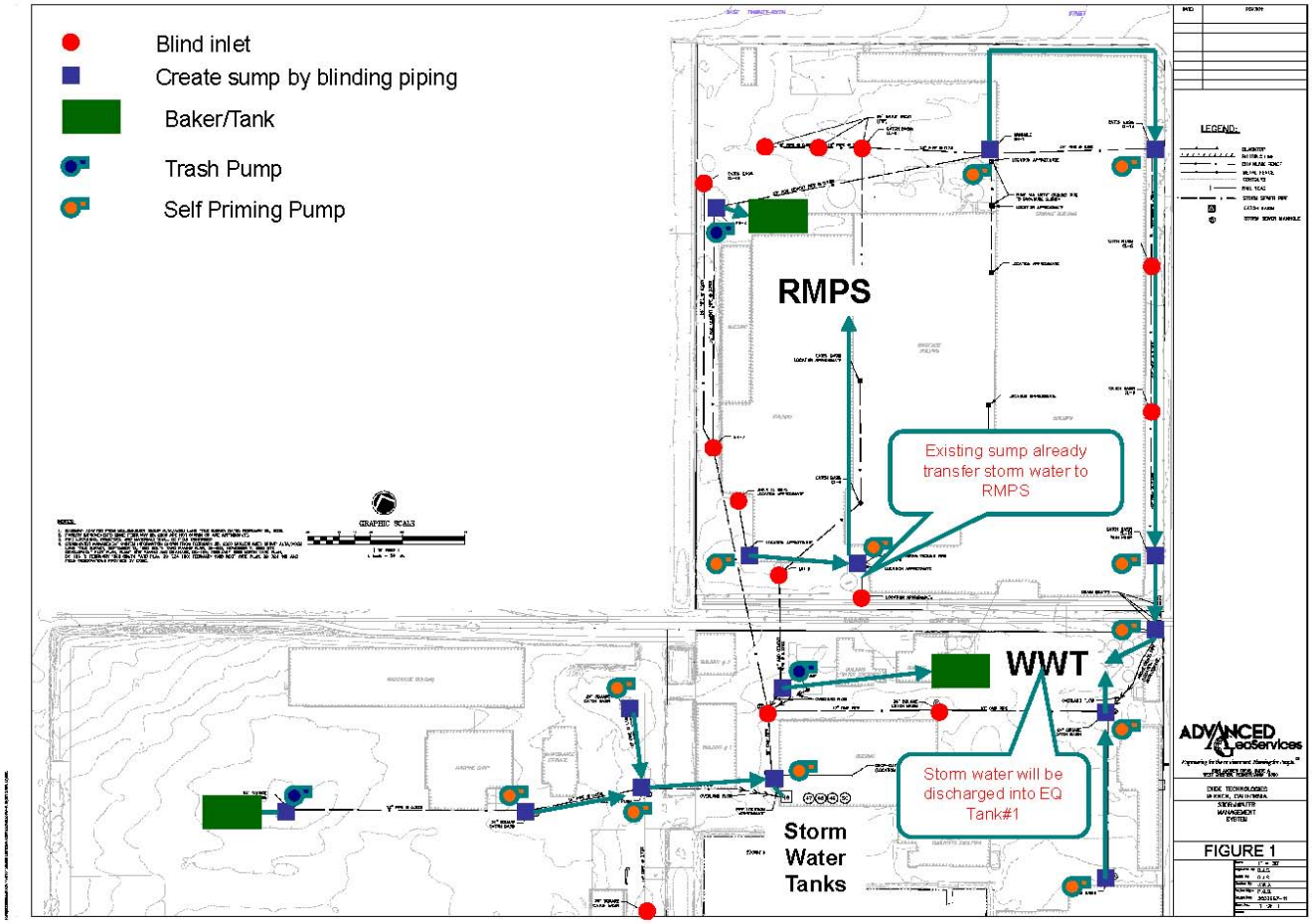
The commenter states that the energy impact analysis is unsupported by substantial evidence. Contrary to the commenter's opinion, the Draft EA accurately explains that the size of the pumps necessary to move the storm water collection to the wastewater treatment facility is not known at time. The increased energy demand noted by the commenter is based on the need to pump stormwater from a large storage capacity but this capacity is based on the size of the storm water retention pond. "Surface water runoff at Exide is controlled within the facility by a 2.8 million gallon storm (rain) water retention pond located on the southeast portion of the site." (The Exide Corporation Hazardous Waste Facility Permit Draft Environmental Impact Report (page 3-85)). The storm water is gravity fed to the storm water retention pond so there is a need for a larger capacity to allow for collection while sent to the wastewater treatment facility.

DTSC issued the Enforcement Order on August 12, 2010, which ordered Exide to immediately cease operation of the surface impoundment. (see Figure 3-1) DTSC staff said that the storm water containment pond cannot be permitted without an updated health risk assessment that is scheduled for submittal in 2015. Therefore, a temporary storm water treatment system large enough to safety treat storm water at the facility has been installed and operating. The existing temporary storm water system (see Figures 3-3, 3-5 and 3-6) includes above ground storage tanks and a pump system designed and installed to transfer storm water from the drop out system to the storm water tanks. Please see Response to Comment 3-33 for details on storm water containment pond and the existing storm water system in operation at Exide.

According to our records, there are at least nine pumps actively permitted through CARB's statewide equipment registration program (Unit numbers: PU04186, PU04224, PU04226, PU04227, PU04265, PU04266, PU04268, PU04341, PU04433) to power the existing storm water system. These existing pumps (see Figure 3-5) can be seen in Exide's Work Plan (see Figure 3-6) as part of the storm water collection and interaction with Raw Materials Processing System (RMPS) and the Waste Water Treatment (WWT).

According to phone conversations with DTSC staff, a permanent storm water system similar in scale to the temporary storm water system would be sufficient to serve for both primary and back-up. As discussed earlier, the existing temporary storm water system is supported by pumps operating onsite and already transferring stormwater from storage tanks to the wastewater treatment plant (WWTP). Therefore, no additional energy, or corresponding GHG emissions, impacts are anticipated beyond the existing setting. Thus, it is reasonably foreseeable that there would be no change to the size of the current pumps operating the storm water collection system and no change to their current energy usage.

Existing Pump for Temporary Storm Water Management System
Figure 3-5



Source: Figure 1 from the Exide's Work Plan
(http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/EXIDEWORKPLAN.pdf)

Temporary Storm Water Management System
Figure 3-6

Response to Comment 3-19

The commenter states that the seismic impacts analysis is unsupported by substantial evidence. The commenter states that the Draft EA acknowledges the storm water retention pond on Exide's facility is located in a liquefaction zone, but nonetheless concludes that 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 the rupture or an earthquake fault, seismic ground shaking, ground failure or landsides. The commenter cites *North Coast Rivers Alliance v. Municipal Water District Board of Directors*, (2013) 216 Cal. App. 4th 614.

Compliance with the Uniform Building Code (2013 California Building Standards Code (Title 24)) is one of many factors used to conclude there would be no significant seismic impact from implementing the proposed project. The *North Coast* decision found that the discussion of seismic impacts was adequate, in part because construction was required to meet standards in the Uniform Building Code. The commenter fails to provide any substantial evidence that, after compliance with the Uniform Building Code, the project would still expose people or structures to risk of loss, injury or death.

While earthquakes and correlating natural events are not predictable and not preventable, there are safeguards like building codes in place to minimize the possible impact from such events if they do

occur. For example, building codes specify the minimum requirements to adequately safeguard the health, safety, and welfare of building occupants. As discussed in the Draft EA, the Uniform Building Code requirements (http://www.ecodes.biz/ecodes_support/Free_Resources/2013California/13Building/13Building_main.html) consider liquefaction potential, and soil disturbances, and establish siting requirement in areas potentially subject to liquefaction, earthquake zones, etc. (http://www.ecodes.biz/ecodes_support/free_resources/2013California/13Building/PDFs/Chapter%2018%20-%20Soils%20and%20Foundations.pdf) as well as structural design (http://www.ecodes.biz/ecodes_support/free_resources/2013California/13Building/PDFs/Chapter%2016%20-%20Structural%20Design.pdf). Specifically, Section 1803 of the California Building Codes requires geotechnical investigation, assessment of soil stability, expansiveness and liquefaction, and recommendations for corrective action to prevent structural damage.

In addition, there are federal building and seismic codes (http://www.fema.gov/earthquake/building-codes) governing the design, construction, alteration, and maintenance of structures. Federal seismic codes are intended to ensure that structures can adequately resist seismic forces during earthquakes. These seismic provisions represent the best available guidance on how structures should be designed and constructed to limit seismic risk. Codes must also be effectively enforced to ensure that buildings and their occupants benefit from advances in seismic provisions in the model codes. For the most part, code enforcement is the responsibility of local government building officials who review design plans, inspect construction work, and issue building and occupancy permits.

As the commenter states, SCAQMD did investigate the possibility of liquefaction at the Exide facility. The Draft EA referenced Exide's Hazardous Waste Facility Draft Environmental Impact Report, SCH No. 93051013, June 2006, which shows the liquefaction zone bisects the property from the most western end of the property by the Union Pacific and Santa Fe Road to the north down to the southwest corner of the storm water retention pond. Here, SCAQMD staff attempted to identify the location of the area of possible liquefaction on the Exide facility, stating in the Draft EA, "The owners/operators of the affected facility that may need air pollution control equipment to comply with PAR 1420.1 would need to follow the Uniform Building Code requirements about building structures in areas potentially subject to liquefaction, if any air pollution control equipment or replacement equipment such as storage tanks is placed over the areas identified as subject to liquefaction." The Draft EA also states that "the liquefaction conditions, however, is an existing condition and there has not been a historical problem at the existing facility." The authority for this statement is the discussion in Exide's Hazardous Waste Facility Draft Environmental Impact Report.

The seismic impact analysis in the Draft EA was prepared based on two reasonably foreseeable scenarios with the information available at the time. The liquefaction zone was identified and new structures and equipment are subject to the Uniform Building Code requirements in areas potentially subject to liquefaction, so any potential adverse seismic impacts would be less than significant. No change in the Draft EA regarding geology is warranted, necessary or required.

As highlighted in Response to Comments 3-17, 3-33 and 3-35, the proposed project is not requiring the installation of the storm water tanks in the location of the pond but is considering that scenario as reasonably foreseeable. However, tanks are already located in that vicinity operating as part of a temporary storm water collection system so a permanent installation of the tanks does not change the current existing setting at the facility (page 8 of the following Exide Work Plan: http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/EXIDEWORKPLAN.pdf). According to the Exide Work Plan, the temporary system operates four 20,000 gallon tanks (although the SCAQMD identified six tanks) providing a capacity of 80,000 to 120,000 gallons necessary to handle the storm

water collection. Based on telephone conversations with DTSC staff, it is reasonably foreseeable the same tank capacity could be used as a permanent installation. This value is contrary to the commenter's claim that over 2 million gallons of storage capacity would be required.

This capacity of the replacement storm water storage tanks assumed by the commenter is based on the size of the storm water retention pond. The Exide Corporation Hazardous Waste Facility Permit Draft Environmental Impact Report (page 3-85) states "Surface water runoff at Exide is controlled within the facility by a 2.8 million gallon storm (rain) water retention pond located on the southeast portion of the site. The available capacity of the storm water retention pond is sufficient to contain storm water over the entire facility for a 25-year, 24-hour storm event (5.28 inches of rain). However, there are several reasons why the assumptions made by the commenters are incorrect.

1. DTSC issued the Enforcement Order on August 12, 2010, which ordered Exide to immediately cease operation of the surface impoundment. Accordingly, the storm water retention pond has not been in use for three years (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_EO-2010.pdf). Therefore, the existing setting at the facility is a storm water system that does not include the storm water retention pond.

2. The primary storm water system capacity is being upgraded to handle a 25-year, 24-hour storm event as required by Title 22, Cal. Code Regs., sections 67450.25 (see design criteria (i) page 3-2, page 3-4 and Appendix B of the "Stormwater Management System Replacement Plan": http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_SW_Mgmt_System_Replace_Plan_081913.pdf). Therefore, the primary storm water system is designed to handle the regulatory 25-year, 24-hour storm event, which is estimated in the Plan to result in a peak flow rate of 18.92 cubic feet per second.

3. While the primary storm water system capacity is being upgraded, a temporary storm water system has been installed which currently includes only six 20,000 gallon Baker tanks (page 8 of the following Exide Work Plan: http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/EXIDEWORKPLAN.pdf) supported by six pumps. Based on conversation with DTSC staff only three of the six Baker tanks contain fluid with a total of 600 to 700 gallons of fluid reported each day. The existing storm water retention pond is designed as "back-up" to the primary storm water system comprised of pipes, sumps, drop out system, etc. The commenter states that the storm water is gravity fed to the storm water retention pond, thus the need for a large storage capacity. DTSC staff have stated in telephone conversations that since the upgraded primary storm water system is being designed for the 25-year, 24-hour storm event and the storm water retention pond has not been in use for three years, a replacement system similar in scale to the temporary storm water system would be sufficient to serve for both primary and back-up. The capacity of the temporary storm water system is smaller than the capacity of the pond because pumps are used to move water faster than the gravity fed system used by the larger capacity storm water retention pond.

4. Since the temporary storm water system is in place, it is part of the existing setting. Pumps required by replacement storage tanks are expected to be similar in size to those used by the temporary storm water system. Replacement storage tanks and piping are expected to be placed where the Baker tanks and piping of the temporary storm water system are currently located.

Therefore, based on the existing setting (unused storm water retention pond and temporary storm water system with aboveground Baker tanks, piping and six pumps) the impacts from a replacement system

are not expected to change. Therefore, no additional energy would be required, and no new space and logistic impacts would occur.

Therefore, no substantial evidence was provided substantiating the need for 2,348,006 gallon capacity storage tanks and, if desired, how it was the result of the proposed project. Thus, the seismic impacts implied by the commenter from a large tank capacity are unfounded. The replacement stormwater system will be smaller in size and installed in compliance with seismic safeguards in accordance with building and seismic codes.

Response to Comment 3-20

The analysis in the Draft EA does anticipate the wet ESP at Exide could be larger in size than at Quemetco, however the Quemetco facility is "much closer to the residential areas than Exide," according to Exhibit A (page 1) of the commenter's letter. So, the further distance of larger equipment would likely offset the closer distance for smaller equipment, making the noise levels comparable between the two facilities. To date, there have been no known noise complaints regarding the operation of the wet ESP at Quemetco.

Noise from control equipment is typically generated by the operation of fans and filters, and the noise level exposure is dependent on the load, capacity and location. In addition, in accordance with the CEQA checklist, the potential impact is evaluated based on permanent noise levels in excess of the standards in a local general plan. Exide, as noted in the Draft EA, is located in the City of Vernon and, thus, is subject to the Noise Element of the General Plan of the City of Vernon. Table 2-7 of the Draft EA shows that according to the Noise Element of the General Plan of the City of Vernon, 60-70 dBA CNEL or less is considered "normally compatible" for residential use, and 70-80 dBA CNEL or less is considered "normally compatible" for industrial use. Table 2-7 also states that noise levels generated by construction equipment within a residential zone are required not to exceed 75 dBA pursuant to the City of Vernon Municipal Code Chapter 26, § 26.4.1-6. The current Exide facility already houses noisy processing equipment, smelting operations and furnaces in an industrial city that operates 1,800 businesses in 5.2 square miles employing 55,000 people. Accordingly, it is reasonably foreseeable that the possible addition of a wet ESP will not generate any additional noise that will significantly adversely impact the current environmental noise setting. Finally, any noise being generated by the facility is negligible due to the attenuation when calculating the distance to the nearest sensitive receptor, which is 4,600 feet away.

Regardless of control equipment size, facilities are subject to noise ordinances and requirements. As discussed and provided in the Draft EA, even if operating at a maximum decibel (85 dBA) for equipment (e.g., paver, crane, front loader) much louder than a wet ESP, the noise level is compliant (70 dBA) with the General Plan 400 feet away. For the closest residential, the noise level would be less than 50 dBA, which is quieter than a normal conversation (~60 dBA), and below the levels deemed "normally compatible" for residential land uses by the Noise Element of the General Plan of the City of Vernon and noise levels of the City of Vernon Municipal Code Chapter 26, § 26.4.1-6..

Response to Comment 3-21

The commenter states that SCAQMD must provide a good faith effort and reasoned responses to each of the comments set further. A good faith effort and reasoned responses were prepared for this comment letter and attached comment letters as requested. Please see Response to Comments 3-1 through 3-35.

Response to Comment 3-22

The commenter claims that insufficient data was provided for the environmental analysis. This is incorrect. All of the assumptions, underlining data and calculations for the analysis that was used to estimate environmental impacts are included in Appendix B of the Draft EA. Please see Response to Comment 3-16 in regard to air quality assumptions. Please see Response to Comments 3-3-17, 3-18 and 3-32 in regard to energy assumptions.

In addition, the Public Records Act request mentioned by the commenter was fulfilled in a timely manner and that information was provided as discussed in detail in Response to Comment 3-16. Further, the items provided in the request were referenced or discussed in the Draft EA and did not hamper the public's ability to fully review and comment on the analysis.

Response to Comment 3-23

The commenter states that the Draft EA should evaluate the currently proposed version of the amendments to the rule. Please refer to Response to Comment 3-7 regarding the proposed amended rule circulated with the Draft EA, a listing of the changes in the latest version of the Rule, and a discussion how the rule modifications do not change or worsen the potential environmental impacts analyzed in the Draft EA.

Response to Comment 3-24

The commenter states that SCAQMD has not explained the need for a technology-based rule. Please refer to Response to Comment 3-1 in reference to the necessity and justification for the rule amendment development; Response to Comment 3-3 in reference to the risk based versus technology based approach to comply; and Response to Comment 3-11 in regard to feasibility, cost-effectiveness and the socioeconomic analysis.

The commenter states the imposing the same emission rate on both affected facilities (Quemetco and Exide) does not comply with law and is not necessary to protect public health. Proposed Amended Rule 1420.1 establishes emission limits for arsenic, benzene, and 1,3-butadiene that are achievable, based on the emission levels of one of two facilities subject to the proposed amended rule. The proposed emission limits were established using a technology-based approach rather than a risk-based approach. The emission limits for arsenic, benzene, and 1,3-butadiene allow affected facilities to select the compliance path that best fits their operation similar to a risk-based approach. PAR 1420.1 does not mandate a specific technology.

The technology-based approach provides greater certainty than a risk-based approach for the communities and the affected industries. There is certainty the emission level that is allowed under the technology-based approach. With a risk-based approach there are more variables and parameters that are involved in the health risk calculation that may not result in overt actions to reduce point source emissions such as stack parameters – raising the stack height is one example where the health risk can be reduce but with no emissions change. The technology-based approach also provides more certainty to the affected facilities. If the risk methodologies change or there are changes to the potency of specific toxic air contaminants, this may require the affected facilities to implement additional measure to reduce the health risk. The technology based approach is based on the cleanest pollution controls and establishes a performance standard that must be achieved. To be health protective, the SCAQMD confirmed that when facilities are meeting the PAR 1420.1 emission limits the health risks are consistent with Rule 1402.

The SCAQMD staff considers a risk-based approach, such as contained in Rule 1402 - Control of Toxic Air Contaminants from Existing Sources, as a complimentary tool to using an emission-based approach. The commenter should note that implementation of Rule 1402 is still being pursued on a separate but parallel track. Both regulatory programs are needed. Rule 1402 identified the high health risk from affected facilities and started the process for risk reduction plans. PAR 1420.1 builds from Rule 1402 and adds additional safeguards such as requirements for ambient air concentration limits and furnace point source pressure differential monitors. These requirements provide important additional safeguards to meeting the health protective PAR 1420.1 emission limits. Finally, a risk analysis similar to what is required under Rule 1402 was used during the rule development process in order to verify that the PAR 1420.1 emission limits are health protective. This Rule 1402 analysis showed that if both facilities met the proposed emission limits they would meet the cancer risk and non-cancer health impacts of Rule 1402.

The commenter states that for both T-BACT and BARCT, SCAQMD must make a determination by permit unit or source category, and cannot analyze Exide and Quemetco together because the two facilities operate using fundamentally different equipment to process reverberatory furnace slag. Although the two large lead-acid battery recycling facilities use different furnaces, their processes and many other pieces of equipment within the two facilities are very similar. Both facilities have a battery crusher, a separation system, dryer to dry the feed, a reverb furnace, slag furnace and refining pots. The primary difference between the two facilities is the slag furnace where Exide uses a blast furnace and Quemetco uses an electric arc furnace. The emission limits under PAR 1420.1 applies to the entire facility which includes a variety of emission sources and not to a specific piece of equipment or process. Although the rule limits are based on Quemetco's emissions profile, it allows Exide to meet the emission limits with their existing furnaces and the suite of pollution controls of their choice as approved by the SCAQMD staff.

For arsenic emissions, source tests have shown arsenic emissions at Exide from the material handling bag house, soft lead bag house, hard lead bag house, feed dryer bag house, scrubber, room ventilators bag houses, and MAC bag house. There are a variety of sources and processes that are vented to these control devices such as raw material processing system, room ventilators, rotary dryer building, blast furnace, hard lead and soft lead pot furnaces, rotary dryer, and reverb furnace. In a letter from Exide to the SCAQMD staff dated December 23, 2013, Exide has stated that "Exide supports the ambient arsenic limit in the proposed rule, and Exide reasonably believes that, if the District approves Exide's revised Risk Reduction Plan (as may be further amended), Exide will be able to achieve the proposed arsenic mass emission limit." Even though there are some differences in the equipment at Exide and Quemetco, Exide recognizes that they can meet the arsenic emission limit.

For organic emissions, source tests have shown benzene and 1,3-butadiene emissions from the soft lead bag house, hard lead bag house, feed dryer, and scrubber. There are a variety of sources and processes that are vented to these control devices that are a source of benzene and 1,3-butadiene emissions such as rotary dryer building, blast furnace thimble, hard lead and soft lead pot furnaces, rotary dryer, and reverb furnace. The blast furnace thimble at Exide is one of many sources of potential organic emissions. It is the SCAQMD staff's understanding that gaseous emissions have been making their way into the hard lead bag house ventilation system, and not going to the afterburners and scrubber systems. When these gaseous emissions, specifically organic emissions are routed to the appropriate control equipment organic emissions should be reduced.

The SCAQMD staff believes that installation of the Regenerative Thermal Oxidizer will reduce organic emissions to help Exide meet the benzene and 1,3-butadiene emission limits under PAR 1420.1 Toxic Best Available Control Technology (T-BACT) means the most stringent emissions limitation or control

technique which a) has been achieved in practice for such permit unit category or class of source; or b) is any other emissions limitation or control technique, including process and equipment changes of basic and control equipment, found by the Executive Officer to be technologically feasible for such class or category of sources, or for a specific source according to SCAQMD Rule 1401. Staff agrees with the commenter that a determination is made on a "case by case" situation depending on permit unit or process that could affect the pollutant characteristics. The Best Available Retrofit Control Technology (BARCT) is to control criteria pollutants and typically the control equipment is similar for different processes or equipment as long as it is controlling the same pollutant. For example, baghouses control particulate matter from wood cutting process or more heavy industrial applications. With toxic emission limits in the proposed amendments, public health is equally protected between the two facilities regardless of current distance to residential receptors.

Response to Comment 3-25

The commenter states that facility-wide risk reduction to Rule 1401 levels is not consistent with Rule 1401. Please refer to Response to Comment 3-1 in reference to the necessity and justification for the rule amendment development and the authority of the SCAQMD to protect public health. The commenter states that PAR 1420.1 would be more stringent than Rule 1401 as the proposed rule would require multiple permit units to meet a MICR limit applicable to a single permit unit.

With regards to the comment that PAR 1420.1 is more stringent than existing Rule 1401 since the proposed rule would require multiple permit units to meet an individual MICR for each permit unit, this is incorrect. PAR 1420.1 point source emission limits apply to all permitted units collectively, not individually as the comment suggests. With the exception of benzene and 1,3-butadyiene emissions from emission control devices venting total enclosures, all point source emissions are included in the facility-wide emission limits. Furthermore, the PAR 1420.1 emission limits are technology-based limits designed to mirror an achieved in practice level. To ensure that public health was being protected the emission limits were evaluated to determine if the limits would also meet Rule 1402 limits (not Rule 1401). In addition, contrary to the commenter's opinion, the Draft EA did provide the analysis of the impacts should control equipment be installed and operated as a result of this stringency.

Response to Comment 3-26

The commenter states that the Draft EA does not adequately analyze the site-specific constraints that Exide would encounter if required to implement proposed control technologies. The Draft EA evaluated two reasonably foreseeable scenarios to comply with proposed amendments (Response to Comment 3-5). Please refer to Response to Comment 3-5 in reference to consulting with DTSC regarding the development of the Draft EA analysis, including the location of the wet ESP over the existing pond and the storm water tank system. Additionally, also noted in Response to Comment 3-5, SCAQMD staff consulted with DTSC staff early in the process of evaluating the proposed project and potential permit issuances. The temporary storm water system is already in place (see Figures 3-3). The storm water retention pond has not been in-use for three years (see Figure 3-1) so it is reasonable to schedule work on the pond first, then installation of the wet ESP before taking action with the replacement storm water tank system.

Response to Comment 3-27

The commenter states that SCAQMD does not evaluate the environmental impact associated with the potential closure of Exide's Vernon Plant. As discussed in Response to Comment 3-11 it is not reasonably foreseeable Exide would close the Vernon facility as the plant has considerable economic

importance to the company and large financial resources have already been committed. As noted in Response to Comment 3-11, the amount of waste batteries that would be recycled elsewhere and the location of the alternative site is completely unknown for a meaningful analysis.

Response to Comment 3-28

The commenter states that the GHG analysis does not consider GHG impacts of operating a wet ESP or energy and GHG impacts from additional storm water pumps. Please see Response to Comments 3-17 in regard to indirect GHG emissions impacts from additional electricity generation at electrical generating facilities to operate any new equipment as a result of the proposed project. Since pumps are already operating at the Exide facility to sufficiently transport storm water, there is no anticipated additional energy need to operate pumps (see Response to Comment 3-18).

Response to Comment 3-29

The commenter states that the Draft EA ignores the dramatic emissions reductions that Exide has accomplished since April 2013. Please see Response to Comment 3-10 in regard to baseline.

Response to Comment 3-30

The commenter states SCAQMD should prepare an evaluation of the impacts of RTO and scrubber foundations. The current Exide facility already houses heavy processing equipment, smelting operations and furnaces on established concrete foundations so it is reasonably foreseeable that an additional RTO would not require a removal of the existing foundation and the installation of new paving. As the commenter noted in the comment, "Exide has not conducted the engineering studies necessary to determine whether the existing foundations are adequate," so any potential impact is no known at this time for evaluation. In addition, the commenter fails to provide any substantial evidence suggesting that the existing foundation would not be adequate. Therefore, the conclusion of no changes to the existing foundations for the RTO or scrubber in the Draft EA does not change.

Response to Comments 3-31

a) The commenter states that the storm water tanks would have to hold 2,500,000 gallons of water, and the Draft EA did not evaluate construction impacts from these tanks. See Response to Comment 3-18 and 3-33 in regard to capacity of the stormwater collection system.

b) The commenter states that the Draft EA did not evaluate the impacts of operating pumps or the consequence if they were to fail. Please see Response to Comment 3-18 and 3-33 with regard to the existing pumps at the facility being used for the current temporary stormwater collection system and the gravity fed system with water retention pond. The existing pumps and Baker tanks are anticipated by DTSC to be a sufficient size for a replacement stormwater system.

   The details of the temporary storm water management system are provided on page 8 of the following Exide Work Plan: http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/EXIDEWORKPLAN.pdf). Therefore, the existing setting includes pumps with the risk of pump failure. The work plan states that weather forecasts are monitored daily for storm events, and that additional pumps and temporary storage tanks can be mobilized within a few days. The same methods can be used in case of pump failure for a permanent storage system. In addition, the temporary system currently handles both primary storm water treatment (while the replacement system is being built,

http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_SW_Mgmt_System_Replace_Plan_081913.pdf) and back-up storage (since the storm water retention pond cannot be used pursuant to the 2010 DTSC order, http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_EO-2010.pdf).

c) The commenter states that the Draft EA did not consider the seismic superiority of the in-ground storm water system to 2.5 million gallon above–ground storage tanks. The alleged seismic superiority of the existing storm water retention pond compared to the replacement storm water storage tanks is not the proper criteria for judging the adequacy of the analysis. The proper criteria is whether or not the proposed project would generate significant adverse seismic impacts, which the Draft EA analyzed and concluded that the adverse seismic impacts where not significant. Please see Response to Comment 3-19 with regard to seismic impacts.

Response to Comments 3-32

The commenter states that the Draft EA states that 1,400 kilowatts per hour would be need to run the new ESP system, but should have read 1,400 kilowatts would be need to run the new ESP system. The commenter states that information in the Public Records Act request would be needed to fully evaluate the emissions and energy equations. The commenter also states that some energy consumption was not evaluated at all.

As discussed in Response to Comments 3-17, the Draft EA listed kW *per* hour but the energy value was used correctly to determine the power usage. The wet ESP and ancillary equipment at the Exide facility is estimated to consume a total of 1,400 kW-hr of electricity in one hour. Thus, when operating 24 hours per day for 365 days per year, 12.8 gigawatt-hours are needed per year. Based on the annual consumption by LADWP, this energy usage constitutes 0.05 percent impact on consumption, which is what was provided in the Draft EA. Thus, the underlying calculations are not in error and no further change needs be made. Finally, with regard to the energy consumption claimed to not be evaluated, please refer to Response to Comment 3-18 for discussion of pump power. As discussed in Response to Comment 3-16, the Public Records Act request was fulfilled in a timely manner.

Response to Comments 3-33

The commenters describe the storm water management system as including the storm water retention pond. The situation described by the commenters regarding the existing storm water management system is not accurate. According to the Stipulation and Order signed by both Exide and DTSC in March 2013 regarding a 2010 Enforcement Order concerning illegal storage of hazardous lead waste in the retention pond (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_EO-2010.pdf), both parties agreed "the Storm Water Retention Pond is currently an unauthorized storage unit and cannot be used to store hazardous waste" (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_SO-2013.pdf). An additional Stipulation and Order exists between Exide and DTSC that has not been signed but would require the installation of control equipment in accordance with SCAQMD permitting and replacement of the storm water conveyance system (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_ENF_Stip-Order.pdf). DTSC issued the Enforcement Order on August 12, 2010, which ordered Exide to immediately cease operation of the surface impoundment (see Figure 3-1). DTSC staff said that the storm water containment pond cannot be permitted without an updated health risk assessment that is scheduled for submittal in 2015. Therefore, the existing temporary storm water treatment system needs to be large enough to safety treat

storm water at the facility annually until 2015. DTSC staff stated that based on their discussions with RWQCB staff, there are no RWQCB permits for the storm water containment pond.

The commenters note that without the pond, the facility could experience flooding and offsite discharge; however, the pond has been shutdown for three years and the new proposed piping storm water system will satisfy the requirement of DTSC to handle a 25-year, 24-hour storm event. As such, potential flooding and runoff will be appropriately addressed with the new system without the pond.

The primary storm water and washdown water collection uses piping and four settling tanks that pump the water to the wastewater treatment facility. However, the piping is currently under repair (see Figure 3-2) so a temporary system was created (for more details on the application for approval of the storm water system please refer to the "Stormwater Management System Replacement Plan": http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_SW_Mgmt_System_Replace_Plan_081913.pdf). The details of the temporary storm water management system are provided on page 8 of the following Exide Work Plan: http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/EXIDEWORKPLAN.pdf).

Based on the work plan, the piping to the storm water containment pond was sealed. Therefore, storm water is no longer directed to the storm water containment pond. Instead, storm water is collected in sumps created by blinding inlets then transferred to four to six 20,000 gallon Baker tanks (see Figures 3-3 and 3-6) before being sent to the wastewater treatment facility. There are at least nine pumps (see Figure 3-5) actively permitted through CARB's statewide equipment registration program (unit numbers: PU04186, PU04224, PU04226, PU04227, PU04265, PU04266, PU04268, PU04341, PU04433) that are used to support the temporary storm water system. The plan has received temporary authorization from DTSC (http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_2013-08-21_Approval-_of_Temp_Auth_Reqt_SMSRP.pdf). DTSC staff stated in telephone conversations that the capacity of the system was designed by Exide and is expected to result in safe operation of the facility. Thus, the existing Baker tanks and pumps are part of stormwater management system are the existing setting.

SCAQMD staff has contacted the City of Vernon. The City of Vernon staff has stated that the existing storm water treatment system does not have any permits with the City of Vernon. See Response to Comment 3-5 regarding potential permits required from the City of Vernon.

The existing storm water system provided by DTSC is different than the description presented in Exhibit B of the comment letter. The commenters state that "the drop out system discharges storm water to the storm water retention pond for temporary storage until it can be transferred via pump to the WWTP for treatment and discharge." However, Exhibit B from Advance EcoServices consultants does not mention the Exide Work Plan, which includes a figure (Figure 1 prepared by Advance EcoServices, page 10 of the Exide Work Plan) that shows the locations of the piping work, Baker tanks and pumps.

The description by the commenters' state that "Exide anticipates that upgrades to the storm water surface impoundment will be required as a condition of the approved RCRA permit." This statement is about the storm water surface impoundment, which is the upgraded storm water retention pond. DTSC staff has stated that the Part B Permit Application submitted by Exide on January 15, 2013 referenced in the letter labeled as Exhibit B is not complete and is deemed a pre-submittal until the actual application can be submitted.

Response to Comments 3-34

The commenters state that the Draft EA does not provide an analysis of the physical impacts to the environment and economic and technical feasibility for installing a wet ESP at the footprint of the storm water surface impoundment. As described in the Draft EA and discussed in Response to Comment 3-8, the proposed project does not dictate how companies would meet the toxic emission limits, and the analysis identified two reasonably foreseeable compliance paths. One path, the installation and operation of a wet ESP, would require facility space. It would be reasonably foreseeable that Exide, due to spatial constraints, would remove the pond to make space for the wet ESP. The adverse environmental impacts from the demolition, debris handling, filling, grading, paving, disposal of contaminated soil off site and truck trips from the process of removing and replacing the pond were analyzed and included in Appendix B of the Draft EA with summaries of the results in Chapter 2 of the Draft EA.

As explained in Responses to Comments 3-5 and 3-9, SCAQMD did consult with DTSC as early as June 2013 regarding the possible replacement of the storm water retention pond and the possible permit requirements. Also discussed in Response to Comment 3-5, DTSC informed SCAQMD staff that soil below the retention pond has not been tested and that treatment would not be required unless it was found to exceed contamination concentration thresholds. If hazardous waste are treated, stored or disposed at a facility, such as in the storm water pond or storage tanks, a DTSC hazardous waste facility permit is required (http://www.dtsc.ca.gov/HazardousWaste/upload/hazwaste_facility_permits.pdf). According to the DTSC website, Exide currently holds a federally equivalent permit called RCRA pursuant to the Resource Conservation and Recovery Act of 1976 (http://www.envirostor.dtsc.ca.gov/public/report_permitted_public.asp).

As discussed in Response to Comment 3-33, the new proposed piping stormwater system will satisfy the requirement of DTSC to handle a 25-year, 24-hour storm event. As such, potential flooding and runoff will be appropriately addressed by the new system without the pond.

Response to Comments 3-35

The commenters state that if the storm water surface impoundment is closed then alternative storage is required for storm water to prevent the potential for flooding within the facility. They estimate that three 59 ft diameter, 40.5 foot high tanks would be needed to provide 2,484,687 gallons of storage capacity, which the commenters state is roughly the size of the storm water surface impoundment. The commenters state that a piping a pump system would need to be designed and installed to transfer storm water from the drop out system to the proposed stormwater tanks. The commenters then state that the storm water storage tanks and piping infrastructure would affect critical space that is currently used for operations, truck traffic for spent battery delivery, maintenance activities and equipment storage. The commenters state that DTSC approval would be required and is not guaranteed.

With regard to the potential for flooding, the design capacity of the storm water surface impoundment in Comment 3-33 was based on a 50-year, 24-hour storm event. The storm water retention pond is not listed as part of the replacement storm water system presented in the Plan. DTSC in telephone conversations stated that the storm water retention pond/storm water surface impoundment is a back-up to the primary storm water system, which consists of piping, pumps and sumps.

The previous primary storm water system is currently being replaced. The Stormwater Management System Replacement Plan on page 85 states that the "storm drainage system has adequate capacity to

convey the 25-year storm event without overtopping." The replacement storm water management system is required to be designed to handle a 25-year, 24-hour storm event by Title 22, Cal. Code Regs., sections 67450.25. DTSC staff has said in telephone conversations that the replacement primary storm water management system is a much larger system than the previous primary storm water system, which used the storm water containment pond as back-up storage, when the primary system could not handle the flow rate. Since the previous primary storm water system is smaller than the replacement primary storm water management system, previous primary storm water system did not have the capacity to handle the 25-year, 24-hour storm event without additional storage (i.e., the storm water retention pond). The storm water retention pond was used as back-up storage for this smaller previous primary storm water system. The size of storm water retention pond is also influenced by the fact that it is gravity fed instead of pump fed. Pumping systems can move water through the storm water system, reducing the volume of water than needs to be stored.

The Stormwater Management System Replacement Plan was submitted in August 2013 after the storm water impoundment pond was removed from operation (August 2010). Therefore, it was submitted and approved with the knowledge that the storm water impoundment pond was not in operation and would not be allowed to operate until permitted. Based on the design capacity of the storm drainage system in the Stormwater Management System Replacement Plan (see Figure 3-6) certified by Mr. Paul Stratman of Advance EcoServices and the capacity of the existing storm water treatment system, which is 120,000 gallons (six 20,000-gallon Baker tanks), the necessary size of aboveground storage tanks is much smaller than that estimated by the letter labeled as Exhibit B and signed by Mrs. Jennifer DeJoseph and Mr. Paul Stratman of Advance EcoServices.

As discussed in Response to Comment 3-19, the existing storm water retention pond is designed as "back-up" to the previous primary storm water system comprised of pipes, sumps, drop out system, etc. The commenters state that the storm water is gravity fed to the storm water retention pond, thus the need for a large storage capacity. While the primary storm water system is currently under repair, a temporary storm water system has been established. According to DTSC staff, a replacement storm water storage system similar in scale to the temporary storm water system would be sufficient to serve for back-up, since the temporary storm water system is now currently operating as both primary and back-up storm water management, while the storm water retention pond is not allowed to be used and the primary storm water system is being constructed. The temporary storm water system is supported by six pumps operating onsite and already transferring stormwater from storage tanks to the wastewater treatment plant (WWTP). Therefore, no additional energy, or corresponding GHG, impacts are anticipated to be needed beyond the existing setting. The capacity of the temporary storm water system is smaller because pumps are used to move water faster than the gravity fed system used by the larger capacity storm water retention pond.

The commenters do not state that the storm water retention pond is currently closed for operation and that an existing system that was designed by Advance EcoServices is currently managing storm water at the Exide facility. The Stormwater Management System Replacement Plan states on page 10 that the Temporary Stormwater Management Plan was conditionally approved by DTSC on May 16, 2013. The existing storm water system includes above ground storage tanks, a pump system designed and installed to transfer storm water from the drop out system to the storm water tanks. Based on this existing setting, placing a wet ESP on the current foot print of the pond would not affect the existing storm water management at Exide, which does not currently use the storm water retention pond. The emissions and energy use by the existing pumps that service the storm water treatment system are part of the existing setting. As the existing storm water system is already exists, there would be no change to critical space currently used. The existing storm water system was designed, approved, constructed and operated before PAR 1420.1 would be approved.

Since, any storm water storage is expected to be equivalent or less than the existing temporary storm water system (i.e., existing Baker tanks), there would be no increase in the facility's tank capacity. Therefore, a Class 3 modification to the Part B Hazardous Waste Permit would not be required based on Exide's tank capacity as the commenter states.