South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

**SUBJECT:** **NOTICE OF COMPLETION OF A DRAFT SUBSEQUENT ENVIRONMENTAL ASSESSMENT**

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

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and has prepared a Draft Subsequent Environmental Assessment (SEA) to analyze environmental impacts from the project identified above pursuant to its certified regulatory program (SCAQMD Rule 110).

This letter and the attached Notice of Completion (NOC) are to notify you that a Draft SEA has been prepared and is being circulated for public review. This letter and the attached NOC are not SCAQMD applications or forms requiring a response from you. Their purpose is to allow public agencies and the public the opportunity to review and comment on the environmental analysis. If the proposed project has no bearing on you or your organization, no action on your part is necessary.

The Draft SEA and other relevant documents may be obtained by calling the SCAQMD Public Information Center at (909) 396-2039 or accessing the SCAQMD's CEQA website at http://www.aqmd.gov/home/about/public-notices/ceqa-notices/notices-of-completion. Comments focusing on issues relative to the environmental analysis should be addressed to Ms. Cynthia Carter (c/o CEQA) at the address shown above, or sent by FAX to (909) 396-3324 or by e-mail to ccarter@aqmd.gov. Comments must be received no later than 5:00 PM on Thursday, August 20, 2015. Please include the name and phone number of the contact person. Questions regarding the proposed amendments should be directed to Mr. Mike Morris at (909) 396-3282.

The Public Hearing for the proposed amended regulation is scheduled for September 4, 2015. (Note: Public meeting dates are subject to change).

**Date:** July 21, 2015 **Signature:** Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor, CEQA
Planning, Rules, and Area Sources
**Telephone:** (909) 396-2706

**Reference: California Code of Regulations, Title 14, §§15087, 15105, 15162, 15187 and 15372**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**
**21865 Copley Drive, Diamond Bar, CA 91765-4182**

**NOTICE OF COMPLETION OF A DRAFT SUBSEQENT ENVIRONMENTAL ASSESSMENT**

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

**Project Location:**
South Coast Air Quality Management District (SCAQMD) area of jurisdiction consisting of the four-county South Coast Air Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin

**Description of Nature, Purpose, and Beneficiaries of Project:**
PAR 1420.1 would further protect public health by reducing lead emissions produced by large lead-acid battery recycling facilities. PAR 1420.1 would accomplish this by lowering the total facility lead point source limit to 0.003 pounds per hour, clarify that the rule applies during closure, and include new provisions to ensure lead and arsenic emissions are appropriately controlled during closure and clean-up activities, and thereafter. The environmental analysis in the Draft SEA concluded that PAR 1420.1 would not generate any significant adverse environmental impacts. PAR 1420.1 would affect two facilities that are on lists of California Department of Toxics Substances Control hazardous waste facilities per Government Code §65962.5 (http://www.envirostor.dtsc.ca.gov/public; accessed on June 17, 2015).

| **Lead Agency:** | **Division:** |
|---|---|
| South Coast Air Quality Management District | Planning, Rule Development and Area Sources |

| **The Draft SEA and all supporting documentation are available at:** | **or by calling:** | **The Draft SEA can also be obtained by accessing the SCAQMD's website at:** |
|---|---|---|
| SCAQMD Headquarters<br>21865 Copley Drive<br>Diamond Bar, CA 91765 | (909) 396-2039 | http://www.aqmd.gov/home/about/public-notices/ceqa-notices/notices-of-completion |

**The Public Notice of Completion is provided through the following:**
☑ Los Angeles Times (July 22, 2015) ☑ SCAQMD Website ☑ SCAQMD Mailing List

**Draft SEA Review Period (30-day):**
July 22, 2015–August 20, 2015

**Scheduled Public Meeting Dates (subject to change):**
SCAQMD Governing Board Hearing: September 4, 2015, 9:00 a.m.;

| **Send CEQA Comments to:** | **Phone:** | **Email:** | **Fax:** |
|---|---|---|---|
| Ms. Cynthia Carter | (909) 396-2431 | ccarter@aqmd.gov | (909) 396-3324 |
| **Direct Questions on Proposed Amended Rule:** | **Phone:** | **Email:** | **Fax:** |
| Mr. Mike Morris | (909) 396-3282 | mmorris@aqmd.gov | (909) 396-3324 |

# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## Draft Subsequent Environmental Assessment for:

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

**July 2015**

**SCAQMD No. 150721CC**



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# CHAPTER 1

## PROJECT DESCRIPTION

## 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. Rule 1420.1 was amended on January 10, 2014 to reduce other toxic (i.e. arsenic, benzene, and 1,3-butadiene) emissions from affected facilities. It was amended again on March 7, 2014, to include a multi-metals demonstration program to continuously monitor lead, arsenic, and other metals and clarify language that requires affected facilities to reimburse the South Coast Management District (SCAQMD or District) for funds spent to deploy independent third-party contractors who conduct investigations of unplanned shutdowns according to Rule 1420.1. The amendment renamed the rule as Rule 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, to reflect these changes. The March 2015 amendment lowered the ambient lead concentration limit and point source lead emission rate, as well as adding other housekeeping and maintenance measures. The purpose of Rule 1420.1 is to protect public health by reducing exposure to emissions of lead, arsenic, benzene, and 1,3 butadiene from these facilities and to help ensure attainment of the National Ambient Air Quality Standard for lead.

SCAQMD staff is currently proposing amendments to Rule 1420.1 to further reduce lead emissions at large lead acid battery recycling facilities to continue to protect public health. Proposed Amended Rule (PAR) 1420.1 lowers the point source limit to reduce the amount of lead emitted into the air from point sources; thereby reducing the further accumulation of lead dust in and around the facility to better ensure protection of public health.

## CALIFORNIA ENVIRONMENTAL QUALITY ACT

Amending Rule 1420.1 is a discretionary action, which has the potential to result in direct or indirect changes to the environment and, therefore, is considered a "project" as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this Draft Subsequent Environmental Assessment (SEA) pursuant to its Certified Regulatory Program (CEQA Guidelines § 15251). 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, this Draft SEA addresses the potential adverse environmental impacts associated with the proposed project according to CEQA Guidelines § 15252. It states that the lead agency has an obligation to identify and evaluate the environmental effects of the project. The Draft SEA 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.

A Subsequent EA is the appropriate CEQA document for the proposed project because there are subsequent changes proposed to Rule 1420.1 (CEQA Guidelines §15162). The proposed project is a

modification of an earlier project and this analysis considers only the incremental effects of the proposed project.

The California Environmental Quality Act (CEQA) Guidelines Sections 15162 through 15164 set forth the criteria for determining the appropriate additional environmental documentation, if any, to be completed when there is a previously adopted EIR or Negative Declaration covering the project for which a subsequent discretionary action is required. The SCAQMD prepared this SEA to the previously adopted EA. This SEA is governed by Section 15162 (a) of the CEQA Guidelines, which provides that where a negative declaration has been adopted for a project, "no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

b) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

Section 15162(b) provides that if a subsequent EIR is not required under 15162 (a), then "the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation."

SCAQMD's review of the proposed project shows that the proposed project is not expected to generate significant adverse affects on the environment. Pursuant to CEQA Guidelines §§ 15126.4 (a)(3), and 15126.6, mitigation measures and alternatives are not required for effects which are not found to be significant, thus, no mitigation measures or alternatives to the project are included in

the draft SEA. In addition, because SCAQMD has a certified regulatory program, the Environmental Assessment is an appropriate substitute for an EIR or Negative Declaration. Pursuant to CEQA Guidelines § 15252(a)(2)(B) and supported by the environmental checklist (in Chapter 2), if the project would not have any significant or potentially significant effect on the environment, "no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment." Comments received on the Draft SEA during the 30-day public review period will be addressed and included in the Final SEA.

## PROJECT LOCATION

The SCAQMD has jurisdiction over an area of 10,473 square miles, consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and 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 (see Figure 1-1).

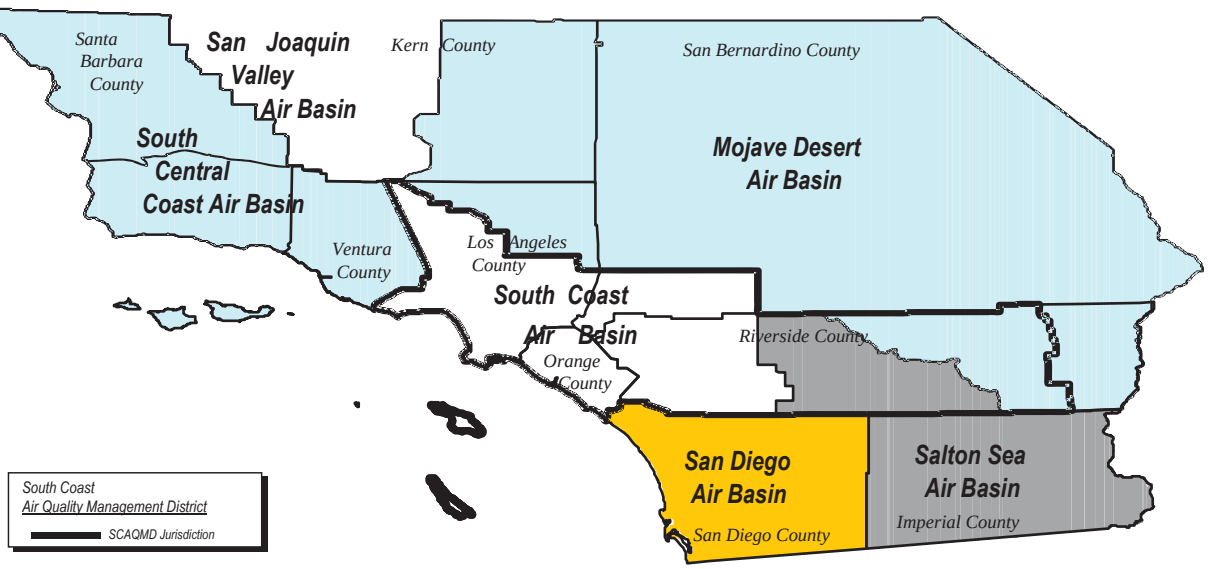


**Figure 1-1 Boundaries of the South Coast Air Quality Management District**

## PROJECT OBJECTIVES

The objectives of PAR 1420.1 are to protect public health by further reducing lead emissions from large lead-acid battery recycling facilities by:

- Reducing the total facility point source emission limit for lead; and
- Clarifying applicability for large lead-acid battery recycling facilities that are closing and closure requirements.

## PROJECT BACKGROUND

### Health Effects of Lead

Lead is classified as a "criteria pollutant" under the federal Clean Air Act. It is also identified as a carcinogenic toxic air contaminant (TAC) by the Office of Environmental Health Hazard Assessment (OEHHA). Chronic health effects include problems such as nervous and reproductive system disorders, neurological and respiratory damage, cognitive and behavioral changes, and hypertension. Also, exposure to lead may increase the risk of contracting cancer or result in other adverse health effects. Young children are especially susceptible to the effects of environmental lead given that their bodies accumulate lead more readily than do adults and because they are more vulnerable to certain biological effects of lead including learning disabilities, behavioral problems, and deficits in IQ.

During the U.S. EPA's recent review of the lead NAAQS the U.S. EPA Administrator concluded that the current lead NAAQS of 0.15 $\mu g/m^3$ should be retained given that it provides requisite protection of public health. However, the Administrator noted that a threshold blood-lead level with which nervous system effects, and specifically, cognitive effects, occur in young children cannot be discerned from the currently available studies. Further, in the U.S. EPA's recent Policy Assessment for the Review of the Lead NAAQS, the U.S. EPA explicitly stated "with regard to our understanding of the relationship between exposure or blood lead levels in young children and neurocognitive effects, the evidence in this review…does not establish a threshold blood lead level for neurocognitive effects in young children. Furthermore, based on information provided in the U.S. EPA's recent policy assessment document and proposed rule, an ambient lead concentration of 0.15 $\mu g/m^3$ correlates to a potential IQ decrement of approximately (2) points in young children exposed to elevated levels of lead.

### Regulatory History

Lead-acid battery recyclers have been subject to environmental air quality regulations for more than two decades. Below is a chronology of regulatory activities:

- In November 1970, CARB set the state ambient air quality standard for lead at 1.5 microgram per cubic meter averaged over 30 days.
- In October 1978, the U.S. EPA adopted the National Ambient Air Quality Standards (NAAQS) for lead requiring attainment with a lead ambient concentration of 1.5 microgram per cubic meter averaged over a calendar quarter.
- In September 1992, the SCAQMD adopted Rule 1420 – Emissions Standard for Lead. The rule incorporated the state ambient air quality standard and required control devices on lead emission points, control efficiency requirements for lead control devices, housekeeping, and monitoring or modeling of ambient air quality.
- In October 1992, OEHHA classified lead as a carcinogenic toxic air contaminant and assigned to it a cancer potency factor and a cancer unit risk factor.

- June 1997, the U.S. EPA adopted the National Emissions Standards for Hazardous Air Pollutants (NESHAP) from Secondary Lead Smelting. The federal regulation required lead emission concentration limits of lead control devices, control of process fugitive emissions, monitoring, recordkeeping, and reporting.
- On July 16, 2007, EPA finalized a regulation that affects lead emissions from all lead-acid battery manufacturing facilities that are area sources. The federal regulation required lead emission concentration limits, testing, monitoring, recordkeeping, and reporting requirements.
- On October 15, 2008, the U.S. EPA signed into regulation an amended NAAQS for lead of 0.15 $\mu g/m^3$.
- November 5, 2010, the SCAQMD adopted Rule 1420.1 – Emissions Standard for Lead from Large Lead-acid Battery Recycling Facilities. The rule established requirements for total enclosures of areas used in the lead-acid battery recycling operation, ambient air lead concentration limits, ambient air monitoring, and housekeeping practices. Additional rule amendments followed the initial adoption in January of 2014, March of 2014, and March of 2015.
- December 14, 2010, the U.S. EPA made final revisions to the ambient monitoring requirements for measuring lead in the air. These amendments expand the nation's lead monitoring network to better assess compliance with the 2008 National Ambient Air Quality Standards for lead.
- January 2, 2015, the U.S. EPA proposed that the ambient lead concentration standard of 0.15 $\mu g/m^3$ averaged over a rolling 3-month period remain unchanged. The 90-day comment period for this proposal ended on April 6, 2015 and requires further action by the U.S. EPA.

The following provides additional background information about Rule 1420 and the 2008 NAAQS for lead.

***Rule 1420***

Rule 1420 was adopted in September 1992 and has not been amended since its adoption. Rule 1420 applies to facilities that process or use lead-containing materials that include, but is not limited to, primary or secondary lead smelters, foundries, lead-acid battery manufacturers or recyclers, and lead-oxide, brass and bronze producers. Rule 1420 is based on the current state ambient air quality standard of 1.5 $\mu g/m^3$ averaged over a 30-day period. The rule includes requirements for point source controls, monitoring, sampling, recordkeeping, and reporting. Rule 1420 requires facilities that process more than two tons of lead per year to submit a Compliance Plan that provides information on how the facility will conduct monitoring, air dispersion modeling, and implement requirements to install and implement point source controls.

***2008 NAAQS for Lead***

Since U.S. EPA established the initial standard of 1.5 $\mu g/m^3$ in 1978, scientific evidence about lead and health has expanded dramatically. More than 6,000 new studies on lead health effects, environmental effects, and lead in the air have been published since 1990. Evidence from health studies shows that adverse effects occur at much lower levels of lead in the blood than previously thought. As a result, U.S. EPA amended the NAAQS for lead that now reduces the ambient air quality standard from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$. The 2008 lead NAAQS requires full attainment by each state no later than five years after final designations for attainment status are made. Demonstration of attainment is based on measurements using a rolling 3-month averaging form to

be evaluated over a 3-year period. Measurements are to be determined by U.S. EPA-required monitoring networks within each state which consist of both source-oriented and non-source-oriented monitors. The SCAQMD has already established the required monitoring network for both source and non-source-oriented lead monitors.

Further, in May of 2014, the U.S. EPA released its "Policy Assessment for the Review of the Lead National Ambient Air Quality Standards," reaffirming the primary (health-based) and secondary (welfare-based) staff conclusions regarding whether to retain or revise the current standards. As a result, in January of 2015 the U.S. EPA proposed that the ambient lead concentration standard of 0.15 $\mu g/m^3$ averaged over a rolling 3-month period remain unchanged. The 90-day comment period for this proposal ended on April 6, 2015 and requires further action by the U.S. EPA.

The SCAQMD Governing Board has authority to adopt PAR 1420.1 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40702, 40725 through 40728, 41508, 41700 and 41706.

**Compliance Determination-Monitoring**

The demonstration of attainment of the lead standard is to be based on measurements using a rolling 90 day averaging form to be evaluated over a three-year period. Measurements are to be determined by EPA-required monitoring networks within each state which consist of both source-oriented and non-source-oriented monitors. The SCAQMD has already established the required monitoring network for both source and non-source-oriented lead monitors. Since 2012, the District has not exceeded the federal lead standard.

Ambient air lead concentrations are determined through use of high-volume total suspended particulate samplers placed throughout the South Coast Air Basin and at both upwind and downwind locations of the facilities where maximum ambient concentrations are expected. They measure lead and arsenic concentrations in the ambient air over a midnight-to-midnight, 24 hour period.

Point source emission rates are determined by source tests to demonstrate compliance with the mass emission standards specified in the rule. They are "snapshots" of the efficiency of the control equipment and are conducted when the equipment is installed and annually or biannually thereafter. The tests are conducted in accordance with SCAQMD, CARB or EPA test methods.

**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 SCAQMD: Exide Technologies and Quemetco Inc. Exide Technologies is located in Vernon (Los Angeles County) and Quemetco, Inc. is located in the City of Industry (Los Angeles County).

As discussed further below, Exide is in the process of permanently closing their facility. As a result, the point source limit of PAR 1420.1 will only be applicable to Quemetco because Exide is no longer in operation. In addition, although the closure provisions will be applicable to both facilities, they are immediately applicable to Exide and will be analyzed in that context. It is assumed that the closure analysis for Quemetco would be similar.

**Closure of Exide Technologies In Vernon, CA**

On April 7, 2015 Exide Technologies withdrew their California Department of Toxic Substance Control (DTSC) permit application and provided notification of its intent to permanently close. On May 15, 2015, Exide Technologies submitted a revised Closure Plan to DTSC. The Closure Plan provides a detailed status of the facility and contains decontamination and demolition plans. The Closure Plan also includes groundwater monitoring information, engineering controls, waste characterization, and air monitoring plans. The Closure Plan is separate from, but is occurring simultaneously with, the DTSC Corrective Action imposed on Exide. The Corrective Action requires off-site cleanup of nearby residential and industrial areas, as well as cleanup of on-site contaminated groundwater.

Based on the Closure Plan submitted to DTSC, Exide's closure is expected to occur in three phases. The first phase will involve the removal of inventory, equipment decontamination and removal, decontamination and deconstruction of buildings, and soil sampling. Exide expects to implement dust mitigation measures and will retain a third-party environmental consultant to monitor and document implementation of those measures and to conduct real-time air monitoring. Exide plans to continue operating emission air pollution control equipment to maintain negative pressure on associated buildings while the inventory is removed and gross cleaning of duct work is complete. Once the duct work has been removed up to the emission control equipment, the ducts shall be blinded and the interior of the equipment cleaned following manufacturer's operating procedures. For internal, decontamination of structures, it will be done under negative pressure by vacuum cleaning vented to HEPA filters and then pressure washing. The Closure Plan requires that any decontamination of the exteriors of structures must occur within a temporary enclosure (e.g., scaffolding enclosed with plastic) with negative pressure. The most recent revision of the Closure Plan does not require that roofs have temporary enclosures while they are decontaminated and deconstructed. SCAQMD staff commented on this Closure Plan requesting that this provision be included in the Final Closure Plan. This Draft SEA evaluates the construction of a temporary enclosure above the facility roofs during external decontamination as part of this project in the event that the Final Closure Plan does not include this requested provision.

Phase 2 will address potential below-grade decontamination. These additional activities may require the removal of contaminated soil beneath the concrete floor at the closure areas; capping and installation of boundary markers where contaminated soils are left in place; and development of a deed notice/land use covenant. The scope of Phase 2 will be determined using data generated during Phase 1 and may be influenced by data generated during the Corrective Action. Generally areas will be excavated to a depth of five feet in and around structures. Dust control measures such as temporary enclosures and water will be used during floor removal and excavation activities. The temporary enclosure will remain in-place and/or the area will be covered until the excavation is complete.

When Phase 1 and Phase 2 are completed, the facility will submit certification by both the facility and an independent, qualified engineer registered in the State of California within 60 days of the completion of final closure, to DTSC, SCAQMD and the City of Vernon. This certification will state that the facility has been closed in accordance with the approved closure plan. Phase I of the closure is expected to commence March 2016 and be completed by May 2018. Phase II is scheduled for completion by June 2020.

Phase III (ongoing) would include post-closure and contingent post-closure work to implement long-term inspections, monitoring, and maintenance. Phase III is scheduled to last until 2049.

**Ambient Air Monitoring**

The affected facilities have several air monitors throughout their sites. These monitors are used to determine compliance with the ambient concentration limits. They measure lead and arsenic concentrations in the ambient air over a midnight-to-midnight, 24 hour period. See Figure 1-2 and for Figure 1-3 Exide and Quemetco's Ambient Monitoring Locations, respectively.

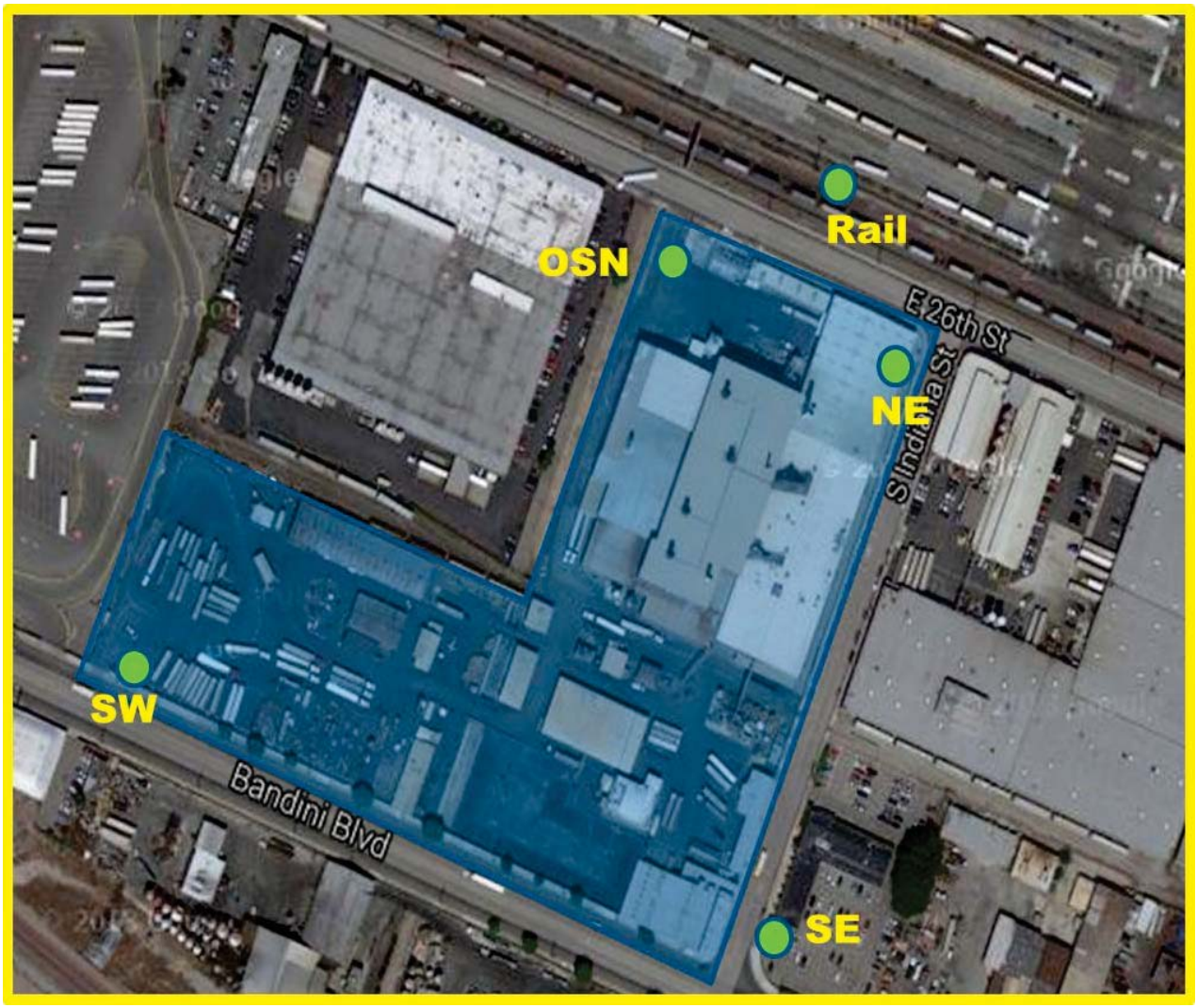


**Figure 1-2 Exide's Ambient Monitoring Stations**

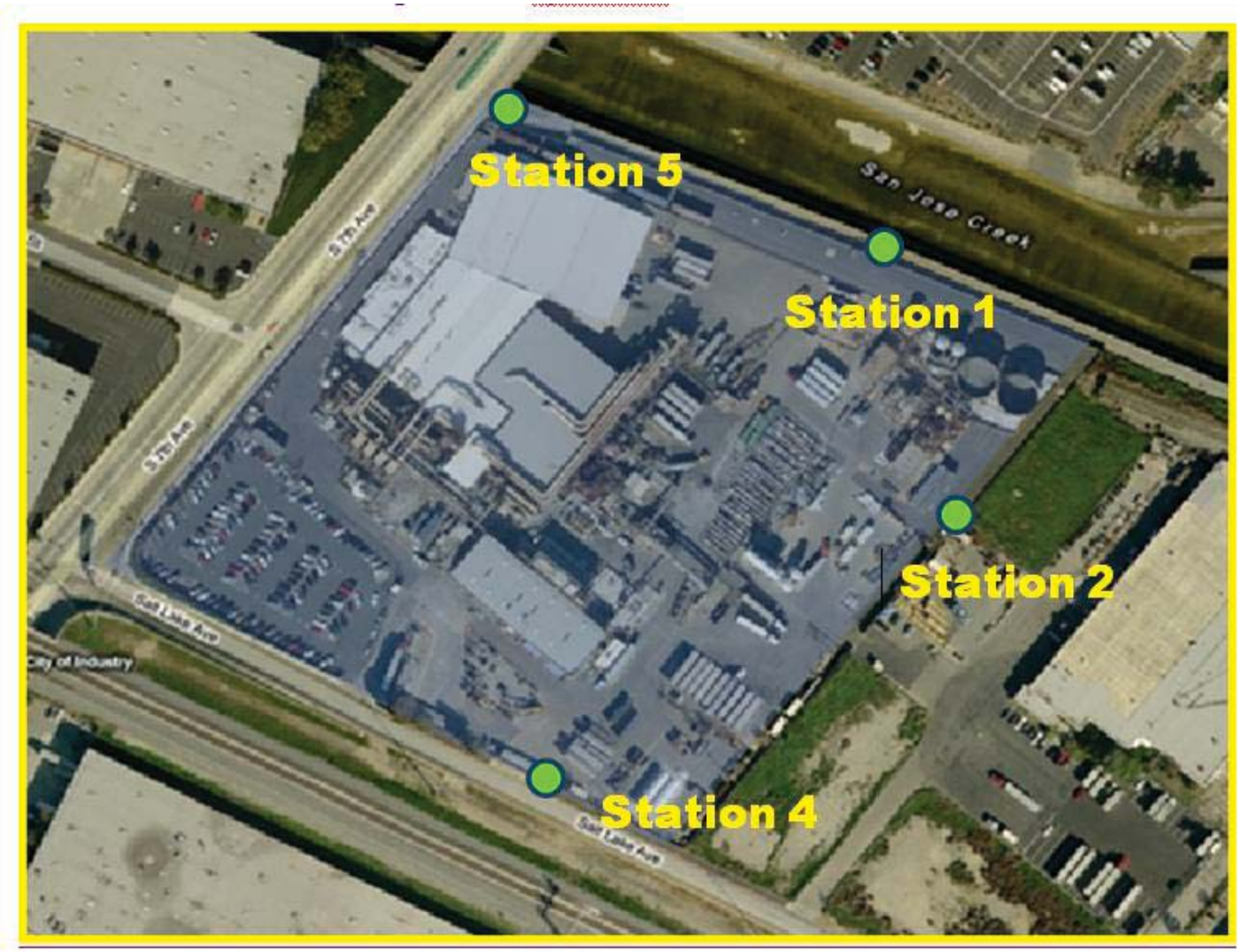


Figure 1-3 Quemetco's Ambient Monitoring Stations

## Overview of Existing 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. Figure 1-4 is a Simplified Flow Diagram of the Process. Below is a general description of the lead recycling process at the affected facilities including potential lead emission points:

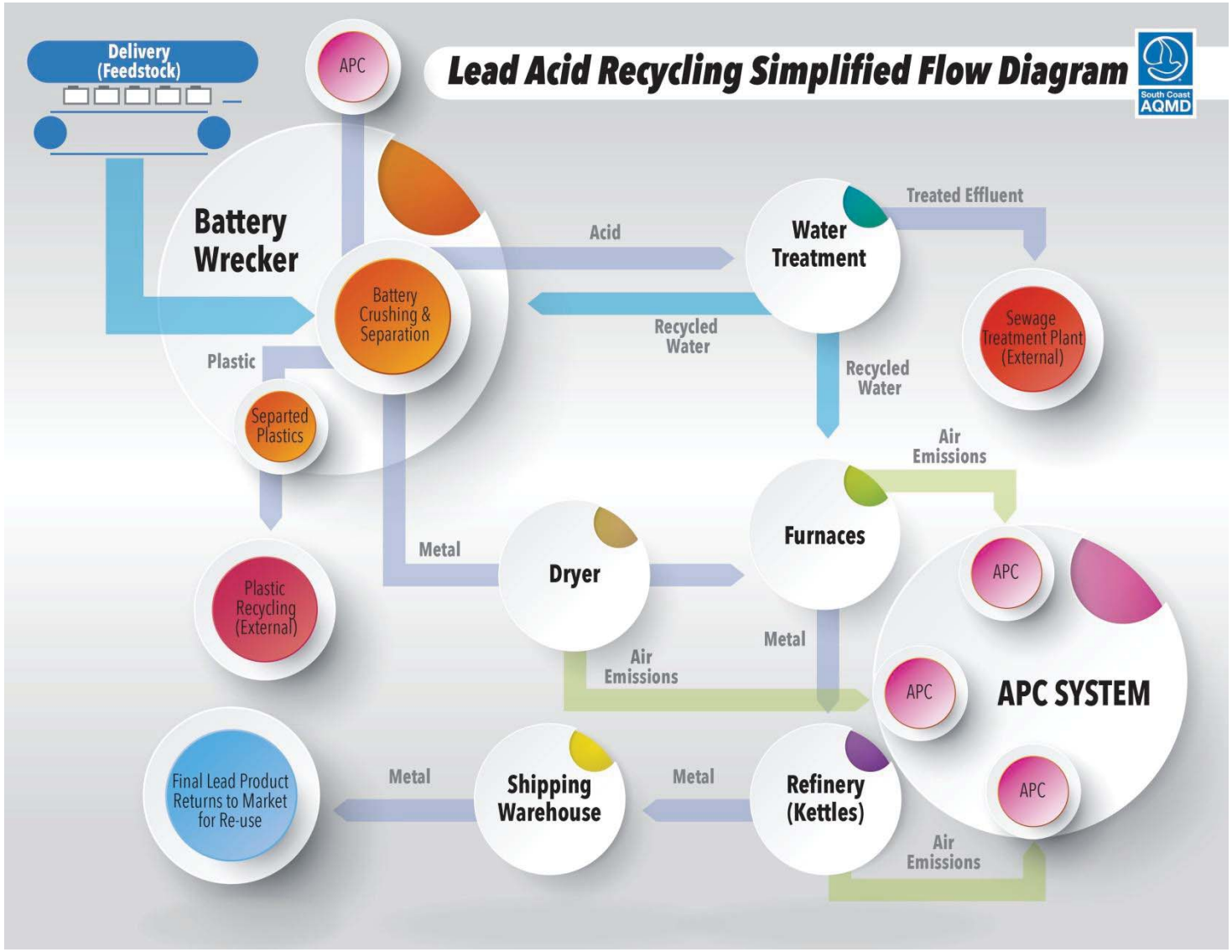


**Figure 1-4-Lead Acid Recycling Simplified Flow Diagram**

**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, other lead-bearing items are also sometimes processed (e.g., steel-cased batteries).

**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.

**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.

**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.

**Cupola (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 contain 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-butadiene 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 SCAQMD 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-butadiene 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.

## 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 project description.

**Subdivision (a) – Purpose**
No change.

**Subdivision (b) – Applicability**
The proposed rule will clarify that applicability covers lead-acid battery recycling facilities during closure activities. PAR1420.1 applies until the proposed closure requirements in paragraph (p)(4) are satisfied. Continued compliance with the rule is necessary to ensure that attainment with the lead NAAQS will be maintained and that surrounding communities suffer no degradation in air quality during closure, including demolition, cleanup and decontamination activities.

**Subdivision (c) – Definitions**
No change.

**Subdivision (d) – General Requirements**
No change.

**Subdivision (e) – Total Enclosures**
No change.

**Subdivision (f) –Point Source Emissions Controls**
Effective September 4, 2015, the total facility mass lead emissions from all sources will be reduced from 0.023 pounds per hour to 0.003 pounds per hour.

**Subdivision (g) – Compliance Plan**
No change.

**Subdivision (h) – Housekeeping Requirements**
No change.

**Subdivision (i) – Maintenance Activity**
No change.

**Subdivision (j) –Ambient Air Monitoring Sampling Requirements**
No change.

**Subdivision (k) – Source Tests**
PAR 1420.1 will eliminate the biennial source test option for facilities that demonstrate a lead point source emission rate of 0.0012 lb/hr or less. The proposed rule will require annual source testing for point sources that emit lead.

**Subdivision (l) – New Facilities**
No change.

**Subdivision (m) – Recordkeeping**
No change.

**Subdivision (n) – Reporting**
No change.

**Subdivision (o) – Curtailment Requirements**
Effective upon adoption of PAR 1420.1, the first tier of the total facility mass emission rate for process curtailments in Table 2 of subparagraph (o)(2) will be reduced to coincide with the proposed reduction of total facility lead point sources emission rate under subparagraph (f)(1)(A) from 0.023 lb/hour to 0.003 lb/hour.

**Subdivision (p) – Large Lead-Acid Battery Facility Closure Requirements**
PAR 1420.1 includes provisions for lead-acid battery recycling facility owner and operators to ensure no degradation to air quality occurs during facility closure activities such as demolition, decontamination, and cleanup. Facility closure entails permanently stopping production and notifying the Execution Officer in writing that the facility will no longer be in operation.

In the proposal, facilities that are closing will be required to submit a Compliance Plan for Closure Activities and continue conducting daily lead and arsenic ambient monitoring (paragraphs (d)(1), (d)(5) and (d)(6)). The Compliance Plan for Closure Activities would be submitted in advance of decontamination and demolition actions taking place. It would specify the housekeeping and maintenance measures to be taken to prevent lead or arsenic ambient exceedances. The facility can tailor the plan to address specific decontamination or demolition procedures. For example, the plan could include building washing provisions while the building remains intact but discontinuing building washing provisions once the buildings have been demolished. The plan is expected to be updated as closing activities proceed to provide added flexibility. The plan would also require that contingency provisions be included that can be implemented in the event there is an exceedance of the lead or arsenic ambient concentrations. These contingency plans would likely be additional housekeeping and maintenance measures such as increased frequency of washing, sweeping and vacuuming as well as specific measures for demolition-related emissions.

If the lead or arsenic ambient concentrations exceed rule requirements, all closure related activities that contributed to the exceedance shall be suspended until contingency measures in the Approved Compliance Plan for Closure Activities can be implemented. If the exceedance is due to a previously unidentified activity for which the contingency measures do not address, then a revised Compliance Plan for Closure Activities will be required to be submitted and approved by the Executive Officer before closure related activities that contributed to the exceedances resume. While the revised plan is not intended to be as comprehensive as Compliance Plan for Closure Activities, it is necessary to address the cause of the exceedances prior to resuming to ensure that attainment with the lead NAAQS will be maintained and that surrounding communities suffer no degradation in air quality.

Facilities will be required to continue monitoring and abiding by the Compliance Plan for Closure Activities until the lead-acid battery recycling facility has surrendered all air permits to the Executive Officer, submitted DTSC-approved certification of final closure to SCAQMD, receives written confirmation from the Executive Officer that final closure has been verified and there are no exceedances of ambient lead or arsenic concentrations for 12 consecutive months, with at least one month occurring on or after the date of submittal of certification of final closure.

**Subdivision (q) – Exemption**

An exemption has been included in PAR 1420.1 to specify which provisions of the rule do not apply to a facility that has permanently ceased production and notified the Executive Officer in writing that the facility is permanently closing. If the facility has ceased production, point source emission rate limits, operational Compliance Plans, source testing and curtailment requirements are no longer necessary.

**Subdivision (r) – Severability**

No change.

**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**

No change.

## EMISSIONS CONTROL TECHNOLOGIES

### Existing Controls

The impacted facilities are secondary lead smelting operations where spent automotive and other lead-bearing materials are processed to recover lead, plastics and acids. The process generally involves the sorting, smelting and refining of raw materials for the purpose of producing lead ingots. Lead, arsenic and other toxic or criteria pollutant emissions are vented directly to air pollution control equipment, captured in building enclosures and then vented to air pollution control equipment or are fugitive emissions that do not get captured by air pollution control equipment and come into contact with ambient air.

Quemetco uses baghouses or filter systems to control arsenic and lead emissions from process operations and building enclosures. Quemetco vents all the exhaust from particulate control to a centralized wet electrostatic precipitator (WESP). In addition, Quemetco has a regenerative thermal oxidizer (RTO) and scrubber. It is anticipated that the proposed rule will not result in any additional control devices or physical changes at Quemetco.

Exide vents particulate emissions to a variety of secondary, tertiary and even quaternary control devices. These devices include high efficiency particulate arrestors, cyclones, scrubber and thermal oxidizers. During facility closure, it is anticipated that Exide will continue to operate the negative air pressure enclosures to reduce the fugitive dust emissions from closure activities for as long as possible, at least until after all internal and external surfaces have been decontaminated and the structures themselves need to be demolished.

### Compliance with PAR 1420.1

With respect to the facility point source limit in PAR 1420.1, existing lead point source tests demonstrate that Quemetco is already complying with the new proposed limit (0.003 lb/hr) for lead. Exide is in the process of closing their facility and the limit will not have an impact on its operations. Therefore, no additional point source emission control strategies are anticipated at either affected facilities.

With respect to the proposed closure requirements of PAR 1420.1, fugitive emissions 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. Both facilities currently employ a variety of housekeeping and containment strategies to minimize fugitive emissions. Based on existing Rule 1420.1 requirements and strategies used by the facilities, fugitive emissions are controlled through use of total enclosures with negative air pressure that are vented to pollution control devices, procedures for containment during maintenance activities, and a number of housekeeping provisions. During facility closure, PAR 1420.1 will require continued compliance with these housekeeping and monitoring requirements. A Compliance Plan for Facility Closure would additionally require identification of more specific measures (include housekeeping, maintenance, continued use of total enclosures and possibly other measures to minimize fugitive dust emissions) directed at specific closure activities anticipated by the facility.

## Ambient Source Control Strategies for Lead

### Fugitive Lead-Dust Control

Fugitive lead-dust at lead-acid battery recycling facilities can be a major source of lead emissions. Fugitive lead-dust accumulates in and around process areas, from lead point sources,

on roof tops, in and around facility, and during maintenance operations to name a few. There are a variety of housekeeping and containment strategies that can be implemented to minimize fugitive lead dust. Housekeeping activities must be implemented frequently and properly to ensure they are effective. The concept behind many of these strategies is to either contain or remove lead dust so it cannot become airborne. Housekeeping practices specifying adequate frequencies and locations for all cleanings to be performed are also critical in the effectiveness to control fugitive lead-dust emissions. The following summarizes some potential fugitive lead dust control strategies:

- Paving or using chemical stabilizers or water on unpaved areas subject to vehicular and foot traffic;
- Cleaning of paved areas through vacuuming, vacuum sweepers, and use of wet suppression;
- Wet washing or vacuuming of areas such as roof tops and lead storage and disposal areas where lead particulate can accumulate;
- Cleaning (i.e. sweeping, vacuuming, dusting) areas where lead dust may accumulate due to accidents, process upsets or equipment malfunctions;
- Using enclosures or containment areas during maintenance activities or storage of lead-containing materials; and equipment;
- Using total enclosures under negative air pressure vented to point lead point source controls to ensure that lead dust that accumulates in and around process areas does not become fugitive;Using a vehicle wet washing station that removes dust and other accumulated material from the wheels, body, and vehicle underside and prevents the inadvertent transfer of lead contaminated material to public roadways. The stations are used by all vehicles traversing facility areas associated with the lead-acid battery recycling process prior to exiting the facility and onsite mobile sweepers after operation. Ground surfaces where vehicles are washed could be required to be wet washed prior to the vehicle wet washed areas becoming dry to prevent any fugitive lead-dust or residue from becoming airborne. Practices that minimize the potential for further releases of lead emission when collecting and disposing of lead contaminated water accumulated during washing processes would be required. Practices would include the minimization of the amount of water which is allowed to dry exposed to the atmosphere prior to collection for treatment.

# CHAPTER 2

**Introduction**

**General Information**

**Environmental Factors Potentially Affected**

**Determination**

**Discussion and Evaluation of Environmental Checklist**

## 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: | Michael Morris, (909) 396-3282 |
| CEQA Contact Person: | Cynthia Carter, (909) 396-2431 |
| 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 further protect public health by reducing lead emissions produced by large lead-acid battery recycling facilities. PAR 1420.1 would accomplish this by lowering the total facility lead point source limit to 0.003 pounds per hour, ,clarify that the rule applies during closure, and include new provisions to ensure lead and arsenic emissions are appropriately controlled during closure and clean-up activities, and thereafter. The environmental analysis in the Draft SEA concluded that PAR 1420.1 would not generate any significant adverse environmental impacts. PAR 1420.1 would affect two facilities that are on lists of California Department of Toxics Substances Control hazardous waste facilities per Government Code §65962.5 (http://www.envirostor.dtsc.ca.gov/public; accessed on June 17, 2015). |
| Surrounding Land Uses and Setting: | Large industrial/commercial facilities recycling lead-acid batteries |
| Other Public Agencies Whose Approval is Required: | None |

## 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 a SUBSEQUENT 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. A SUBSEQUENT 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 a SUBSEQUENT 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. A SUBSEUQUENT 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:** July 21, 2015 **Signature:** Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor, CEQA Section
Planning, Rules, and Area Sources

## DISCUSSION AND EVALUATION OF ENVIRONMENTAL IMPACTS

The environmental impacts associated with the current requirements in Rule 1420.1 have already been analyzed in previous CEQA documents prepared for the rule. The Draft SEA analyzes all closure (and post-closure) impacts from the proposed amendments, however this is a conservative approach as some closure provisions in this rule amendment are just a clarification that current provisions apply through closure. The analysis contained herein only focuses on the environmental impacts which would result from the proposed amendments to the rule (such as the lower total facility point source limit for lead, and facility closure requirements). The objective of PAR 1420.1 is to further reduce the public's exposure to lead that is associated with lead emissions from large lead-acid recycling facilities. PAR 1420.1 is establishing more stringent requirements for these facilities. One of the key components of PAR 1420.1 is reducing the total facility lead point source limit and incorporating closure requirements (see Chapter 1- Project Description for a thorough discussion on the proposed rule requirements). Based on existing lead point source tests, Quemetco is already complying with the proposed rule's total facility point source limit (0.003 lb/hr) for lead and no further actions are necessary. Additionally, Exide is in the process of closing their facility. See Table 2-1 for details that the lower point source limit is already being met by both facilities.

**Table 2-1 Lead Point Source Test Results**

| | Facility | |
|---|---|---|
| | Quemetco[2] | Exide |
| Lead Point Source Emission Rate (lb/hr) | 0.000341 | N/A[3] |
| PAR 1420.1 New Point Source Limit (lb/hr) | 0.003 | 0.003 |
| Compliance with New Limit? | Yes | N/A |

There will be no physical changes at Quemetco. Exide will be in the process of demolishing their facility for the next few years. In order for Exide to comply with PAR 1420.1 during closure, Exide will continue their current monitoring and some housekeeping and maintenance activities, as well as maintain the total enclosures or construct temporary total enclosures on-site.

For the purpose of the CEQA analysis, reasonable worst-case assumptions have been made. With respect to the lower facility lead point source limit, Quemetco is already complying with the proposed lower total facility lead point source limit and Exide is no longer operational and is starting the closure process. Thus, no impacts are expected for either affected facilities from this provision in PAR 1420.1.

With respect to the additional closure requirements in PAR 1420.1, they will apply to both facilities. Currently, Quemetco continues to operate while Exide is in the process of facility closure. Therefore, this analysis considers the impacts from closure of one facility at a time since concurrent closure of both facilities is not expected. It is anticipated that each facility will have to submit a closure plan to DTSC at which time, the environmental impacts associated with the closure plan will be addressed through a separate CEQA document. Therefore, this CEQA document only focuses on the environmental impacts associated with the closure requirements in PAR 1420.1. During closure, PAR 1420.1 will require the affected facilities to continue the

[2] Quemetco Source Test Results, 2/2014
[3] Exide is in the middle of closing their facility.

ambient air monitoring and total enclosure provisions until the closure is completed and submit a Compliance Plan for Closure Activities. The plan is expected to include continued use of total enclosures for as long as possible, at least until after all internal and external surfaces have been decontaminated and the structures themselves need to be demolished, then temporary enclosures would be built, as well as housekeeping and maintenance requirement similar to those currently in the rule but allowing flexibility to accommodate decontamination and demolition activities. The Closure Plan requires that any decontamination of the exteriors of structures must occur within a temporary enclosure (e.g., scaffolding enclosed with plastic) with negative pressure. The environmental analysis below conservatively includes the potential impacts from constructing these temporary enclosures even though they are part of another project subject to CEQA (i.e. DTSC's Closure Plan). The analysis below also includes an analysis of construction of temporary enclosures on the roof of the facility as a reasonably foreseeable component of this Rule amendment as it is not clear if the Closure Plan will include this provision.

Although the facilities are already complying with the provisions in the rule and those emissions are considered present in the CEQA baseline, these activities would extend until the facility completes the closure requirements. Therefore, operational impacts associated with continuing the applicable monitoring, housekeeping, and maintenance provisions, and total enclosure requirements during the closure process are analyzed here. In the event that ambient air concentrations during facility closure exceed the rule thresholds and triggers contingency measures, it is anticipated that in order to reduce emissions, the facility will enhance the housekeeping provisions by adding more workers to increase the frequency of washing and vacuuming performed on-site. For the purpose of analyzing potential environmental impacts, as a reasonable worst case assumption, it is assumed that the facility will add 8 construction workers per day, if a compliance plan is triggered.

**Table 2-2 CEQA Summary of Fugitive Emissions Control Options During Facility Closure**

| Key Requirements | Potential Environmental Impacts | Environmental Topics to be Analyzed: |
|---|---|---|
| Ambient Air Monitoring* | Construction: None<br>Operation: Collect Filters, Analyze Samples | Air Quality, Energy |
| Total Enclosure Under Negative Air Pressure | Construction: Temporary Enclosures<br>Operation: None | Air Quality, Energy, Hazardous Material, Solid Waste, Transportation |
| Housekeeping Requirements | Construction: None<br>Operation: Mobile Sweepers, Area washing, Haul waste, Wastewater, Roof washing, Water Tank Truck, Wheel Washing Station | Air Quality, Energy, Hazardous Material, Hydrology, Solid Waste, Transportation |
| Maintenance Requirements | Construction: None<br>Operation: Water use | Air Quality, Hydrology &Water Quality |
| Contingency Measures | Construction: None<br>Operation: Enhanced housekeeping measures will require additional workers; Additional water usage | Air Quality, Energy, Hydrology &Water Quality, Population & Housing, Transportation |

**Air monitoring is required under the existing 1420.1 but has been included here as the proposed Rule amendment clarifies how monitoring will occur during closure activities.*

The stop work provisions of the rule are also not expected to have any significant impacts. These provisions are specifically designed to minimize the release of fugitive emissions. Although the provisions may have an impact on the schedule set forth in the DTSC/Exide Closure Plan, DTSC has advised that modifications to the closure plan are anticipated, but the environmental impacts from those modifications would be less than what is analyzed within this Draft SEA and/or DTSC's CEQA document; and DTSC expects and supports a stopping of closure activities if ambient exceedances are occurring. These facts further support a finding of less than significant impacts.

There are other housekeeping and maintenance provisions that do not have a quantifiable environmental impact; such as 5 mph speed limit, covered trash containers, storage of fugitive lead dust waste, inspection of enclosures, cleaning and storage of maintenance equipment, and transport in closed conveyor systems. Other rule language changes are administrative in nature and no environmental impacts would be expected.

# ENVIRONMENTAL CHECKLIST AND DISCUSSION

## I. AESTHETICS.

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

**Significance Criteria**

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

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

**Discussion**

**I. a) & b)** Both facilities are located in industrial areas. Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be needed. Exide is no longer operational and is in the process of facility closure. Therefore, no construction of permanent structures is expected at Quemetco or Exide for PAR 1420.1 compliance. Temporary covering of building surfaces would occur during some closure activities; however they would not be inconsistent with the general industrial nature of the surroundings. During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for additional workers. No aesthetics will be affected from these activities.

These facilities are not located near scenic vistas, rock outcroppings, historical buildings or state scenic highways[4].

The additional workers may require the use of vehicles and would be temporary (i.e., taken offsite after construction is finished), and therefore, are not expected to permanently alter the visual character or quality of the site and its surroundings. Therefore, the proposed project would not affect views of the trees from outside of the affected facility and would not significantly affect scenic vistas or damage scenic resources.

**I. c)** No construction of permanent structures is expected at Quemetco or Exide for PAR 1420.1 compliance. Temporary covering of building surfaces would occur during some closure activities; however they would not be inconsistent with the general industrial nature of the surroundings. During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for additional workers. While the additional workers and their vehicles may be visible from outside of the affected property, it would be temporary and not degrade the views seen at adjacent facilities.

Therefore, PAR 1420.1 would not add significant degradation to the existing visual character or quality of the site and its surroundings.

**I. d)** Both affected facilities are twenty-four hour operations. The facilities are also located in industrial areas that are zoned for continuous operation. No construction of permanent structures is expected at Quemetco or Exide for PAR 1420.1 compliance. During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for additional workers. Any additional lighting is expected to be similar to the existing onsite lighting and the surrounding facilities. Therefore, PAR 1420.1 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 these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this Draft SEA. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

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

## II. AGRICULTURE AND FOREST RESOURCES.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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 facilities and surrounding industrial areas are not located on or near areas zoned for agricultural use, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency. Therefore, the proposed project would not result in any construction of new buildings or other structures that would require converting farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Since the proposed project would not substantially change the facility or process at the facilities, 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 facilities are 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 and no mitigation measures are necessary or required.

## III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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 adopting and implementing the proposed project are significant, impacts will be evaluated and compared to the criteria in Table 2-3. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-3 are equaled or exceeded.

To determine whether or not greenhouse gas emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 MT CO2/year threshold for industrial sources for SCAQMD lead agency projects.

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 2-3 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<br>Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million)<br>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**<br>1-hour average<br>annual arithmetic mean | SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>0.18 ppm (state)<br>0.03 ppm (state) and 0.0534 ppm (federal) | |
| **PM10**<br>24-hour average<br>annual average | 10.4 μg/m$^3$ (construction)[e] & 2.5 μg/m$^3$ (operation)<br>1.0 μg/m$^3$ | |
| **PM2.5**<br>24-hour average | 10.4 μg/m$^3$ (construction)[e] & 2.5 μg/m$^3$ (operation) | |
| **SO2**<br>1-hour average<br>24-hour average | 0.25 ppm (state) & 0.075 ppm (federal – 99$^{th}$ percentile)<br>0.04 ppm (state) | |
| **Sulfate**<br>24-hour average | 25 μg/m$^3$ (state) | |
| **CO**<br>1-hour average<br>8-hour average | SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>20 ppm (state) and 35 ppm (federal)<br>9.0 ppm (state/federal) | |
| **Lead**<br>30-day Average<br>Rolling 3-month average | 1.5 μg/m$^3$ (state)<br>0.15 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 Air Quality Management Plan (AQMP) which includes strategies (e.g., control measures) to reduce emission levels to achieve and maintain state and federal ambient air quality standards, and to ensure that new sources of emissions are planned and operated to be consistent with the 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 Clean Air Acts (CAA)s, 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 lead 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)[5] and its 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 lead emissions and therefore, be consistent with the goals of the AQMP, 2012 Lead SIP for Los Angeles County, and the 2010 CCP. Therefore, implementing PAR 1420.1 that further reduces lead 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***

**New Affected Facilities**

SCAQMD staff is not aware of any new large lead recycling facilities planned to be constructed in the future. So the focus of the analysis will be on the two known affected facilities. At this time, construction of new large lead recycling facilities is considered speculative according to CEQA Guidelines §15145 and will not be evaluated further in this analysis.

**Existing Affected Facilities**

Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be constructed or needed.

Exide will need to construct temporary enclosures once their permanent enclosures have been demolished. See Table 2-4 for Construction Emissions and Appendix B for details on assumptions.

[5] SCAQMD Air Toxics Control Plan: http://www.aqmd.gov/home/library/clean-air-plans/clean-communities-plan/air-toxics-control-plan

**Table 2-4 Construction Emissions**

| Pollutant | Temporary Enclosures Emissions | Construction Significance Thresholds | Exceed Significance? |
|---|---|---|---|
| **NOx** | 47 | 100 lbs/day | No |
| **VOC** | 5.8 | 75 lbs/day | No |
| **PM10** | 2.4 | 150 lbs/day | No |
| **PM2.5** | 2.2 | 55 lbs/day | No |
| **SOx** | 0.05 | 150 lbs/day | No |
| **CO** | 22 | 550 lbs/day | No |

***Operational Impacts***

Based on existing lead point source tests, Quemetco is already complying with PAR 1420.1's total facility point source limit (0.003 lb/hr) for lead. There will be no physical changes at Quemetco. Additionally, Exide is in the process of closing their facility. In order for Exide to comply with PAR 1420.1 during closure, Exide will continue the current monitoring, and is expected to continue some housekeeping and maintenance activities, as well as maintain the total enclosures on-site until the building is demolished. Therefore, PAR 1420.1 will not result in construction activities at either of the affected facilities.

For the purpose of the CEQA analysis, reasonable worst-case assumptions have been made: Since Quemetco is already complying with the proposed lower total facility lead point source limit and Exide is no longer operational and is starting the closure process, no impacts are expected for either affected facilities from PAR 1420.1. The additional closure requirements in PAR 1420.1 will affect both facilities during the closure process. Currently, Quemetco continues to operate while Exide is in the process of facility closure. Therefore, this analysis considers the impacts from closure of one facility at a time since concurrent closure of both facilities is not expected. It is anticipated that each facility will have to submit a closure plan to DTSC at which time, the environmental impacts associated with the closure plan will be addressed through a separate CEQA document. Therefore, this CEQA document only focuses on the environmental impacts associated with the requirements in PAR 1420.1 associated with the requirements in PAR 1420.1 that go beyond the DTSC Closure Plan. During closure, PAR 1420.1 will require the affected facilities to continue monitoring, and are expected to continue some housekeeping and maintenance requirements, as well as maintain total enclosures until the closure is completed.

**Table 2-5 CEQA Summary of Fugitive Emissions Control Options During Facility Closure**

| Key Requirements | Potential Environmental Impacts | Environmental Topics to be Analyzed: |
|---|---|---|
| Ambient Air Monitoring* | Construction: None<br>Operation: Collect Filters, Analyze Samples | Air Quality, Energy |
| Total Enclosure Under Negative Air Pressure | Construction: Temporary Enclosures<br>Operation: Blowers | Air Quality, Energy, Hazardous Material, Solid Waste, Transportation |
| Housekeeping Requirements | Construction: None<br>Operation: Mobile Sweepers, Area washing, Haul waste, Wastewater, Roof washing, Wheel Washing Station | Air Quality, Energy, Hazardous Material, Hydrology, Solid Waste, Transportation |
| Maintenance Requirements | Construction: None<br>Operation: Water use | Air Quality, Hydrology &Water Quality |
| Compliance Plan | Construction: None<br>Operation: Enhanced housekeeping measures will require additional workers; Additional water usage | Air Quality, Energy, Hydrology &Water Quality, Population & Housing, Transportation |

**Air monitoring is required under the existing 1420.1 but has been included here as the proposed Rule amendment clarifies how monitoring will occur during closure activities.*

Although the facilities are already complying with the provisions in the rule and those emissions are considered present in the CEQA baseline, these activities will continue until the facility completes the closure requirements. Therefore, operational impacts associated with continuing the operation of APCDs, applicable monitoring, housekeeping and maintenance provisions, and total enclosure requirements during the closure process are conservatively analyzed here even though these activities are part of the current rule and the CEQA baseline activity. In the event that ambient air concentrations during facility closure exceed the rule thresholds and triggers contingency measures, it is anticipated that in order to reduce emissions, it is assumed that the facility will enhance the housekeeping provisions by adding more workers to increase the frequency of washing and vacuuming performed on-site. Since the facility will be in the process of closure, the only construction impacts are from temporary enclosures. Installation of additional pollution control equipment is not anticipated. For the purpose of analyzing potential environmental impacts, it is assumed that the facility will add 8 construction workers per day, if a compliance plan is triggered. The continued operation of the air handling systems and APCDs are expected to be powered by electricity, so no new combustion emissions from these pieces of equipment are expected to be generated. The air quality impacts associated with compliance with PAR 1420.1 are summarized in Table 2-6 SCAQMD Operational Criteria Pollutant Emissions below and do not exceed the SCAQMD thresholds of significance; therefore, impacts are less than significant.

**Table 2-6 SCAQMD Operational Criteria Pollutant Emissions**

| Description | CO, lb/day | NOx, lb/day | VOC, lb/day | SOX, lb/day | PM10, lb/day | PM2.5, lb/day |
|---|---|---|---|---|---|---|
| Heavy-Duty Sweeper[a] | 0.89 | 2.69 | 0.46 | 0.44 | 0.49 | 0.39 |
| Aerial Lift Delivery | 0.96 | 3.06 | 0.24 | 0.00 | 0.15 | 0.13 |
| Aerial Lift | 1.26 | 2.16 | 0.40 | 0.00 | 0.15 | 0.14 |
| Air Monitor Visit | 0.66 | 0.07 | 0.07 | 0.00 | 0.01 | 0.00 |
| Haul Disposal Trip | 1.50 | 7.00 | 0.30 | 0.01 | 0.21 | 0.15 |
| Water Tank Truck[b] | 0.50 | 2.30 | 0.07 | 0.05 | 0.10 | 0.00 |
| Compliance Plan – Vehicle trips from 8 additional workers | 1.32 | 0.11 | 0.03 | 0.01 | 0.14 | 0.00 |
| **Total Operational Emissions** | **7.09** | **17.39** | **1.57** | **0.52** | **1.25** | **0.82** |
| Significance Threshold | 550 | 55 | 150 | 55 | 75 | 150 |
| Exceed Significance? | No | No | No | No | No | No |

[a] Emissions are from the 2010 and 2015 Final 1420.1 EAs
[b] Emissions are from the 2015 PAR 1420.1 Final EA-street sweeper, assumed same mileage and emission factors.

**Indirect Criteria Pollutant Emissions from Electricity Consumption**

Indirect criteria pollutant and GHG emissions are expected from the generation of electricity to operate new equipment that occurs 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 SEA (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. Under the RECLAIM program, EGFs were provided annual allocations of NOx and SOx emissions that decline annually. For this reason, emissions that may be created from EGFs providing electricity specifically for the proposed project would not increase regional NOx and SOx emissions, since the overall NOx and SOx emissions generated by EGFs would need to remain within the existing regional annual NOx and SOx allocations under the RECLAIM program. Lastly, because the NOx and SOx emissions are limited by the annual RECLAIM allocations, the other criteria pollutants that may be generated from combustion activities associated with electricity generation (e.g., CO, VOC, PM10, and PM2.5) are also limited by stoichiometry, and are already included in the existing setting of the CEQA baseline.

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

The thresholds for cumulative impacts are the same as project-specific thresholds. Based on the foregoing analysis, criteria pollutant project-specific air quality impacts from implementing PAR 1420.1 would not exceed air quality significance thresholds (Table 2-3) and cumulative impacts are not expected to be significant for air quality. 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.

The SCAQMD guidance on addressing cumulative impacts for air quality is as follows: "As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR." "Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."[6]

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

Based on the foregoing analysis, project-specific air quality impacts from implementing the proposed project would not exceed air quality significance thresholds (Table 2-1); therefore, based on the above discussion, cumulative impacts are not expected to be significant for air quality. Therefore, potential adverse impacts from the proposed project 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 existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable.

### III. d) *Toxic Air Contaminants (TAC)*

***Construction***

Construction is only expected at Exide. As toxic emissions from construction of onsite temporary enclosures is expected to be minor and take less than two months, no health risk assessment was

[6] SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4.

conducted pursuant to guidance from the Office of Environmental Health Hazard Assessment (2015)[7], and toxic impacts during construction are less than significant.

***Operation***
The goal of PAR 1420.1 is to ensure the continued reduction from lead and arsenic emissions from large lead-acid battery recycling facilities even as the facilities undergo closure. Therefore, PAR 1420.1 is expected to reduce toxic emissions and will not expose sensitive receptors to substantial concentrations.

Exide
TAC emissions may be generated from diesel exhaust emissions (i.e. heavy-duty trucks). Diesel exhaust particulate is considered a carcinogenic and chronic TAC. However, because their operations have ceased, no more trucks will bring lead-acid batteries for recycling during closure activities. Thus, TAC emissions impacts would be lower than their baseline and will have reduced impacts to nearby sensitive receptors.

Therefore, PAR 1420.1 is not expected to generate significant adverse TAC impacts from construction.

**III. e)** ***Odor Impacts***
No construction is expected to occur on-site at Quemetco. Exide is an industrial facility where heavy-duty diesel equipment (sweepers) and trucks already operate. Therefore, the continued operations of mobile sources are not expected to generate diesel exhaust odor greater than what is already present. In addition, because their operations have ceased, no more trucks will bring lead-acid batteries for recycling during closure activities. Thus, odor impacts would be lower than their baseline. PAR 1420.1 compliance is designed to reduce TAC emissions from large lead battery recycling facilities, which may potentially further reduce odors. 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

[7] Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, Office of Environmental Health Hazard Assessment, 2015.

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.).[8]

**Construction**

No construction is expected at Quemetco. Exide is expected to construct temporary enclosures. Based on the same assumptions made for the construction criteria pollutant estimates, approximately 4,820 metric tons of CO2e would be generated from all construction activity. Amortized over 30 years as prescribed by the SCAQMD Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans[9] adopted by the SCAQMD Governing Board in December 2008, approximately 1 metric tons of CO2e emissions per year (see Appendix B for calculations) would be generated from construction activities over the life of the project.

**Operation**

Quemetco

Quemetco is not expected to have any new GHG impacts for PAR 1420.1 compliance. Any emissions from Quemetco during closure (Quemetco currently has no foreseeable plan to close) would likely be no greater than those occurring at Exide and would also not occur in the same year as Exide's closure. Therefore, any GHG impact from Quemetco would be less than analyzed for Exide.

Exide

The operation of the negative air pressure systems, enhanced measures during maintenance activities and housekeeping, and wheel washer are not expected to generate greenhouse gases as the equipment control emissions has no secondary emissions impacts. However, the operation of the street sweeper, water tank truck, worker vehicles, and haul/delivery trucks may result in the generation of 2,672.5 metric tons of CO2e operational emissions per year. The addition of 2,673.5metric tons of CO2e emissions from construction and operation are less than the SCAQMD significance threshold of 10,000 metric tons per year for CO2e from industrial projects.

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, no further analysis is required or necessary and no mitigation measures are necessary or required.

[8] California Air Resource Board Conversion Table: http://www.arb.ca.gov/cc/facts/conversiontable.pdf

[9] SCAQMD Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds

## IV. BIOLOGICAL RESOURCES.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☑ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☑ |
| c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | ☑ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | ☐ | ☑ |
| e) 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 facilities and the 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 lead 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 existing large lead-acid battery recycling facilities located in an industrial area. PAR 1420.1 is designed to lead emissions which would also reduce emissions both inside and outside the boundaries of the affected 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 (c).

Based upon these considerations, significant adverse biological resources impacts are not anticipated. Therefore, no further analysis or mitigation measures are required or necessary.

## V. CULTURAL RESOURCES.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | ☐ | ☐ | ☐ | ☑ |
| e) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code §21074? | ☐ | ☐ | ☐ | ☑ |

**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)** The existing large lead-acid battery recycling facilities are located in areas zoned as industrial, which have already been greatly disturbed. Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be needed. Exide is no longer operational and is in the process of facility closure. Therefore, no construction is expected at Quemetco for PAR 1420.1 compliance. Exide is expected to construct temporary enclosures. During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for additional workers. 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.

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.

**V. e)** PAR 1420.1 is not expected to require physical changes to a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American Tribe. Furthermore, the proposed project is not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources. For these reasons, the proposed project is not expected to cause any substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code §21074.

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

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

Based upon these considerations, significant adverse cultural resources impacts are not anticipated. Therefore, no further analysis or mitigation measures are required or necessary.

## VI. ENERGY.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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**.

Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be needed. Exide is no longer operational and is in the process of facility closure. Therefore, no construction is expected at Quemetco for PAR 1420.1 compliance. Exide is expected to construct temporary enclosures. During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for additional workers.

**Electricity Impacts**

**Quemetco**

No new energy impacts are expected at Quemetco's facility during its normal operation. If Quemetco closes (it currently has no foreseeable plan to do so), its energy impacts are not anticipated to be any higher than analyzed for Exide below.

**Exide**

During facility closure, compliance with PAR 1420.1 may cause an increase in electricity consumption associated with the continued operation of existing ambient monitoring equipment, housekeeping and maintenance requirements, including the negative air pressure enclosures. Gasoline fuel would be consumed by the vehicles needed for ambient air monitoring sampling, the additional workers should a compliance plan be triggered and haul/delivery truck trips during closure. The following sections evaluate the various forms of energy sources affected by the proposed project.

The five existing air monitors are expected to be electric powered. Air monitors are expected to be powered by electricity service near where the air monitors are placed. An air monitor typically requires 16 amps of service (six amps for the monitor and 10 amps for vacuum pumps), for a total of 211.2 kW -h (5 monitors x 16 amps x 110 voltage x 24 hr)[10].

The California Energy Commission (CEC) latest report showed that Los Angeles Water and Power (LADWP) consumed 25,921 gigawatts (GW) in 2008 with a peak of 5,717 megawatts per hour (MWh) in 2008. The power required to run PAR 1420.1 needs at Exide would be 0.00007 % of the 2008 consumption and 3.6 % of the peak consumption. Therefore, SCAQMD staff concludes that the amount of electricity meet the incremental energy demand associated with PAR 1420.1 would be sufficient not result in a significant adverse electricity energy impact. (See Tables Table 2-7 and Table 2-8 for details.)

**Table 2-7: PAR 1420.1 Additional Electricity Consumption**

| Energy Use | Consumption (kW-h) |
|---|---|
| Blowers for APCD and negative air pressure (100 bhp) @ 1788 kW-h x 10 | 17,880 |
| Air Monitors (5 monitors, 24 hrs/day) | 211.2 |
| **Total** | **18,091** |

**Table 2-8 Electricity Use from PAR 1420.1 Compliance**

| Area | Electricity Use, kW/hr | Electricity Use, MW/year | Area Consumption, GW-H | Area Consumption % | Area Peak Consumption MW-hr | Area Peak Consumption% |
|---|---|---|---|---|---|---|
| LADWP | 18,091 | 158,477 | 25,921 | 7.0E-05 | 5,717 | 3.6 |

**Natural Gas Impacts**

No new natural gas impacts are expected.

[10] Power = (A x V)/1000= (16 amps x 110 voltage)/1000= 1.76 kW x 24 hr = 42.24 kW-hr per monitor.

**Diesel Impacts**

**Construction Diesel Use**
No construction is expected at Quemetco. Exide will need to construct temporary enclosures. See Table 2-9 and Appendix B for details.

**Operational Diesel Use**
No new diesel use is expected at Quemetco for PAR 1420.1 compliance.

Exide
***Diesel Use***
A maximum of two truck trips per day to deliver filters and dispose of additional hazardous material. These trucks would use 24 gallons (40+200 miles ÷ 10 mpg) per event. By assuming two truck trips per week, there will be 104 trucks/yr. The year's total of diesel use will be 1,248 gal/yr.

***Sweeper Diesel Use***
Exide is expected to continue their diesel vehicle sweeping. Diesel use was estimated for the three sweeping events at the affected facility. Diesel use was estimated assuming that sweepers would be nine feet wide, sweep over the entire outside area around the production site (i.e., not around administrative buildings) three times a day with two feet of overlap on the return path as the sweepers travel back and forth. Assuming a ten mile per gallon of diesel fuel efficiency approximately 0.84 gallons of diesel would be consumed on a peak day and 307 gal/yr.

***Aerial Lift Diesel Use***
PAR 1420.1 requires roof washings or vacuuming on either a quarterly or semi-annual basis. The facilities would need to use aerial lifts to reach the roofs. Therefore, only one additional aerial lift diesel-fueled use is expected on any given day. For this analysis, the aerial lifts would be used six hours per day. Diesel fuel use was estimated using a 1.4 gallon per hour fuel consumption from ARB's OFFROAD2007 database. The diesel fuel use from aerial lifts would be 8.4 gallons per day. On a yearly basis, worse-case would be quarterly cleanings facilities would consume 34 gal/yr (8.4 gal/day*4 day/yr).

Roof cleaning may be contracted out, so it is assumed that aerial lifts are delivered. A single heavy-duty diesel truck round trip of 40 miles per day is expected to be required on a peak day. Assuming a ten mile per gallon of diesel fuel efficiency approximately 8 gallons of diesel would be consumed on a peak day. On a yearly basis, worse-case for quarterly deliveries would consume 416 gal/yr (8 gal/day*4 day/yr*13 facilities).

**Gasoline Use**

**Construction Gasoline Use**
No construction is expected at Quemetco. Exide will need to construct temporary enclosures. See Table 2-9 and Appendix B for details.

**Operational Gasoline Use**
No new gasoline usage is expected at Quemetco for PAR 1420.1 compliance.

**Exide**

*Air Monitoring*

One trip per day to visit air monitors, based on average of 80 miles round trip and a 16 mile per gallon fuel efficiency, would consume approximately 5 gallons of gasoline on a peak day; annually would use 1,300 gal/yr (5 gal/day x 5 days/week x 52 weeks).

*Worker Trips*

Additional worker trips may be associated with additional enhanced maintenance activities and housekeeping provisions. It was assumed that 4 additional workers would be required to do the enhanced housekeeping measures (4 additional gasoline-fueled vehicle trips). Assuming a 20 mile round trip, and a 10 mile per gallon fuel efficiency, approximately 8 gallons of gasoline would be used by the additional workers' vehicle trips per day and 2,920 gal/yr .

The 2012 AQMP states that 524 million gallons of diesel and 5,589 million gallons gasoline are consumed per year in Los Angeles County. An additional 1,589 gallons of diesel consumed and 1,308 gallons of gasoline consumed per year of operation is not expected to have a significant adverse impact on fuel supplies. Table 2-9 provides a summary of all the fuel usage impacts.

**Table 2-9 Annual Total Projected Fuel Usage for Operational Activities**

| Type of Equipment | Diesel | Gasoline |
|---|---|---|
| | (gal/yr) | (gal/yr) |
| Construction Phase | 1,915.36 | 320 |
| Delivery/Haul Trucks | 1,248 | N/A |
| Sweeper Vehicles | 307 | N/A |
| Aerial Lifts | 34 | N/A |
| Air Monitoring Vehicle | N/A | 1,300 |
| Worker Trips | N/A | 2920 |
| **Total:** | 3,504 | 4,540 |
| **Year 2012 Projected Basin Fuel Demand (gal/yr)** [a] | 524,000,000 | 5,589,000,000 |
| **Total % Above Baseline** | 0.00066877 | 8.1231E-05 |
| **Exceed Significance?** | **No** | **No** |

[a] Figures taken from Table 3.3-3 of the 2012 AQMP Final EIR

Based upon these considerations, significant adverse energy impacts are not anticipated. Therefore, no further analysis or mitigation measures are required or necessary.

## VII. GEOLOGY AND SOILS.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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)** Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be needed. Exide is no longer operational and is in the process of facility closure. Therefore, no construction is expected at Quemetco for PAR 1420.1 compliance. Exide is expected to construct temporary enclosures. During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for additional workers.

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.

During closure, it is expected that the existing total enclosures would be maintained and operational until the entire closure is ready to be demolished. The existing enclosures would have followed the Uniform Building Code's seismic requirements and PAR 1420.1 is not expected to increase exposure to existing earthquake risk.

**VII. b)** No construction is expected at Quemetco for PAR 1420.1 compliance. Exide is expected to construct temporary enclosures. 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 existing facilities 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. Both affected facilities have existing wastewater treatment systems that would continue to be used even in facility closure, and these systems are expected to have the capacity to support the closure requirements of PAR 1420.1. Sewer systems are available to handle wastewater produced and treated by the affected facilities. Therefore, PAR 1420.1 would 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. Therefore, no further analysis or mitigation measures are required or necessary.

## VIII. HAZARDS AND HAZARDOUS MATERIALS.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | | | | |
| 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 is expected to reduce the amount of lead being emitted into the air. With respect to the closure provisions, PAR 1420.1 requires Exide to continue monitoring, housekeeping and maintenance activities. These requirements are expected to control and reduce fugitives such that the rule is not expected to create impacts in connection with the handling of hazardous wastes. In addition, PAR 1420.1 specifically requires that a facility cease all closure activities if there is an exceedance of an arsenic or lead ambient concentration limit.

The stop work provisions of the rule are also not expected to have any significant impacts. These provisions are specifically designed to reduce the release of fugitive emissions. Although the provisions may have an impact on the schedule set forth in the DTSC/Exide Closure Plan, DTSC has advised that modifications to the closure plan are anticipated, but the environmental impacts from those modifications would be less than what is analyzed within this Draft SEA and/or DTSC's CEQA document; and DTSC expects and supports a stopping of closure activities if ambient exceedances are occurring. These facts further support a finding of less than significant impacts.

Spent lead is already transported for treatment offsite and out of the Basin. Therefore, no new significant hazards are expected to the public or environment through its routine transport, use and disposal.

Lead in water is not considered volatile. The wastewater systems require secondary containment in the case of an upset to prevent the release of the lead containing water. Therefore, compliance with 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

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 Quemetco and Exide. 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). Both PAR 1420.1 affected facilities are on the Cortese List as presented in the ENVIROSTOR[11] database.

Since no earth moving or grading is expected at either Quemetco or Exide, no additional hazards from soil disturbances are expected.

During closure, PAR 1420.1 requires Exide to continue the ambient monitoring, housekeeping and maintenance provisions in the rule, which includes the operation of total enclosures under negative air pressure until the building is demolished. Compliance with PAR 1420.1 will reduce the emissions of potentially toxic fugitive dust from the facility during closure.

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 Exide 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)** Exide is not near any airports or private airstrips. Quemetco is within six miles of the El Monte Airport. PAR 1420.1 would result in the reduction of lead emissions during operation and facility closure. Secondary TAC emissions from the proposed project were addressed in the Air Quality section of this Draft SEA 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 already has an emergency response plan in place. The addition of air pollution control equipment and possible replacement of the storm water retention pond with

[11] http://www.envirostor.dtsc.ca.gov

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 affects facilities located in highly developed areas and are not 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 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 facilities (specifically because such areas could allow the accumulation of fugitive 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 facilities associated with the proposed project.

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

## IX. HYDROLOGY AND WATER QUALITY.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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 | ☐ | ☐ | ☑ | ☐ |

| | | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| Would the project: | | | | | |
| | 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? | ☐ | ☐ | ☐ | ☑ |
| 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 | ☐ | ☐ | ☐ | ☑ |

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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**

The two existing affected facilities have on-site wastewater treatment operations. For Exide, during closure, they plan on using their existing wastewater treatment or have a portable wastewater treatment system to comply with the publicly owned treatment works (POTW) permits. Exide is also in the process of reevaluating their POTW permits. The wastewater systems at both facilities treat process water and storm water before it is discharged to the POTWs. The discharged water must comply with existing lead water quality standards.

No construction is foreseeable at Quemetco and Exide will require construction of temporary enclosures including scaffolding and plastic sheeting. However, Exide would have water impacts from PAR 1420.1's maintenance activities and housekeeping measures. The following sections discuss the water impacts in detail.

**IX. a)** PAR 1420.1 would not alter any existing wastewater treatment requirements of the Los Angeles County Sanitation District (LACSD) and Regional Water Quality Control Board or otherwise substantially degrade water quality that the requirements are meant to protect the environment. Although the amount of water used by Exide may increase, all of the storm water and wastewater from the facility would still be required to be treated by the onsite wastewater treatment.

Discharge concentrations are currently and would continue to be limited by the Industrial Wastewater Discharge Permit.[12] Exide's Hazardous Waste Facility Permit states that any wastewater that does not meet the discharge concentrations set by the LACSD would have to be cycled through the treatment plant until the discharge criteria is met or discharged as hazardous waste.[13] Since wastewater from the facility is treated in an on-site wastewater treatment facility, heavily regulated, and enforced, no change in the water quality of the discharge is expected.

**IX. b)** PAR 1420.1 would not require the use of groundwater. The facilities use potable water that is treated in their respective on-site wastewater treatment, reused, and then directed to the sanitary sewer. Therefore, it would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

**IX. c) & d)** No physical changes are expected at either facility in order to comply with PAR 1420.1 which will alter the existing drainage pattern, storm water collection or wastewater treatment of either facility.

Therefore, PAR 1420.1 is a project that is not expected to have significant adverse effects on any existing drainage patterns, or cause an increase rate or amount of surface runoff water that would exceed the capacity of the facilities' existing or planned storm water drainage systems.

**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. Hence, 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 significant 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 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 facilities are located on flat land far from the ocean.

**IX. g)** The proposed project is not expected to generate significant water use or wastewater generation (see IX. h). PAR 1420.1 will not significantly affect the facilities' water and

[12] According to Los Angeles County Sanitation District- (June 28, 2013).

[13] Exide Technologies, Hazardous Waste Facility Permit, Attachment "A", 2006, www.dtsc.ca.gov/HazardousWaste/Projects/upload/Exide_dPermit.pdf

wastewater generation. Therefore, no additional water or waste water treatment facilities are expected nor any planned expansion of the facilities' existing on-site wastewater treatment system.

**Exide**

During closure, Exide is expected to continue operation of the on-site WWTP until such time that the WWTP is not needed. Furthermore, as part of the closure process, Exide will be applying for a NPDES general construction permit. Therefore, 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, new storm water drainage facilities, expansion of existing facilities, or construction of which could cause significant environmental effects. Therefore, no further analysis or mitigation measures are required or necessary.

**IX. h)**

**Construction Impacts**

No construction is expected at Quemetco. Exide will need to construct temporary enclosures. See Table 2-9 and Appendix B for details.

**Operational Impacts**

No new operational impacts are expected for Quemetco.

Exide is also expected to use additional water for the wheel washer station and housekeeping related activities. The wheel washer is expected to use 24 gallons of water per vehicle and a maximum of 30 vehicles per day. The total daily water consumption from the wheel washer station would be 720 gal/day. Currently, Exide fills their one water tank truck approximately 15 times per day, which has a capacity of 3,000 gallons. This equates to 45,000 gal/day of water per day during housekeeping operations[14]. Staff estimates that the housekeeping water usages for PAR 1420.1 compliance will continue. This activity is conservatively added to the project's total water use, however it is already part of the existing setting.

Exide may need a maintenance team to minimize their fugitive dust for the enhanced housekeeping and maintenance requirements. The maintenance team will use water hoses to water down the dust from these activities. SCAQMD staff estimates these activities will result in 200 gal/day.

**Table 2-10: PAR 1420.1 Additional Water Consumption**

| Water Application | Additional Water Usage (gal/day) |
|---|---|
| **Enhanced Maintenance Activities** | 200 |
| **Wheel Washer Station** | 720 |
| **Enhanced Housekeeping Measures** | 45,000 |
| **Total** | **45,920** |
| **Significance Threshold** | 262,820 |
| **Exceed Significance Threshold?** | **No** |

[14] Housekeeping operations include street sweeping, watering, and washing the facility.

Therefore, the total additional use would be 45,920 gal/day of water, which is less than the significance threshold of 262,820 gal/day of potable water and total water demand of more than five million gallons per day (see Table 2-10: PAR 1420.1 Additional Water ). 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.

Thus, the impacts to water are based on a worst case daily water demand from the operational phase of the project.

**IX. i)**

**Quemetco**
No impacts are expected for Quemetco's sewer system.

**Exide**
No significant impacts are expected for Exide's sewer system.

Exide will continue to operate their WWT system during closure. Once the WWT system has been dismantled, Exide plans on having a temporary portable WWT system to comply with their wastewater discharge permits.

Exide has an Industrial Wastewater Discharge Permit with a maximum 310,000 gal/day limit. The daily wastewater peak discharge rate for the fiscal year 2011/2012 was 132,630 gal/day based on the annual surcharge statement submitted by the company. Their permitted maximum peak discharge limit is 300 gpm. They had a peak discharge rate[15] of 236 gpm.

An increase of 32 gpm of discharged wastewater would increase their total peak discharge rate to 268 gpm of wastewater (32 gpm + 236 gpm), which would be less than the maximum permitted wastewater discharge rate of 300 gpm for the existing wastewater system. The additional 43,200 gal/day of discharged wastewater would result in an average facility wastewater discharge rate of 175,830 gal/day, which would be less than the permit maximum wastewater discharge rate of 310,000 gal/day, so no change to current permit is required.

If the proposed project does trigger a wastewater discharge rate that exceeds the 310,000 gal/day limit, the LACSD deems that a secondary peak permit could be required to allow the discharge during non-peak hours. Significance thresholds for industrial wastewater discharge is determined by its impact to the affected sewer system. The LACSD provided that there is not any hydraulic overloading of the sewer system downstream of the Exide facility. However, wastewater flow can also affect relief or repair work, but no relief or repair work in the near future was identified by the LACSD. Based on the existing sewer system used by Exide, the LACSD believes that an additional 30 gpm can be accommodated by the existing sewer system.

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.

[15] A peak discharge rate is based on the average of the ten highest 30-minute peak flow periods.

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

## X. LAND USE AND PLANNING.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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)** Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be needed. Exide is no longer operational and is in the process of facility closure. Therefore, no construction is expected at Quemetco for PAR 1420.1 compliance. Exide is expected to construct temporary enclosures.

During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for additional workers. 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 a new temporary enclosure during closure of the Exide facility would occur within the boundaries of an existing large lead recycling facility, which is in an area that is zoned for industrial use. The new PAR 1420.1 requirements are not designed to impede or conflict with existing land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, but to assist in avoiding or mitigating lead emissions impacts from large lead recycling facilities. Operations at both affected facilities 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. Therefore, no further analysis or mitigation measures are required or necessary.

## XI. MINERAL RESOURCES.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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.

Based upon these considerations, significant adverse mineral resources are not anticipated. Therefore, no further analysis or mitigation measures are required or necessary.

## XII. NOISE.

| Would the project result in: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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), b) & 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.

Groundborne vibration is quantified in terms of decibels, since that scale compresses the range of numbers required to describe the oscillations. The Federal Transit Administration 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 existing lead point source tests, Quemetco is already complying with PAR 1420.1's total facility point source limit (0.003 lb/hr) for lead. There will be no physical changes at Quemetco. Additionally, Exide is in the process of closing their facility. In order for Exide to comply with PAR 1420.1 during closure, Exide will likely continue the current monitoring, housekeeping and maintenance activities, as well as maintain the existing total enclosures on-site and construct temporary enclosures made of scaffolding and plastic sheeting during decontamination and deconstruction. No significant noise or vibration generating activities are anticipated during this relatively minor construction activity that would be any greater than occurs in the baseline activity onsite. Therefore, PAR 1420.1 will not result in significant noise or vibration impacts from construction.

Both facilities are located in areas which are industrial in nature. During closure, the noise generated by continuing the ambient monitoring, housekeeping and maintenance requirements, and operating the total enclosure under negative air pressure is negligible when compared to the noise generated by the demolition activities. Therefore, noise and vibration impacts are considered less than significant.

**XI. d)** The affected facility is 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. 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. Therefore, no further analysis or mitigation measures are required or necessary.

## XIII. POPULATION AND HOUSING.

| Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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)** Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be needed. Exide is no longer operational and is in the process of facility closure. Therefore, no construction is expected at Quemetco for PAR 1420.1 compliance. Exide is expected to construct temporary enclosures. During facility closure, the ambient monitoring, housekeeping and maintenance requirements, including the continued operation of negative air pressure enclosures, will likely continue to be maintained. If contingency measures are triggered during closure activities, the facility will likely increase the frequency of housekeeping measures, which will result in the need for an additional 8 workers. The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1420.1. It is expected that the additional 8 workers needed for the compliance plan would be from the local labor pool in Southern California. As such, PAR 1420.1 would not result in changes in population densities or induce significant growth in population.

**XIII. b)** Since PAR 1420.1 affects two existing facilities, it 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. Therefore, no further analysis or mitigation measures are required or necessary.

## 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: | **Potentially Significant Impact** | **Less Than Significant With Mitigation** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| 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. As a result, no new fire hazards or increased use of hazardous materials would be introduced at the affected facilities 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.

**XIV. c)** As noted in the "Population and Housing" discussion, implementation of the proposed project would not have a significant impact on inducing growth. The additional workers needed for the compliance plan would come from the local labor pool in southern California. 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. 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.

## XV. RECREATION.

| | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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.

## XVI. SOLID/HAZARDOUS WASTE.

| Would the project: | | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| 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.

**Construction**

No construction is expected at Quemetco. Exide is expected to construct temporary enclosures to comply with PAR 1420.1. The plastic sheeting of 1,234 cubic yards would generate 41 disposal trucks during construction. (See Table 2-11 and Appendix B for details.

**Operation**

**Exide**

Exide will be operating their APCDs during much of their closure process. Therefore, operation of control equipment such as filters could have solid waste impacts.

This analysis of solid waste impacts assumes that safety and disposal procedures required by various agencies in the state of California will provide reasonable precautions against the improper disposal of hazardous wastes in a municipal waste landfill. Because of state and federal requirements, some facilities are attempting to reduce or minimize the generation of solid and hazardous wastes by incorporating source reduction technologies to reduce the volume or toxicity of wastes generated, including improving operating procedures, using less hazardous or nonhazardous substitute materials, and upgrading or replacing inefficient processes.

**Filtration**

Filtration includes usage of baghouse, HEPA filters. All mixed metal compounds could be generated with the use of filtration controls at a 99.9 percent control rate.

Currently, the facilities properly send their hazardous materials to their local smelter or to Resource Conservation and Recovery Act (RCRA) landfill. To comply with the proposed rule's requirements, it is conservatively estimated that the operation of the APCDs' filters may generate 3200 cubic yards/yr (4480 tons/yr) of hazardous waste.

The nearest RCRA landfills are the Republic Services and US Ecology. The Republic Services 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). The US Ecology, Inc., facility in Beatty, Nevada has approximately 638,858 cubic yards of capacity remaining for the three year life expectancy (212,952 cubic yards per year. US Ecology, Inc., receives approximately 18,000 cubic yards per year of waste, so 194,952 cubic yards per year (212,952 cubic yard/year – 18,000 cubic yard/year) would be available.

With an annual disposal of 4,434 cubic yards of filters, spent lead, metals and plastic sheeting, the total solid/hazardous waste impact from the proposed amended rule are 1.1 percent and 2.27 percent of the available Republic Services and US Ecology landfill capacity, respectively.

The amount of hazardous waste generated by the proposed project will not require new RCRA landfills and is not considered to be a substantial impact to existing landfill capacity. Therefore, potential hazardous waste impacts are not considered significant.

**Table 2-11 Total Solid Waste Generation**

| Waste Type | Potential # APC Devices | Annual Waste per Control Device (cubic yards) | Total Waste Generated (cubic yards/year) |
|---|---|---|---|
| Filtration | 5 | 640 | 3,200 |
| Plastic Sheeting | -- | -- | 1,234 |
| TOTAL WASTE GENERATED FROM PROPOSED PROJECT | | | **4,434 cubic yards/yr or 12.1 cubic yards/day** |

Therefore, the increase in hazardous waste disposal from PAR 1420.1 is expected to be less than significant for operational hazardous waste disposal.

**XVI.b)** The rule amendments are not inconsistent with federal, state and local statutes and regulations related to soil and hazardous waste. It is assumed that facility operators at the affected facilities will 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.

Based upon these considerations, significant adverse solid/hazardous waste impacts are not anticipated. Therefore, no further analysis or mitigation measures are required or necessary.

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## XVII. TRANSPORTATION/TRAFFIC.

| | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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**

**Existing Affected Facilities**

Quemetco already meets the new total facility point source emission limit of 0.003 lb/hr and no further air pollution controls will be needed. Exide is no longer operational and is in the process of facility closure. No construction is expected at Quemetco. Exide will construct temporary enclosures. It is estimated that an additional 8 worker trips per day and 2 truck trips per day would occur. or Exide for PAR 1420.1 compliance. These trips are below the significance threshold.

***Operation Impacts***

Based on existing lead point source tests, Quemetco is already complying with PAR 1420.1's total facility point source limit (0.003 lb/hr) for lead. There will be no physical changes at Quemetco. Additionally, Exide is in the process of closing their facility. In order for Exide to comply with PAR 1420.1 during closure, Exide will continue the current monitoring, housekeeping and maintenance activities, as well as maintain the total enclosures on-site. Therefore, PAR 1420.1 will not result in construction activities at Quemetco, while Exide is expected to construct temporary enclosures. .

**XVII. a) & b)**

Exide is expected to continue their housekeeping and maintenance activities (i.e. vehicle sweeping, water tank usage, worker trips, air monitoring visits and haul/delivery truck trips). Vehicle sweeping and water tank usage occurs on-site and does not affect public roadways. SCAQMD staff assumed that at any given day would, Exide would generate an additional 2 truck trips per day in the entire district additional for delivery and disposal of hazardous waste. Overall, there would be 1 worker trip for collecting samples and 8 worker trips for housekeeping and maintenance activities. These potential trips are not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities. In addition, this volume of additional daily truck traffic is negligible over the entire area of the district.

**Table 2-12 Estimation of Vehicle Trips**

| Phase | Worker Vehicles | Delivery/Disposal Trucks |
|---|---|---|
| **Operation** | 9 per day | 2 per day[a] |

[a] A maximum of 1 worker trip for collecting samples and8 worker trips. A maximum of 2 delivery/disposal trucks may travel in the District

**XVII. c)** The affected facility is 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. 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 is consistent with surrounding land uses and traffic/circulation in the surrounding areas of the affected facility. Thus, the proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the affected facility. Emergency access at the affected facility is not expected to be impacted by the proposed project. Further, each affected facility is expected to continue to maintain their existing emergency access during closure. Therefore, PAR 1420.1 is not expected to alter the existing long-term circulation patternsand 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 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. Therefore, no further analysis or mitigation measures are required or necessary.

## XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.

| | | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| 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 environmental topics I through XVIII, the proposed project has no potential to cause significant adverse environmental effects. Therefore, no further analysis or mitigation measures are required or necessary.

# APPENDICES

# APPENDIX A

## PROPOSED AMENDED RULE 1420.1

(Adopted November 5, 2010)(Amended January 10, 2014)
(Amended March 7, 2014)(Amended March 6, 2015)
PAR 1420.1r July 2015

**PROPOSED AMENDED RULE 1420.1.**

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

(a) Purpose

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

(b) Applicability

(1) This rule applies to all persons who own or operate a lead-acid battery recycling facility that has processed more than 50,000 tons of lead a year in any one of the five calendar years prior to November 5, 2010, or annually thereafter, hereinafter a large lead-acid battery recycling facility. Applicability shall be based on facility lead processing records required under subdivision (m) of this rule, and Rule 1420 – Emissions Standards for Lead. This rule also applies to all persons who own or operate equipment or conduct activities on property on which a lead-acid battery recycling facility has operated until the facility closure requirements in paragraph (p)(4) have been satisfied. Compliance with this rule shall be in addition to other applicable rules such as Rules 1407 and 1420.

(c) Definitions

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

(1) AGGLOMERATING FURNACE means a furnace used to melt flue dust that is collected from an emission control device, such as a baghouse, into a solid mass.

(2) AMBIENT AIR for purposes of this rule means outdoor air.

(3) ARSENIC means the oxides and other compounds of the element arsenic included in particulate matter, vapors, and aerosols.

(4) BATTERY BREAKING AREA means the plant location at which lead-acid batteries are broken, crushed, or disassembled and separated into components.

(5) BENZENE means an organic compound with chemical formula $C_6H_6$ and Chemical Abstract Service number 71-43-2.

(6) 1,3-BUTADIENE means an organic compound with chemical formula $C_4H_6$ and Chemical Abstract Service number 106-99-0.

(7) DRYER means a chamber that is heated and that is used to remove moisture from lead-bearing materials before they are charged to a smelting furnace.

(8) DRYER TRANSITION PIECE means the junction between a dryer and the charge hopper or conveyor, or the junction between the dryer and the smelting furnace feed chute or hopper located at the ends of the dryer.

(9) DUCT SECTION means a length of duct including angles and bends which is contiguous between two or more process devices (e.g., between a furnace and heat exchanger; baghouse and scrubber; scrubber and stack; etc.).

(10) EMISSION COLLECTION SYSTEM means any equipment installed for the purpose of directing, taking in, confining, and conveying an air contaminant, and which at minimum conforms to design and operation specifications given in the most current edition of *Industrial Ventilation, Guidelines and Recommended Practices,* published by the American Conference of Government and Industrial Hygienists, at the time a complete permit application is filed with the District.

(11) EMISSION CONTROL DEVICE means any equipment installed in the ventilation system of a point source or emission collection system for the purposes of collecting and reducing emissions of arsenic, benzene, lead, 1,3-butadiene, or any other toxic air contaminant.

(12) FUGITIVE LEAD-DUST means any solid particulate matter containing lead that is in contact with ambient air and has the potential to become airborne.

(13) FURNACE AND REFINING/CASTING AREA means any area of a large lead-acid battery recycling facility in which:

- (a) Smelting furnaces or agglomerating furnaces are located; or
- (b) Refining operations occur; or
- (c) Casting operations occur.

(14) LEAD-ACID BATTERY RECYCLING FACILITY means any facility, operation, or process in which lead-acid batteries are disassembled and recycled into elemental lead or lead alloys through smelting.

(15) LEAD means elemental lead, alloys containing elemental lead, or lead compounds, calculated as elemental lead.

(16) LEEWARD WALL means the furthest exterior wall of a total enclosure that is opposite the windward wall.

(17) MAINTENANCE ACTIVITY means any of the following activities conducted outside of a total enclosure that generates or has the potential to generate fugitive lead-dust:

(a) building construction, renovation, or demolition;

(b) replacement or repair of refractory, filter bags, or any internal or external part of equipment used to process, handle, or control lead-containing materials;

(c) replacement of any duct section used to convey lead-containing exhaust;

(d) metal cutting or welding that penetrates the metal structure of any equipment, and its associated components, used to process lead-containing material, such that lead dust within the internal structure or its components can become fugitive lead-dust;

(e) resurfacing, grading, repair, or removal of ground, pavement, concrete, or asphalt; or

(f) soil disturbances, including but not limited to, soil sampling, soil remediation, or activities where soil is moved, removed, and/or stored.

(18) MATERIALS STORAGE AND HANDLING AREA means any area of a large lead-acid battery recycling facility in which lead-containing materials including, but not limited to, broken battery components, reverberatory furnace slag, flue dust, and dross, are stored or handled between process steps. Areas may include, but are not limited to, locations in which materials are stored in piles, bins, or tubs, and areas in which material is prepared for charging to a smelting furnace.

(19) MEASURABLE PRECIPITATION means any on-site measured rain amount greater than 0.01 inches in any complete 24-hour calendar day (i.e., midnight to midnight).

(20) PARTIAL ENCLOSURE for purposes of this rule means a structure comprised of walls or partitions on at least three sides or three-quarters of the perimeter that surrounds areas where maintenance activity is conducted, in order to prevent the generation of fugitive lead-dust.

(21) POINT SOURCE means any process, equipment, or total enclosure used in a large lead-acid battery recycling facility, including, but not limited to, agglomerating furnaces, dryers, smelting furnaces and refining kettles, whose emissions pass through a stack or vent designed to direct or control the exhaust flow prior to release into the ambient air.

(22) PROCESS means using lead or lead-containing materials in any operation including, but not limited to, the charging of lead-containing materials to smelting furnaces, lead refining and casting operations, and lead-acid battery breaking.

(23) RENOVATION for purposes of this rule means the altering of a building or permanent structure, or the removal of one or more of its components that generates fugitive lead-dust.

(24) SENSITIVE RECEPTOR means, for the purposes of this rule, any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

(25) SLAG means the inorganic material by-product discharged, in molten state, from a lead smelting furnace that has a lower specific gravity than lead metal and contains lead compounds. This shall include, but is not limited to, lead sulfate, lead sulfide, lead oxides, and lead carbonate consisting of other constituents charged to a smelting furnace which are fused together during the pyrometallurgical process.

(26) SMELTING means the chemical reduction of lead compounds to elemental lead or lead alloys through processing in high temperatures greater than 980° C.

(27) SMELTING FURNACE means any furnace where smelting takes place including, but not limited to, blast furnaces, reverberatory furnaces, rotary furnaces, and electric furnaces.

(28) STATIC DIFFERENTIAL FURNACE PRESSURE means the difference between the absolute internal pressure of the smelting furnace ($P_f$, in inches water column) and the absolute atmospheric pressure in the immediate vicinity outside the smelting furnace ($P_a$, in inches water column) and is calculated as follows: $P_f - P_a$.

(29) TOTAL ENCLOSURE means a permanent containment building/structure, completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access and egress for people and vehicles, that is free of cracks, gaps, corrosion, or other deterioration that could cause or result in fugitive lead-dust.

(30) TOXIC AIR CONTAMINANT is an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health.

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

(d) General Requirements

(1) Ambient Air Concentration of Lead

The owner or operator of a large lead-acid battery recycling facility shall not discharge emissions into the atmosphere which contribute to ambient air concentrations of lead that exceed the following:

| Effective Date | Ambient Air Concentration of Lead, micrograms per cubic meter ($\mu g/m^3$), averaged over 30 consecutive days |
|---|---|
| Prior to January 1, 2016 | 0.150 $\mu g/m^3$ |
| January 1, 2016 to December 31, 2016 | 0.110 $\mu g/m^3$ |
| On and after January 1, 2017 | 0.100 $\mu g/m^3$ |

An exceedance of the ambient air concentrations of lead specified in the above table shall occur if it is measured by any monitor installed pursuant to subdivision (j) or at any District-installed monitor.

(2) The owner or operator of a large lead-acid battery recycling facility shall maintain and operate total enclosures pursuant to subdivision (e) and lead point source emission control devices pursuant to paragraphs (f)(1) and (f)(6) through (f)(8).

(3) The owner or operator of a large lead-acid battery recycling facility shall submit a Compliance Plan if emissions are discharged into the atmosphere which contribute to ambient air concentrations of lead or arsenic that exceed

the ambient concentrations in paragraph (g)(1).

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

(A) Within 30 days of January 10, 2014, submit a Compliance Plan Schedule to the Executive Officer for review and approval to ensure that the facility will comply with the January 1, 2015 total facility mass emissions limits for arsenic, benzene, and 1,3-butadiene point sources specified in paragraph (f)(2). The Compliance Plan Schedule shall be subject to plan fees specified in Rule 306 and include:

(i) a list of all control measures to be implemented that includes a description of the control technology, the equipment that will be affected, the affected pollutants, the anticipated reductions, and the dates the measures will be implemented; and

(ii) a schedule that identifies dates for completion of engineering design(s), equipment procurement, construction, demolition (if any), equipment installation, and testing for each control measure described pursuant to clause (d)(4)(A)(i).

(B) Submit complete permit applications for all equipment specified in the Compliance Plan Schedule that requires a District permit within 90 days of January 10, 2014.

(C) Complete all construction within 180 days of receiving Permit to Construct approvals from the Executive Officer.

(D) The owner or operator of a large lead-acid battery recycling facility shall not be subject to requirements of subparagraphs (d)(4)(A) through (d)(4)(C) if the most recent District-approved source tests, conducted no earlier than January 1, 2011, show that the facility is meeting all of the emission limits specified in paragraph (f)(2).

(5) Ambient Air Concentration of Arsenic

The owner or operator of a large lead-acid battery recycling facility shall not discharge emissions into the atmosphere which contribute to an ambient air concentration of arsenic that exceeds 10.0 nanograms per cubic meter ($ng/m^3$) averaged over a 24-hour time period as determined by monitors pursuant to subdivision (j) or by any District-installed monitor. An exceedance of 10.0 $ng/m^3$ averaged over a 24-hour period shall be based on the average of the analysis of two sample results on the same filter. A

second analysis is required if the first sample exceeds 10.0 ng/$m^3$.

(6) If the ambient air concentration of arsenic is determined to exceed 10.0 ng/$m^3$ averaged over a 24-hour time period as calculated pursuant to paragraph (d)(5), then the owner or operator shall notify the Executive Officer in writing within 72 hours of when the facility knew or should have known it exceeded the ambient air arsenic concentration of 10.0 ng/$m^3$ averaged over a 24-hour time period.

(7) The owner or operator of a large lead-acid battery recycling facility shall fund and participate in a multi-metal continuous emissions monitoring system (CEMS) demonstration program to continuously monitor lead, arsenic, and other metals emitted from a stack within its facility for a period specified by the District. Participation and funding of the multi-metals CEMS demonstration program shall require the owner or operator to:

(A) Submit payment to the District for District personnel or its contractor to assemble, install, maintain, train, test, analyze, and decommission a multi-metals CEMS demonstration program not to exceed the following amounts and schedule:

(i) $63,500 by April 1, 2014; and an additional

(ii) $143,225 by September 1, 2014

(B) Provide continuous facility access to District personnel and its contractors to deliver, assemble, install, monitor, maintain, test, analyze, and decommission a multi-metals CEMS;

(C) Provide the necessary location and infrastructure for the multi-metals CEMS including:

(i) siting location with sufficient spacing, clearance, and structural support;

(ii) electric power circuits;

(iii) compressed air;

(iv) sampling port(s);

(v) access to wireless modem connection for data retrieval;

(vi) any necessary moving or lifting equipment and personnel to operate such equipment in order to install the system; and

(vii) day to day instrument and equipment operation.

(e) Total Enclosures

(1) Enclosure Areas

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

(A) Battery breaking areas;

(B) Materials storage and handling areas, excluding areas where unbroken lead-acid batteries and finished lead products are stored;

(C) Dryer and dryer areas including dryer transition pieces, charging hoppers, chutes, and skip hoists conveying any lead-containing material;

(D) Smelting furnaces and smelting furnace areas charging any lead-containing material;

(E) Agglomerating furnaces and agglomerating furnace areas charging any lead-containing material; and

(F) Refining and casting areas.

(2) Total Enclosure Emissions Control

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

(3) Total Enclosure Ventilation

Ventilation of the total enclosure at any opening including, but not limited to, vents, windows, passages, doorways, bay doors, and roll-ups shall continuously be maintained at a negative pressure of at least 0.02 mm of Hg (0.011 inches $H_2O$) measured pursuant to paragraph (e)(4).

(4) Digital Differential Pressure Monitoring Systems

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

(A) A minimum of one building digital differential pressure monitoring system shall be installed and maintained at each of the following three walls in each total enclosure having a total ground surface area of 10,000 square feet or more:

(i) The leeward wall;

(ii) The windward wall; and

(iii) An exterior wall that connects the leeward and windward

wall at a location defined by the intersection of a perpendicular line between a point on the connecting wall and a point on its furthest opposite exterior wall, and intersecting within plus or minus ten (±10) meters of the midpoint of a straight line between the two other monitors specified in clauses (e)(4)(A)(i) and (e)(4)(A)(ii). The midpoint monitor shall not be located on the same wall as either of the other two monitors described in clauses (e)(4)(A)(i) or (e)(4)(A)(ii).

(B) A minimum of one building digital differential pressure monitoring system shall be installed and maintained at the leeward wall of each total enclosure that has a total ground surface area of less than 10,000 square feet.

(C) Digital differential pressure monitoring systems shall be certified by the manufacturer to be capable of measuring and displaying negative pressure in the range of 0.01 to 0.2 mm Hg (0.005 to 0.11 inches $H_2O$) with a minimum increment of measurement of plus or minus 0.001 mm Hg (0.0005 inches $H_2O$).

(D) Digital differential pressure monitoring systems shall be equipped with a continuous strip chart recorder or electronic recorder approved by the Executive Officer. If an electronic recorder is used, the recorder shall be capable of writing data on a medium that is secure and tamper-proof. The recorded data shall be readily accessible upon request by the Executive Officer. If software is required to access the recorded data that is not readily available to the Executive Officer, a copy of the software, and all subsequent revisions, shall be provided to the Executive Officer at no cost. If a device is required to retrieve and provide a copy of such recorded data, the device shall be maintained and operated at the facility.

(E) Digital differential pressure monitoring systems shall be calibrated in accordance with manufacturer's specifications at least once every 12 calendar months or more frequently if recommended by the manufacturer.

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

(5) In-draft Velocity

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

(f) Point Source Emissions Controls

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

(1) Lead Point Source Emission Controls

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

(A) On and after (date of adoption), meet a total facility mass lead emissions limit from all lead point sources that does not exceed 0.003 pound of lead per hour. ~~Prior to January 1, 2016, meet a total facility mass lead emissions from all lead point sources not to exceed 0.045 pounds of lead per hour. On and after January 1, 2016, meet a total facility mass lead emissions from all lead point sources not to exceed 0.023 pounds of lead per hour. The maximum emission rate for any single lead point source shall not exceed 0.010 pounds of lead per hour.~~ The total facility mass lead emission rate and maximum emission rates for any single lead point source shall be determined using the most recently approved source tests conducted on behalf of the facility or the District; and

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

of the permit application required under paragraph (d)(2) and approved by the Executive Officer.

(2) Arsenic, Benzene and 1,3-Butadiene Point Source Emission Controls

The mass emissions from all arsenic, benzene, and 1,3-butadiene point sources at a large lead-acid battery recycling facility shall meet the following hourly emissions thresholds for the dates specified:

(A) No later than 60 days after January 10, 2014, the total facility emission rate for a large lead-acid battery recycling facility from all point sources shall not exceed 0.00285 pound of arsenic per hour.

(B) No later than January 1, 2015, the total facility emission rate for a large lead-acid battery recycling facility from all point sources shall not exceed 0.00114 pound of arsenic per hour.

(C) No later than January 1, 2015, the total emission rate for a large lead-acid battery recycling facility from all point sources excluding point sources from emission control devices on total enclosures shall not exceed the following:

(i) 0.0514 pound of benzene per hour; and

(ii) 0.00342 pound of 1,3-butadiene per hour.

(D) The point source mass emission rates shall be determined based on the average of triplicate samples, using the most recent District-approved source tests conducted by the facility or the District, pursuant to subdivision (k).

(E) For purposes of this rule, only point sources that have a source test result of greater than 1 part per billion shall be included in determining the total facility mass emission rates for benzene and 1,3-butadiene.

(3) Monitoring Device

The owner or operator of a large lead-acid battery recycling facility shall, for each smelting furnace, install, calibrate, operate and maintain a monitoring device that has been approved by the Executive Officer pursuant to paragraph (f)(4). The monitoring device shall measure and record the static differential furnace pressure in inches water column. Each smelting furnace shall be operated such that static differential furnace pressure, in inches of water column averaged over 30 minutes, is maintained at a value -0.02 or more negative. ~~–~~A reverberatory furnace may be operated at an alternative static differential furnace pressure if the owner or operator can demonstrate

that it can achieve emission reductions that are equivalent to or better than those achieved when operating at a pressure of -0.02 or more negative. Demonstration shall be based on source test protocols and source tests conducted pursuant to the requirements of subdivision (k) and approved by the Executive Officer. The alternative static differential furnace pressure shall not exceed 0.4 inches water column and must be approved by the Executive Officer in the Continuous Furnace Pressure Monitoring Plan of paragraph (f)(4). For the purposes of this requirement, the owner or operator shall ensure that the monitoring device:

(A) Continuously measures the instantaneous static differential furnace pressure;

(B) Has a resolution of at least 0.01 inches water column;

(C) Has an increment of measurement of 0.01 inches water column;

(D) Has a range from -10 inches to +10 inches water column for the measuring device;

(E) Is equipped with ports to allow for periodic calibration in accordance with manufacturer's specifications;

(F) Is calibrated according to manufacturer's specifications at a frequency of not less than twice every calendar year;

(G) Is equipped with a continuous data acquisition system (DAS). The DAS shall record the data output from the monitoring device at a frequency of not less than once every sixty (60) seconds;

(H) Generates a data file from the computer system interfaced with each DAS each calendar day. The data file shall be saved in electronic ASCII character format, Microsoft Excel (xls or xlsx) format, PDF format, or other format as approved by the Executive Officer. The file shall contain a table of chronological date and time and the corresponding data output value from the monitoring device in inches of water column. The operator shall prepare a separate data file each day showing the 30-minute average pressure readings recorded by this device each calendar day; and

(I) Is maintained in accordance with manufacturer's specifications.

(4) No later than 30 days after January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall submit to the Executive Officer for approval an application for a Continuous Furnace Pressure Monitoring (CFPM) Plan for the monitoring device required in paragraph

(f)(3). The CFPM Plan shall contain the information identified in Appendix 3 of this rule and is subject to the fees specified in Rule 306.

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

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

(7) For any emission control device that uses a filter bag(s), the filter bag(s) used shall be polytetrafluoroethylene membrane-type, or any other material that is equally or more effective for the control of lead emissions, and approved for use by the Executive Officer.

(8) Each emission collection system and emission control device subject to this subdivision shall, at minimum, be inspected, maintained, and operated in accordance with the manufacturer's specifications.

(9) The owner or operator of a large lead-acid battery recycling facility shall comply with the curtailment requirements in subdivision (o) if the total facility mass lead emissions from all lead point sources exceeds the limits specified in subparagraph (f)(1)(A), and/or the total facility emission rate from all arsenic point sources exceeds the limits specified in subparagraph (f)(2)(A) or (f)(2)(B).

(g) Compliance Plan

(1) The owner or operator of a large lead-acid battery recycling facility shall submit a Compliance Plan if emissions are discharged into the atmosphere

which contribute to ambient air concentrations of lead or arsenic that exceed the following:

| Air Contaminant | Effective Date | Ambient Air Concentration |
|---|---|---|
| Lead | Prior to January 1, 2016 | 0.120 $\mu g/m^3$, averaged over 30 consecutive days |
| | January 1, 2016 to December 31, 2106 | 0.110 $\mu g/m^3$, averaged over 30 consecutive days |
| | On and after January 1, 2017 | 0.100 $\mu g/m^3$, averaged over 30 consecutive days |
| Arsenic | On and after February 1, 2014 | 8 $ng/m^3$, averaged over a 24 hour time period as determined under paragraph (g)(8) |

The ambient air concentrations of lead and arsenic shall be determined by monitors pursuant to subdivision (j) or at any District-installed monitor.

(2) The owner of operator of a large lead-acid battery recycling facility shall notify the Executive Officer in writing within 72 hours of when the facility knew or should have known it exceeded an ambient air concentration of lead or arsenic specified in paragraph (g)(1). Notification shall only be required the first time the ambient air concentration of lead or arsenic exceeds the concentration limits in paragraph (g)(1) for each monitor.

(3) The owner or operator of a large lead-acid battery recycling facility shall submit, within 30 calendar days of exceeding an ambient air concentration of lead or arsenic pursuant to paragraph (g)(1), a complete Compliance Plan to the Executive Officer for review and approval, subject to plan fees as specified in Rule 306. The Compliance Plan shall, at a minimum, include the following:

(A) A description of additional lead and/or arsenic emission reduction measures to achieve the ambient air concentration of lead as specified in paragraph (d)(1), or the ambient air concentration of arsenic of 10.0 $ng/m^3$ averaged over a 24-hour time period, as required under paragraph (d)(5), including, but not limited to, requirements for the following:

(i) Housekeeping, inspection, and maintenance activities;

(ii) Additional total enclosures;

(iii) Modifications to lead and arsenic emission control devices;

(iv) Installation of multi-stage lead and arsenic emission control devices;

(v) Process changes including reduced throughput limits;

(vi) Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment; and

(vii) Identification of lead and/or arsenic reduction measures to be implemented relative to increasing ranges of exceedance levels of the ambient air concentration limits.

(B) The locations within the facility and method(s) of implementation for each lead and/or arsenic reduction measure of subparagraph (g)(3)(A); and

(C) An implementation schedule for each lead and/or arsenic emission reduction measure of subparagraph (g)(3)(A) to be implemented if lead and/or arsenic emissions discharged from the facility contribute to ambient air concentrations of lead that exceed the requirements in paragraph (d)(1), or ambient air concentrations of arsenic that exceed 10.0 ng/$m^3$ averaged over a 24-hour time period, measured at any monitor pursuant to subdivision (j) or at any District-installed monitor. The schedule shall also include a list of the lead and/or arsenic reduction measures of subparagraph (g)(2)(A) that can be implemented immediately, prior to plan approval.

(4) The Executive Officer shall notify the owner or operator in writing whether the Compliance Plan is approved or disapproved. Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in paragraph (g)(2), and whether the plan is likely to lead to avoiding future exceedances of the ambient air concentration levels set forth in paragraph (g)(1). If the Compliance Plan is disapproved, the owner or operator shall resubmit the Compliance Plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the Compliance Plan. The resubmitted Compliance Plan shall include any information necessary to address deficiencies identified in the disapproval letter. It is a violation of the rule for a facility not to have an approved Compliance Plan after the second

denial. If the resubmitted Compliance Plan is denied, the operator or owner may appeal the denial by the Executive Officer to the Hearing Board under Rule 216 – Appeals and Rule 221 - Plans.

(5) The owner or operator shall implement measures based on the schedule in the approved Compliance Plan if lead emissions discharged from the facility contribute to ambient air concentrations of lead to exceed the requirements in paragraph (d)(1) or an ambient air concentration of arsenic of 10.0 ng/$m^3$ averaged over a 24-hour time period as determined in paragraph (d)(5), measured at any monitor pursuant to subdivision (j) or at any District-installed monitor.

(6) The owner or operator may make a request to the Executive Officer to modify or update an approved Compliance Plan.

(7) The owner or operator shall update the Compliance Plan 12 months from January 10, 2014 and annually thereafter, in order to update measures that have been implemented and to identify any new measures that can be implemented.

(8) An exceedance of an ambient air concentration of arsenic of 8.0 ng/$m^3$ averaged over a 24-hour period shall be based on the average of the analysis of two sample results on the same filter. A second analysis is required if the first sample exceeds 8.0 ng/$m^3$.

(h) Housekeeping Requirements

The owner or operator of a large lead-acid battery recycling facility shall control fugitive lead-dust by conducting all of the following housekeeping practices:

(1) Clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles in a manner that does not generate fugitive lead-dust, the following areas at the specified frequencies, unless located within a total enclosure vented to a lead emission control device. Days of measurable precipitation in the following areas occurring within the specified timeframe of a required cleaning frequency may be counted as a cleaning:

(A) Monthly cleanings of roof tops on structures $\leq$ 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and

(B) Quarterly cleanings, no more than 3 calendar months apart, of roof

tops on structures > 45 feet in height that house areas associated with the storage, handling or processing of lead-containing materials; and

(C) Weekly cleanings of all areas where lead-containing wastes generated from housekeeping activities are stored, disposed of, recovered or recycled.

(D) Initiate immediate cleaning, no later than one hour, after any maintenance activity or event including, but not limited to, accidents, process upsets, or equipment malfunction, that causes deposition of fugitive lead-dust onto areas specified in subparagraph (h)(1)(A) through (h)(1)(C). If the facility can demonstrate that delays were due to safety or timing issues associated with obtaining equipment required to implement this requirement, immediate cleanings of roof tops shall be completed within 72 hours.

(2) Inspect all total enclosures and facility structures that house, contain or control any lead point source or fugitive lead-dust emissions at least once a month. Any gaps, breaks, separations, leak points or other possible routes for emissions of lead or fugitive lead-dust to ambient air shall be permanently repaired within 72 hours of discovery. The Executive Officer may approve a request for an extension beyond the 72-hour limit if the request is submitted before the limit is exceeded.

(3) Upon receipt, immediately send any lead-acid battery that is cracked or leaking to the battery breaking area for processing or storage pursuant to paragraph (h)(6).

(4) Pave, concrete, asphalt, or otherwise encapsulate all facility grounds as approved by the Executive Officer. Facility grounds used for plant life that are less than a total surface area of 100 square feet shall not be subject to encapsulation. Facility grounds requiring removal of existing pavement, concrete, asphalt or other forms of encapsulation necessary for maintenance purposes shall not require encapsulation while undergoing work, and shall be re-encapsulated immediately after all required work is completed. All work shall be conducted in accordance with subdivision (i).

(5) Remove any weather cap installed on any stack that is a source of lead emissions.

(6) Store all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other lead-containing waste generated from the housekeeping requirements of subdivision (h) and

maintenance activities of subdivision (i), in sealed, leak-proof containers, unless located within a total enclosure.

(7) Transport all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other waste generated from housekeeping requirements of subdivision (h), within closed conveyor systems or in sealed, leak-proof containers, unless located within a total enclosure.

(8) Initiate removal of any lead-containing material, including sludge, from the entire surface area of any surface impoundment pond or reservoir holding storm water runoff or spent water from housekeeping activities within 1 hour after the water level is $\leq$ 1 inch above the bottom of the pond or reservoir. Removal of lead-containing material is required to be completed as soon as possible, and no later than six calendar days after the time initiation of the removal was required. Thereafter, surfaces shall be washed down weekly in a manner that does not generate fugitive lead-dust until the pond or reservoir is used again for holding water.

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

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

(A) Vacuum sweep all paved, concreted or asphalted facility areas subject to vehicular or foot traffic three times per day and occurring at least once per operating shift with each event not less than four hours apart, unless located within a total enclosure vented to a lead control device.

(B) Immediately vacuum sweep any area specified in subparagraph (h)(9)(A), no later than one hour after any maintenance activity or event including accidents, process upsets, or equipment malfunction that results in the deposition of fugitive lead-dust.

(C) Vacuum sweeping activities specified in paragraph (h)(9) shall not be required during days of measurable precipitation.

(10) Except when inside a total enclosure, all lead or arsenic containing trash and debris shall be placed in covered containers that remain covered at all times except when trash or debris is actively transferred. Trash and debris

containers shall be free of liquid or dust leaks.

(11) Post signs at all entrances and truck loading and unloading areas indicating a plant-wide speed limit of 5 miles per hour.

(i) Maintenance Activity

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

(A) In a partial enclosure, barring conditions posing physical constraints, limited accessibility, or safety issues;

(B) Using wet suppression or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, at locations where the potential to generate fugitive lead-dust exists prior to conducting and upon completion of the maintenance activity. Wet suppression or vacuuming shall also be conducted during the maintenance activity barring safety issues;

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

(D) Shall be stopped immediately when instantaneous wind speeds are $\geq$ 20 mph. Maintenance work may be continued if it is necessary to prevent the release of lead emissions;

(E) All concrete or asphalt cutting or drilling performed outside of a total enclosure shall be performed under 100% wet conditions; and

(F) Grading of soil shall only be performed on soils sufficiently wet to prevent fugitive dust.

(2) Store or clean by wet wash or a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97% capture efficiency for 0.3 micron particles, all lead-contaminated equipment and materials used for any maintenance activity immediately after completion of work in a manner that

does not generate fugitive lead-dust.

(j) Ambient Air Monitoring and Sampling Requirements

The owner or operator of a large lead-acid battery recycling facility shall conduct ambient air monitoring and sampling as follows:

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

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

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

(C) Sampling sites at the property line may be located just inside the fence line on facility property if logistical constraints preclude placement outside the fence line at the point of maximum expected ground level lead and/or arsenic concentrations.

(2) Collect ambient lead and arsenic samples as follows:

(A) Lead samples shall be collected daily as 24-hour, midnight-to-midnight, samples at all sites.

(B) Arsenic samples shall be collected daily as 24-hour, midnight-to-midnight, samples collected at all sites.

(C) If a 24-hour, midnight-to-midnight sample was not collected due to a monitor malfunction or other occurrence beyond the control of the facility, the owner or operator shall:

(i) Report with a notification made to 1-800-CUT-SMOG within 2 hours of knowing that the 24-hour, midnight-to-midnight sample was not collected providing the facility name, name of the monitor, the date of the occurrence, and the reason that the 24-hour midnight-to-midnight sample was not collected;

and

(ii) The operator shall not miss a 24-hour, midnight-to-midnight sample for more than one day over a consecutive 30 day period.

(3) Submit samples collected pursuant to paragraphs (j)(1) and (j)(2) to a laboratory approved under the SCAQMD Laboratory Approval Program for analysis within three calendar days of collection and calculate ambient lead and arsenic concentrations for individual 24-hour samples within 15 calendar days of the end of the calendar month in which the samples were collected. Duplicate samples shall be made available and submitted to the District upon request by the Executive Officer.

(4) Sample collection for lead and/or arsenic shall be conducted using Title 40, CFR 50 Appendix B - *Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*, or U.S. EPA-approved equivalent methods, and sample analysis for lead shall be conducted using Title 40, CFR 50 Appendix G - *Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air*, or U.S. EPA-approved equivalent methods. Sample analysis for arsenic shall be conducted using U.S. EPA Compendium Method IO-3.5 - *Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS); EPA Compendium Method IO-3.5; In IO Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air*. Alternatively, sample analysis for arsenic may be conducted using the District's *Standard Operating Procedure for The Determination of Metals in Ambient Particulate Matter by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)*.

(5) Continuously record wind speed and direction data at all times using equipment approved by the Executive Officer at a minimum of one location and placement approved by the Executive Officer.

(6) Ambient air quality monitoring shall be conducted by persons approved by the Executive Officer and sampling equipment shall be operated and maintained in accordance with U.S. EPA-referenced methods.

(7) All ambient air quality monitoring systems required by this subdivision shall be equipped with a backup, uninterruptible power supply to ensure continuous operation of the monitoring system during a power outage.

(8) Cleaning activities including, but not limited to, wet washing and misting,

that result in damage or biases to samples collected shall not be conducted within 10 meters of any sampling site required under this subdivision.

(9) If the owner or operator of a large lead-acid battery recycling facility exceeds an ambient air lead concentration pursuant to paragraph (d)(1),the owner or operator shall comply with the curtailment provisions of subdivision (o).

(10) If a large lead-acid battery recycling facility exceeds an ambient air concentration of arsenic of 10.0 ng/$m^3$ pursuant to paragraph (d)(5), the owner or operator shall comply with the curtailment requirements of subdivision (o).

(11) The owner or operator of a large lead-acid battery recycling facility shall retain lead and arsenic samples collected pursuant to this subdivision for one year. The samples shall be stored in an individually sealed container and labeled with the applicable monitor and date. Upon request, the samples shall be provided to the Executive Officer within one business day.

(k) Source Tests

(1) The owner or operator of a large lead-acid battery recycling facility shall conduct a source test of all lead point sources at least annually to demonstrate compliance with the mass emissions standards specified in subdivision (f). ~~If the results of the most recent source test for a lead point source demonstrating compliance with the lead emission standard of subdivision (f) are below an emission rate of 0.0012 pounds of lead per hour, the next test for that lead point source shall be performed no later than 24 months after the date of the most recent test.~~

(2) The owner or operator of a large lead-acid battery recycling facility shall conduct a source test for all arsenic point sources, and all benzene and 1,3-butadiene point sources, excluding emission control devices on total enclosures, at least annually to demonstrate compliance with the mass emissions standards specified in subdivision (f). If the results of the most recent source test demonstrating compliance with the arsenic, benzene, and 1,3-butadiene mass emissions standards of subdivision (f) are below the emission rates specified in subparagraphs (k)(2)(A) through (k)(2)(C), the next source test for those point sources shall be performed no later than 24 months after the date of the most recent source test.

(A) 0.000860 pound of arsenic per hour;

(B) 0.0386 pound of benzene per hour; and

(C) 0.00257 pound of 1,3-butadiene per hour.

(3) The owner or operator of a large lead-acid battery recycling facility with a new or modified lead control device with initial start-up on or after November 5, 2010 shall conduct the initial source test for it within 60 calendar days after initial start-up.

(4) Prior to conducting a source test pursuant to paragraph (k)(1), (k)(2), (k)(3), or (k)(13), the owner or operator of a large lead-acid battery recycling facility shall submit a pre-test protocol to the Executive Officer for approval at least 60 calendar days prior to conducting the source test. The pre-test protocol shall include the source test criteria of the end user and all assumptions, required data, and calculated targets for testing the following:

(A) Target arsenic, benzene, lead, or 1,3-butadiene mass emission standard;

(B) Preliminary target pollutant analytical data;

(C) Planned sampling parameters; and

(D) Information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated test.

(5) The owner or operator of a large lead-acid battery recycling facility shall notify the Executive Officer in writing one week prior to conducting any source test required by paragraph (k)(1), (k)(2), (k)(3), or (k)(13).

(6) The owner or operator of a large lead-acid battery recycling facility shall notify the Executive Officer within three business days, including Mondays, of when the facility knew or should have known of any source test result that exceeds any of the emission standards specified in subdivision (f). Notifications shall be made to 1-800-CUT-SMOG and followed up in writing with the results of the source tests within seven (7) days of notification.

(7) Source tests shall be conducted while operating at a minimum of 80% of equipment permitted capacity and in accordance with any of the following applicable test methods:

(A) SCAQMD Method 12.1 - *Determination of Inorganic Lead Emissions from Stationary Sources Using a Wet Impingement Train*

(B) ARB Method 12 – *Determination of Inorganic Lead Emissions from Stationary Sources*

(C) EPA Method 12 – *Determination of Inorganic Lead Emissions from*

*Stationary Sources*

(D) ARB Method 436 – *Determination of Multiple Metal Emissions from Stationary Sources*

(E) EPA Method TO-15 – *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)*

(F) CARB Method 410A – *Determination of Benzene from Stationary Sources (Low Concentration Gas Chromatographic Technique)*

(G) CARB Method 422.102 – *Determination of Volatile Organic Compounds (VOCs) in Emissions from Stationary Sources*

(8) The average of triplicate samples, obtained according to approved test methods specified in paragraph (k)(7), shall be used to determine compliance or to report source test results required under paragraph (k)(13).

(9) The operator may use alternative or equivalent source test methods as defined in U.S. EPA 40 CFR 60.2, approved in writing by the Executive Officer, in addition to the Air Resources Board or the U.S. EPA, as applicable.

(10) The operator shall use a test laboratory approved under the SCAQMD Laboratory Approval Program for the source test methods cited in this subdivision. If there is no approved laboratory, then approval of the testing procedures used by the laboratory shall be granted by the Executive Officer on a case-by-case basis based on SCAQMD protocols and procedures.

(11) When more than one source test method or set of source test methods are specified for any testing, the application of these source test methods to a specific set of test conditions is subject to approval by the Executive Officer. In addition, a violation established by any one of the specified source test methods or set of source test methods shall constitute a violation of the rule.

(12) An existing source test conducted on and after January 1, 2009 for lead emission control devices existing before November 5, 2010 may be used as the initial source test specified in paragraph (k)(1) to demonstrate compliance with the control standard of subdivision (f) upon Executive Officer approval. The source test shall meet, at a minimum, the following criteria:

(A) The test is the most recent conducted since January 1, 2009;

(B) The test demonstrated compliance with the control standard of

subdivision (f);

(C) The test is representative of the method to control emissions currently in use; and

(D) The test was conducted using applicable and approved test methods specified in paragraphs (k)(7), (k)(9), or (k)(10).

(13) Beginning January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall conduct two source tests for benzene and 1,3-butadiene emissions from all emission control devices on total enclosures as follows:

(A) First source test conducted no later than March 1, 2014.

(B) Second source test conducted no later than September 1, 2014.

(C) Source tests on all emission control devices on total enclosures must be completed within a time period of 72 hours or less.

(14) Testing conducted by the facility, by the District, or by a contractor acting on behalf of the District or the facility to determine compliance with this rule shall be performed according to the most recent District-approved test protocol for the same purpose or compounds.

(15) Reports from source testing conducted pursuant to subdivision (k) shall be submitted to the District in 90 days or less after completion of testing.

(l) New Facilities

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

(1) Demonstrate to the satisfaction of the Executive Officer that the facility is not located in an area that is zoned for residential or mixed use;

(2) Demonstrate to the satisfaction of the Executive Officer that the facility is not located within 1,000 feet from the property line of a sensitive receptor, a school under construction, park, or any area that is zoned for residential or mixed use. The distance shall be measured from the property line of the new facility to the property line of the sensitive receptor; and

(3) Submit complete permit applications for all equipment required by this rule prior to beginning construction or operations, and otherwise on or before the time required by District rules.

(m) Recordkeeping

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

keep records of the following:

(A) Daily records indicating amounts of lead-containing material processed, including, but not limited to, purchase records, usage records, results of analysis, or other District-approved verification to indicate processing amounts;

(B) Results of all ambient air lead and arsenic monitoring, meteorological monitoring, and other data specified by subdivision (j);

(C) Records of housekeeping activities completed as required by subdivision (h), maintenance activities of subdivision (i), and emission control device inspection and maintenance requirements of paragraph (f)(8), including the name of the person performing the activity, and the dates and times on which specific activities were completed; and

(D) Records of unplanned shutdowns of any smelting furnace including the date and time of the shutdown, description of the corrective measures taken, and the re-start date and time.

(2) The owner or operator of a large lead-acid battery recycling facility shall maintain all records for five years, and keep records onsite for at least two years.

(n) Reporting

(1) Ambient Air Monitoring Reports

(A) The owner or operator of a large lead-acid battery recycling facility shall report by the 15$^{th}$ of each month to the Executive Officer, the results of all ambient air lead and wind monitoring for each preceding month, or more frequently if determined necessary by the Executive Officer. The report shall include the results of individual 24-hour samples and 30-day rolling averages for each day within the reporting period.

(B) The owner or operator of a large lead-acid battery recycling facility shall report by the 15$^{th}$ of each month to the Executive Officer, the results of all ambient air arsenic and wind monitoring for each preceding month, or more frequently if determined necessary by the Executive Officer and the owner or operator is notified in writing of the required frequency.

(C) Any exceedances of ambient air concentrations specified in paragraphs (d)(1) and (d)(5) shall be reported with a notification made to the 1-800-CUT-SMOG within 24 hours of receipt of the completed sample analysis required in paragraph (j)(3), followed by a written report to the Executive Officer no later than three calendar days after the notification. The written report shall include the causes of the exceedance and the specific corrective actions implemented.

(D) On and after July 1, 2015, the owner or operator of a large lead-acid battery recycling facility shall report the following information in writing to the Executive Officer within 72 hours of when the facility knew or should have known that the ambient air concentration of lead was greater than 0.300 $\mu g/m^3$ for any 24-hour sample:

(i) Date of the occurrence;

(ii) Name of the monitor;

(iii) Ambient lead concentration at the monitor for the 24 hour sample;

(iv) Potential cause or causes of the occurrence; and

(v) Potential remedies to prevent the reoccurrence.

(2) Shutdown, Turnaround, and Maintenance Activity Notification

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

(A) Notify the Executive Officer and the public within one hour after an unplanned shutdown of any emission control device has occurred, regardless of whether any emissions were associated with or caused by the unplanned shutdown. If the unplanned shutdown involves a breakdown pursuant to Rule 430, the breakdown notification report required by Rule 430 shall serve in lieu of this notification to the Executive Officer. The notification shall include the following information:

(i) Date and time the unplanned shutdown of the emission control device(s) occurred;

(ii) Description of the shutdown emission control device and the processes and/or equipment vented by the emission control device;

(iii) Description of when the processes and/or equipment vented by the emission control device were shutdown, including

expected shutdown time;

(iv) Reason why the emission control device was shutdown;

(v) Total duration of the unplanned shutdown, if known; and

(vi) Facility contact name and phone number for further information regarding the unplanned shutdown.

(B) If an unplanned shutdown of any emission control device occurs, and the reason for the unplanned shutdown cannot be determined within the one-hour reporting period under subparagraph (n)(2)(A), the owner or operator shall investigate the reason for the unplanned shutdown and notify the Executive Officer of the reason for the unplanned shutdown within 5 business days of the event. If the reason for the unplanned shutdown is still not known within 5 business days of the event, the owner or operator shall notify the Executive Officer within 5 business days of the event and:

(i) Use an independent third party approved by the Executive Officer to conduct an investigation at the facility to determine the reason for the unplanned shutdown of any emission control device subject to this rule. The investigation shall include but is not limited to:

(I) Physically inspecting the control equipment and surrounding portions of the facility which may provide information to understand the reason for the unplanned shutdown of emission control equipment; and

(II) Reviewing equipment maintenance and operation records, logs, and other documentation which may provide information to understand the reason for the unplanned shutdown of emission control equipment;

(ii) Use an independent third party approved by the Executive Officer to inspect all equipment repaired or replaced in response to the unplanned shutdown of emission control equipment, to ensure affected control equipment can operate properly; and

(iii) Within 30 calendar days of the reported unplanned shutdown, provide a written report to the Executive Officer and the Director of the California Department of Toxic Substances

Control. The owner or operator shall notify the Executive Officer if an approved independent third party is not available for use, or the list of approved independent third parties has not yet been developed by the Executive Officer, and shall submit the written report 30 days from when an approved third party is available. The written report shall include the following information:

(I) Date of the unplanned shutdown of emission control equipment;

(II) Reason for the unplanned shutdown of emission control equipment;

(III) List of all equipment repaired or replaced in response to the unplanned shutdown and corrective actions taken to prevent recurrence of the unplanned shutdown of emission control equipment; and

(IV) Written verification that the affected emission control equipment is operational. If the affected equipment is not operational, provide an approximate date the subject equipment is expected to be operational.

(iv) The owner or operator shall be responsible for reimbursement to the District for any and all expenses incurred by the independent third-party investigator in the investigation, inspection, and generation of a written report to determine the cause of an unplanned shutdown of any emission control equipment subject to this rule, as required by subparagraph (n)(2)(B). The owner or operator shall reimburse the District within 30 days of notification from the Executive Officer that payment is due.

(v) The reimbursement specified in clause (n)(2)(B)(iv) shall not exceed $12,000 per third-party investigation.

(C) Notify the Executive Officer and the public at least ten calendar days prior to a planned turnaround or shutdown of any smelting furnace, battery breaker, or emission control device subject to this rule that results in arsenic, benzene, 1,3-butadiene, or lead emissions. The notification shall specify the subject equipment and the start and end date of the turnaround or shutdown period.

(D) Notify the Executive Officer at least ten calendar days prior to the beginning of maintenance activity, as defined in paragraph (c)(17), that is conducted routinely on a monthly or less frequent basis. The notification and report required under subparagraph (n)(2)(F) shall include, at a minimum, the following:

(i) Dates, times, and locations of activities to be conducted;

(ii) Description of activities;

(iii) Name of person(s)/company conducting the activities;

(iv) Lead abatement procedures, including those specified in subdivision (i), to be used to minimize fugitive lead-dust emissions; and

(v) Date of expected re-start of equipment.

(E) Notify the public at least ten calendar days prior to the beginning of building construction, renovation, or demolition, and resurfacing, repair, or removal of ground pavement, concrete or asphalt if such activities are conducted outside of a total enclosure and generate fugitive lead-dust. The notification shall include, at a minimum, the following:

(i) Dates, times, and locations of activities to be conducted;

(ii) Description of activities; and

(iii) Date of expected re-start of equipment.

(F) Provide the notification to the Executive Officer required under subparagraphs (n)(2)(A), (n)(2)(C), and (n)(2)(D) to 1-800-CUT-SMOG followed by a written notification report to the Executive Officer no later than three business days, including Mondays, after the unplanned shutdown occurred.

(G) Provide notification to the public required under subparagraphs (n)(2)(A), (n)(2)(C), and (n)(2)(E) through a facility contact or pre-recorded notification center that is accessible 24 hours a day, 7 days a week, and through electronic mail using a list of recipients provided by the Executive Officer. Another method of notification to the public may be used provided it is approved by the Executive Officer.

(H) Install a sign indicating the phone number for the facility contact or pre-recorded notification center that meets the following requirements, unless otherwise approved in writing by the Executive

Officer:

(i) Installed within 50 feet of the main entrance of the facility and in a location that is visible to the public;

(ii) Measures at least 48 inches wide by 48 inches tall;

(iii) Displays lettering at least 4 inches tall with text contrasting with the sign background; and

(iv) Located between 6 and 8 feet above grade from the bottom of the sign.

(I) Install a sign indicating the phone number for the facility contact or pre-recorded notification center that meets the following requirements, unless otherwise approved in writing by the Executive Officer:

(i) Installed at all entrances and at intervals of 330 feet or less along the property line of the site or along the perimeter of the facility;

(ii) Measures at least 30 inches wide by 30 inches tall;

(iii) Displays lettering at least 2 inches tall with text contrasting with the sign background; and

(iv) Located between 6 and 8 feet above grade from the bottom of the sign; and

(v) In addition to the phone number, the sign shall also display, in English and Spanish, the following information:

Caution

Lead-Acid Battery Recycling Facility

Call before digging

(J) Notify the Executive Officer at least ten calendar days prior to a planned breach or within one hour after an unplanned breach to a total enclosure such that it no longer meets the definition of a total enclosure pursuant to paragraph (c)(29). The notification shall include the following information:

(i) Date and time of planned or unplanned breach to the total enclosure;

(ii) Explanation of breach to the total enclosure;

(iii) Total duration or if not known, estimated duration of breach to the total enclosure; and

(iv) Facility contact name and phone number for further

information.

(3) Initial Facility Status Report

(A) Initial Facility Status Report Due Date

The owner or operator of a large lead-acid battery recycling facility existing before November 5, 2010 shall submit an initial facility status report to the Executive Officer no later than January 1, 2011. Large lead-acid battery recycling facilities beginning construction or initial operations after November 5, 2010 shall submit the initial compliance status report upon start-up.

(B) The initial facility status report shall contain the information identified in Appendix 1.

(4) Ongoing Facility Status Report

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

(A) Frequency of Ongoing Facility Status Reports

The report shall be submitted annually on or before February 1 for all sources and shall include information covering the preceding calendar year.

(B) The content of ongoing facility status reports shall contain the information identified in Appendix 2.

(5) Adjustments to the Timeline for Submittal and Format of Reports

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

(o) Curtailment Requirements

(1) The owner or operator of a large lead-acid battery recycling facility shall implement the following mandatory daily process curtailments if emissions are discharged into the atmosphere which contribute to monitored ambient air concentrations of lead, as determined pursuant to paragraph (d)(1), and/or ambient air concentrations of arsenic, as determined pursuant to paragraph (d)(5), that exceed the thresholds listed below in Table 1:

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

| Air Contaminant | Monitored Ambient Air Concentration | Reduction in Feedstock Charged to Reverberatory Furnace |
|---|---|---|
| Lead | Prior to January 1, 2016: >0.150 – 0.230 µg/$m^3$ January 1, 2016 to December 31, 2016: >0.110 – 0.230 µg/$m^3$ On and after January 1, 2017: >0.100 – 0.230 µg/$m^3$ | 15% |
| | >0.230 – 0.300 µg/$m^3$ | 25% |
| | >0.300 – 0.375 µg/$m^3$ | 50% |
| | >0.375 µg/$m^3$ | 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% |

(A) The process curtailments for exceedances of the ambient air concentration of lead thresholds in Table 1 shall remain in effect until the monitoring results at each affected monitoring station are at or below the ambient lead concentration limits specified in paragraph (d)(1) for a period of 30 consecutive days, or the monitoring results at each affected monitoring station are at or below 0.100 µg/$m^3$ for at least 10 consecutive days and no other monitor exceeds the thresholds specified in subdivision (d); and

(B) The process curtailments for exceedances of the ambient air concentration of arsenic thresholds in Table 1 shall remain in effect until the monitoring results at each affected monitoring station are at or below 10.0 ng/$m^3$ of arsenic averaged over a 24-hour time period, for a period of at least 30 consecutive days.

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

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

| Effective Date | Air Contaminant | Total Facility Mass Emission Rate (lbs/hour) | Reduction in Feedstock Charged to Reverberatory Furnace |
|---|---|---|---|
| On and after ~~January 10,~~ ~~2014~~(date of adoption) | Lead | ~~Prior to January 1, 2016~~ ~~>0.045 – 0.0675~~ ~~On and after January 1, 2016~~ >~~0.023~~0.003 – 0.0675 | 15% |
| | | >0.0675 – 0.09 | 25% |
| | | >0.09 – 0.1125 | 50% |
| | | >0.1125 | 75% |
| No later than 60 days after January 10, 2014 to December 31, 2014 | Arsenic | >0.00285 – 0.00428 | 15% |
| | | >0.00428 – 0.00570 | 25% |
| | | >0.00570 – 0.00713 | 50% |
| | | >0.00713 | 75% |
| On and after January 1, 2015 | Arsenic | >0.00114 – 0.00171 | 15% |
| | | >0.00171 – 0.00228 | 25% |
| | | >0.00228 – 0.00285 | 50% |
| | | >0.00285 | 75% |

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

(3) Reductions in feedstock charged to the reverberatory furnace required by paragraphs (o)(1) or (o)(2) shall be based on the daily average of materials charged to the reverberatory furnace over the previous 90 days of operation prior to when the facility knew or should have known of the exceedance.

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

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

(p) Large Lead-Acid Battery Facility Closure Requirements

The owner or operator of a large lead-acid battery facility that has notified the Executive Officer that the facility will be permanently closing shall do the following:

(1) Continue daily arsenic and lead ambient monitoring in accordance with subdivision (j) and comply with the requirements in paragraphs (d)(1), (d)(5) and (d)(6);

(2) Within 90 days from (date of adoption), submit a Compliance Plan for Closure Activities to the Executive Officer for review and approval. A Compliance Plan for Closure Activities is subject to plan fees as specified in Rule 306. The Compliance Plan for Closure Activities shall, at a minimum, include the following:

(A) A description of measures to ensure the ambient air concentration of lead and arsenic as specified in paragraphs (d)(1) and (d)(5) will not be exceeded;

(B) Additional contingency measures that can be implemented in the event there is an exceedance of the lead or arsenic ambient concentrations specified in paragraphs (d)(1) and (d)(5); and

(C) A schedule for implementing measures that coincide with the various closure phases including inventory removal, decontamination, confirmation sampling, removal of equipment, building decontamination, confirmation sampling for the building, soil and soil gas sampling, and building demolition. Measures in the Compliance Plan for Closure Activities shall be updated periodically to reflect the progression of closure activities.

(3) If the ambient air concentrations of lead or arsenic exceed the limits in paragraphs (d)(1) and (d)(5), the owner or operator shall temporarily suspend closure-related activities that contributed to the exceedance until contingency measures in the Approved Compliance Plan for Closure Activities can be implemented. If a previously unidentified activity for which the contingency measures do not address contributes to the

exceedances, then a revised Compliance Plan for Closure Activities will be required to be submitted and approved by the Executive Officer, in consultation with the California Department of Toxic Substances Control, before closure related activities that contributed to the exceedances resume;

(4) The applicability and all provisions of this rule will no longer apply when the Executive Officer determines the following criteria have been met:

(A) All SCAQMD permits have been surrendered to the Executive Officer;

(B) The lead-acid battery recycling facility has submitted certification of final closure, approved by the California Department of Toxic Substances Control, to the Executive Officer;

(C) The owner or operator has received written confirmation from the Executive Officer that the final closure has been verified; and

(D) The facility has had no exceedances of ambient lead or arsenic concentrations pursuant to paragraph (d)(1) and (d)(5) for 12 consecutive months with at least one month occurring after the date of submittal of certification of final closure.

(q) Exemption

The owner or operator of a large lead-acid battery facility that has permanently ceased production and has notified the Executive Officer that the facility will be permanently closing is exempt from all requirements in the rule except for paragraphs (d)(1), (d)(5) and (d)(6), and subdivisions (j) and (p).

(~~p~~r) Severability

If any provision of this rule is held by judicial order to be invalid, or invalid or inapplicable to any person or circumstance, such order shall not affect the validity of the remainder of this rule, or the validity or applicability of such provision to other persons or circumstances.

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

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

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

## Appendix 2 – Content of Ongoing Facility Status Reports

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

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

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

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

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

# APPENDIX B

# ASSUMPTIONS AND CALCULATIONS

**Enclosures**

| Building | Width, ft | Length, ft | Height, ft | Area, ft | Surface Area ft2 | Convert to Cubic yards | Truck capacity cubic yards | # of Trucks |
|---|---|---|---|---|---|---|---|---|
| Total Enclosure 1 | 125 | 329 | 75 | 41,125 | 140,975 | | | |
| Total Enclosure 2 | 140 | 500 | 25 | 70,000 | 168,500 | | | |
| Total Enclosure 3 | 45 | 140 | 25 | 6,300 | 20,725 | | | |
| Total Enclosure 4 | 15 | 45 | 17 | 675 | 3,135 | | | |
| **Total:** | | | | 118,100 | 333,335 | 1,234.57 | 30 | 41 |

Assumed 0.1" sheet thickness
Surface Area of a Rectangular Prism = 2ab + 2bc + ac*
*area not needed for floor

# Table B-2
## Construction Emissions - Temporary Enclosures

| Example | Construction Activity | | | | | |
|---|---|---|---|---|---|---|
| | Building | 118,100 | Square Foot Structure[a] | Duration | 10 | days |

**Construction Schedule Unknown**

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Forklifts | 2 | 7.0 | 8 |
| Cranes | 2 | 8.0 | |
| Generator Sets | 2 | 8.0 | |
| Electric Welders | 4 | 8.0 | |

**Construction Equipment Combustion Emission Factors**

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| Equipment Type[c] | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr |
| Forklifts | 0.232 | 0.516 | 0.069 | 0.001 | 0.028 | 0.026 | 54.4 | 0.006 | 0.006 |
| Cranes | 0.543 | 1.451 | 0.159 | 0.001 | 0.064 | 0.059 | 128.7 | 0.014 | 0.014 |
| Generator Sets | 0.329 | 0.644 | 0.096 | 0.001 | 0.040 | 0.036 | 61.0 | 0.009 | 0.008 |
| Electric Welders | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[d] | 0.01195456 | 0.03822102 | 0.00304157 | 0.00004131 | 0.00183062 | 0.00160083 | 4.21120578 | 0.00014201 | 0.00001058 |
| Worker Vehicles | 0.00826276 | 0.00091814 | 0.00091399 | 0.00001077 | 0.00008698 | 0.00005478 | 1.09568235 | 0.00008146 | 0.00010753 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | Trip Length (miles) |
|---|---|---|
| Flatbed Truck[e] | 2 | 40 |
| Construction Workers | 8 | 20 |

## Table B-2
### Construction Emissions - Temporary Enclosures

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

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

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day |
| Fork Lifts | 3.25 | 7.23 | 0.96 | 0.01 | 0.39 | 0.36 | 762 | 0.09 | 0.08 |
| Cranes | 8.69 | 23.22 | 2.55 | 0.02 | 1.03 | 0.95 | 2,058 | 0.23 | 0.22 |
| Generator Sets | 5.27 | 10.30 | 1.54 | 0.01 | 0.63 | 0.58 | 976 | 0.14 | 0.13 |
| Electric Welders | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Total** | **17.2** | **40.8** | **5.0** | **0.04** | **2.1** | **1.9** | **3,796** | **0.46** | **0.43** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day |
| Flatbed Truck | 1.91 | 6.1 | 0.49 | 0.0066 | 0.29 | 0.26 | 674 | 0.02 | 0.00 |
| Worker Vehicles | 2.64 | 0.29 | 0.29 | 0 | 0.03 | 0.02 | 351 | 0.03 | 0.03 |
| **Total** | **4.6** | **6.4** | **0.78** | **0.01** | **0.32** | **0.28** | **1,024** | **0.05** | **0.03** |

**Total Incremental Combustion Emissions from Construction Activities**

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2[g] | CH4[g] | N2O[g] |
|---|---|---|---|---|---|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | Mton/project/ 30 yrs | Mton/project/ 30 yrs | Mton/project/ 30 yrs |
| On-Site Emissions | **22** | **47** | **5.8** | **0.05** | **2.4** | **2.2** | **1** | **0.000** | **0.000** |
| **Significance Threshold[f]** | ***550*** | ***100*** | ***75*** | ***150*** | ***150*** | ***55*** | 10,000 Mton/year | 10,000 Mton/year | 10,000 Mton/year |
| **Exceed Significance?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | | | |

## Table B-2
## Construction Emissions - Temporary Enclosures

**Notes:**

a) Based on permit applications

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Oct 2006. Assumed equipment is diesel fueled except the welders which are powered by the generator. N2O values estimated from ratio of N2O and CH4 EF presented for on-road ve in the ARB Regulation for Mandatory Reporting of GHG Emissions.

d) 2010 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2) values from ARB Regulation for Mandatory Reporting of GHG Emissions.

e) Assumed haul truck travels 40 miles round trip

f) SCAQMD Regional Significance Thresholds

g) GHG are reported in metric tons (Mton) over 30 years.

# Table B-3

**Operational Emissions-Worker Trips**

**Operational**

| | 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 |

**Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | One-Way Trip Length (miles) |
|---|---|---|
| Worker | 8 | 20 |

**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 | 1.32 | 0.109 | 0.0332 | 0.0141 | 0.144 | 0.00263 | 233 | 0.0064 | 4.83E-06 |

**Total Incremental Localized Emissions from Operational 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 | **1.3** | **0.1** | **0.0** | **0.0** | **0.1** | **0.0** | **233.1** |
| **Significance Threshold**[b] | ***550*** | ***55*** | ***150*** | ***55*** | ***75*** | ***150*** | ***10,000*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** |

**Notes:**

Emission factors estimated using EMFAC2011 for the 2015 fleet year.

b SCAQMD significance thresholds

**Building/Installation of Temporary Enclosures**

**Schedule** 10 **days**

| Equipment Type | No. of Equipment | Op Time, hr/day | Fuel Economy, gal/hr | Fuel Used, gal/day |
|---|---|---|---|---|
| Cranes | 3 | 7.0 | 3.52 | 73.92 |
| Forklifts | 2 | 8.0 | 0.96 | 15.36 |
| Generator Sets | 2 | 8.0 | 3.80 | 60.86 |

| | | |
|---|---|---|
| **Total Diesel Used for Phase** | 1501.36 | **gal/phase** |

| Vehicle | No. of One-Way | One-Way Trip Length, miles | Fuel Economy, mpg | Fuel Used |
|---|---|---|---|---|
| Automobile | 8 | 20 | 10 | 32 |
| Heavy-duty Truck (construction) | 2 | 40 | 40 | 4 |
| Heavy-duty Truck (haul disposal) | 41 | 200 | 40 | 410 |

| | | |
|---|---|---|
| **Total Diesel Used for Phase** | 414 | **gal/phase** |
| **Total Gasoline Used for Phase** | 320 | **gal/phase** |

| | | |
|---|---|---|
| Grand Total of Diesel Use for Project: | 1915.36 | **gal/project** |

In Table 2-6 of the Air Quality section of the Draft SEA, some of the estimated operational emissions were taken from previous Environmental Assessments prepared for Rule 1420.1, as listed below:

- Final Subsequent Environmental Assessment for Proposed Amended Rule 1420.1 Emissions Standard for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, February 2015 (Final SEA 2015)

- 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, January 2014 (Final EA 2014)

- Final Environmental Assessment for Proposed 1420.1 Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities, October 2010 (Final EA 2010)

For the Heavy-Duty sweepers, the operational emissions were the sum of emissions from Appendix B, Table B-6 of Final EA 2010 and Appendix B, Table B-5 of Final SEA 2015.

For the Aerial lift and delivery, the operational emissions were the sum of emissions from Appendix B, Tables B-7 and B-8 of Final EA 2010.

For the Air Monitor visit, the operational emissions were taken from Appendix B, Table B-5 of Final EA 2010.

For the Haul Disposal trip, the operational haul truck emissions were taken from Appendix B, Table B-5 of Final EA 2014.

Appendix B of Final SEA 2015 and Appendix B of Final EA 2010 are attached here and provided as a reference.

**APPENDIX B** - February 2015

# 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] mph | **Moisture Content**[f] | **Debris Handled**[g] 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 conrete 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)

| | 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 |
| 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**[c] | ***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 APC** | | |
|---|---|---|
| **Construction Schedule** | 21 | 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**

| | **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 |
| 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** | **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 |
| Heavy-duty Truckd | 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 metric |
|---|---|---|---|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | 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**

**Operational**

| | 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)** |
|---|---|---|
| Worker | 32 | 20 |
| Heavy-duty Truck (Sweeper) | 3 | 21 |

**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 | 5.28 | 0.437 | 0.1328 | 0.0565 | 0.576 | 0.01052 | 932 | 0.0257 | 4.83E-06 |
| Heavy-duty Truck (Sweeper) | 0.5 | 2.3 | 0.068 | 0.048 | 0.10 | 0.0046 | 473 | 0.0046 | 0.032 |

**Total Incremental ~~Localized~~ Emissions from Operational 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 | **5.8** | **2.7** | **0.2** | **0.1** | **0.7** | **0.02** | **0.64** |
| **Significance Threshold[b]** | ***550*** | ***55*** | ***150*** | ***55*** | ***75*** | ***150*** | ***10,000*** |
| **Exceed Significance?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** |

**Notes:**

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

n) SCAQMD significance thresholds

**Table B-6**
**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-7**
**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-8**
**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 | 32 | 20 | 10 | 128 |
| Heavy-duty Truck (Sweeper) | 3 | 21 | 40 | 3 |

# A P P E N D I X  B - January 2014

## A S S U M P T I O N S  A N D  C A L C U L A T I O N S

**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 lb/hr | NOx lb/hr | PM10 lb/hr | PM2.5 lb/hr | VOC lb/hr | SOx lb/hr | CO2 lb/hr | CH4 lb/hr | NO2 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] mph | Moisture Content[h] | Dirt Handled[i] cy | Dirt Handled[j] 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)

| Vehicle | 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 |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

**A P P E N D I X  B - October 2010**

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# A S S U M P T I O N S  A N D  C A L C U L A T I O N S

## Table B-1
## Enclosure Sizes from Permit Applications

| Building | Width, m | Length, m | Height, m | Area, ft2 | Area, acre | Construction Days | Construction Months |
|---|---|---|---|---|---|---|---|
| Total Enclosure 1 | 125 | 329 | 75 | 41,125 | 0.94 | 71.4 | 3.2 |
| Total Enclosure 2 | 140 | 500 | 25 | 70,000 | 1.61 | 121.5 | 5.5 |
| Total Enclosure 3 | 45 | 140 | 25 | 6,300 | 0.14 | 10.9 | 0.5 |
| Total Enclosure 4 | 15 | 45 | 17 | 675 | 0.02 | 1.2 | 0.1 |
| Total Enclosure 5 | 90 | 180 | 54 | 16,200 | 0.37 | 28.1 | 1.3 |
| Totals | | | | 134,300 | 3.1 | 233 | |

Source: Permit applications

## Table B-2a
## Concrete Demolition for Lead Control Device Foundation Construction Emissions

| **Construction Activity** | | | | |
|---|---|---|---|---|
| Demolition of concrete | 2,704 | Square Foot Area[a] | | |
| **Demolition Schedule** | **1** | **days[a]** | | |

| **Equipment Type[a,b]** | **No. of Equipment** | **hr/day** | **Crew Size** |
|---|---|---|---|
| Concrete/Industrial Saws | 1 | 8.0 | 6 |
| Tractors/Loaders/Backhoes | 2 | 8.0 | |
| Rubber Tired Dozers | 1 | 2.0 | |

| **Construction Equipment Emission Factors** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **CO** | **NOx** | **VOC** | **SOX** | **PM10** | **PM2.5** | **CO2** | **CH4** | **N2O** |
| **Equipment Type[c]** | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr | lb/hr |
| Concrete/Industrial Saws | 0.427 | 0.657 | 0.127 | 0.001 | 0.055 | 0.051 | 58.5 | 0.011 | 0.011 |
| Tractors/Loaders/Backhoes | 0.393 | 0.675 | 0.102 | 0.001 | 0.052 | 0.048 | 66.8 | 0.009 | 0.009 |
| Rubber Tired Dozers | 1.413 | 2.989 | 0.338 | 0.002 | 0.129 | 0.118 | 239 | 0.030 | 0.029 |

## Table B-2a (Continued)
## Concrete Demolition for Lead Control Device Foundation Construction Emissions

**Demolition Dimensions**

| Description[a] | Width of Area | Length of Area | Depth of Area |
|---|---|---|---|
| | ft | ft | ft |
| Total Project | 52 | 52 | 2 |

**Fugitive Dust Material Handling**

| Aerodynamic Particle Size Multiplier[d] | Mean Wind Speed[e] | Moisture Content[f] | Debris Handled[g] |
|---|---|---|---|
| | mph | | ton/day |
| 0.35 | 10 | 2.0 | 249 |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile | lb/mile |
| Heavy-Duty Truck[h] | 0.01195456 | 0.03822102 | 0.00304157 | 0.00004131 | 0.00183062 | 0.00160083 | 4.21120578 | 0.00014201 | 0.0000106 |
| Worker Vehicles | 0.00826276 | 0.00091814 | 0.00091399 | 0.00001077 | 0.00008698 | 0.00005478 | 1.09568235 | 0.00008146 | 0.0001076 |

**On-Site Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day[i] | One-Way Trip Length[j] (miles) |
|---|---|---|
| Haul Truck | 7 | 68 |
| Construction Workers | 6 | 20 |

## Table B-2a (Continued)
## Concrete Demolition for Lead Control Device Foundation Construction Emissions

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

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

| Equipment Type | CO lb/day | NOx lb/day | VOC lb/day | SOX lb/day | PM10 lb/day | PM2.5 lb/day | CO2 lb/day | CH4 lb/day | N2O lb/day |
|---|---|---|---|---|---|---|---|---|---|
| Concrete/Industrial Saws | 3.4 | 5.3 | 1.0 | 0.01 | 0.44 | 0.41 | 468 | 0.09 | 0.09 |
| Tractors/Loaders/Backhoes | 6.3 | 10.8 | 1.6 | 0.01 | 0.83 | 0.77 | 1,069 | 0.15 | 0.14 |
| Rubber Tired Dozers | 2.83 | 6.0 | 0.68 | 0.00 | 0.26 | 0.24 | 478 | 0.06 | 0.06 |
| **Total** | **12.5** | **22.0** | **3.3** | **0.02** | **1.5** | **1.41** | **2,015** | **0.30** | **0.28** |

**Incremental Increase in Onsite Fugitive Dust Emissions from Construction Equipment**

Material Handling[k]: (0.0032 x Aerodynamic Particle Size Multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x debris handled (ton/day)) x (1 - control efficiency) = PM10 Emissions (lb/day)

| Description | Control Efficiency % | PM10[m] lb/day |
|---|---|---|
| Material Handling (Demolition)[l] | 61 | 0.27 |
| Material Handling (Debris) | 61 | 0.27 |
| **Total** | | **0.54** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| Vehicle | CO lb/day | NOx lb/day | VOC lb/day | SOX lb/day | PM10 lb/day | PM2.5 lb/day | CO2 lb/day | CH4 lb/day | N2O lb/day |
|---|---|---|---|---|---|---|---|---|---|
| Haul Truck | 11.4 | 36.4 | 2.9 | 0.039 | 1.7 | 1.5 | 4,009 | 0.14 | 0.010 |
| Worker Vehicles | 2.0 | 0.2 | 0.2 | 0.003 | 0.0 | 0.0 | 263 | 0.02 | 0.026 |
| **Total** | **13.4** | **36.6** | **3.1** | **0.042** | **1.8** | **1.5** | **4,272** | **0.15** | **0.036** |

## Table B-2a (Concluded)
## Concrete Demolition for Lead Control Device Foundation Construction Emissions

**Total Incremental Localized Emissions from Construction Activities**

| Sources | CO lb/day | NOx lb/day | VOC lb/day | SOX lb/day | PM10 lb/day | PM2.5 lb/day | CO2 Mton/project/ 30 yrs | CH4 Mton/project/ 30 yrs | N2O Mton/project/ 30 yrs |
|---|---|---|---|---|---|---|---|---|---|
| On-site Emissions | **25.9** | **58.6** | **6.4** | **0.1** | **3.3** | **2.9** | **0.10** | **0.0000069** | **0.0000048** |
| **Significance Threshold[n]** | ***550*** | ***100*** | ***75*** | ***150*** | ***150*** | ***55*** | | | |
| **Exceed Significance?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | | | |

**Notes:**

a) SCAQMD, estimated from survey data, Sept 2004

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Oct 2006. Assumed equipment is diesel fueled. N2O values estimated from ratio of N2O and CH4 EF presented for on-road vehicles in the ARB Regulation for Mandatory Reporting of GHG Emissions.

d) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggregate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm

e) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

f) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28

g) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, p 2-28. Debris weight to area ratio = 0.046 ton/sq ft (2,704 sq ft x 0.046 ton/sq ft)/1 days = 249 ton/day

h) 2010 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O-values from ARB Regulation for Mandatory Reporting of GHG Emissions.

i) Assumed 30 cubic yd truck capacity [(249 ton/day x 2,000 lb/ton x cyd/1,620 lb = 307 cyd)/30 cyd/truck = 11 one-way truck trips/day, building debris density is assumed to be 1,620 lb/cyd] Multiple trucks can be used.

j) Assumed trucks travel to the US Ecology, Beatty, NV facility per conversations with the affected facility. It is 68 miles from facility to Cajon pass.

k) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28.

l) EPA suggests using the material handling equation for demolition emission estimates.

m) Includes watering at least three times a day per Rule 403 (61% control efficiency)

n) SCAQMD Regional Significant Thresholds

o) ARB's CEIDARS database PM2.5 fractions - construction dust category for fugitive and diesel vehicle exhaust category for combustion.

## Table B-2b
## Haul Truck Travel Through Mojave Desert Air Quality Management District

**EMFAC2007 Emission Factors**

| CO, lb/mile | NOx, lb/mile | VOC, lb/mile | SOx, lb/mile | PM10, lb/mile | PM2.5, lb/mile | CO2, lb/mile | CH4, lb/mile | N2O, lb/mile |
|---|---|---|---|---|---|---|---|---|
| 0.01195456 | 0.03822102 | 0.00304157 | 0.00004131 | 0.00183062 | 0.00160083 | 4.21120578 | 0.00014201 | 0.00001058 |

2010 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O-values from ARB Regulation for Mandatory Reporting of GHG Emissions.

**Haul Truck Emissions**

| Debris Hauled, yard3/ day | Truck Haul Capacity, yard3/ day | Daily Number of Trucks | One-way VMT, mile | CO, lb/day | NOx, lb/day | VOC, lb/day | SOx, lb/day | PM10, lb/day | PM2.5, lb/day | CO2, lb/day | CH4, lb/day | N2O, lb/day | CO2eq, lb/day |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 30 | 7 | 191 | 30.5 | 97.5 | 7.8 | 0.1 | 4.7 | 4.1 | 10,740 | 0.36 | 0.027 | 10,804 |
| MDAQMD Significance Thresholds, lb/day | | | | 548 | 137 | 137 | 137 | 82 | 82 | | | | |
| Significant? | | | | No | No | No | No | No | No | | | | |

## Table B-2c
## Concrete Paving for Lead Control Device Foundation Construction Emissions

| | |
|---|---|
| **Construction Activity** | |
| Concrete Paving | |
| **Construction Schedule** | **1 days[a]** |

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Pavers | 1 | 5.0 | 8 |
| Cement and Mortar Mixers | 4 | 6.0 | |
| Rollers | 1 | 5.0 | |
| Tractors/Loaders/Backhoes | 1 | 5.0 | |

## Table B-2c (Continued)
## Concrete Paving for Lead Control Device Foundation Construction Emissions

**Construction Equipment Combustion Emission Factors**

| Equipment Type[c] | CO lb/hr | NOx lb/hr | VOC lb/hr | SOX lb/hr | PM10 lb/hr | PM2.5 lb/hr | CO2 lb/hr | CH4 lb/hr | N2O lb/hr |
|---|---|---|---|---|---|---|---|---|---|
| Pavers | 0.564 | 0.987 | 0.177 | 0.001 | 0.071 | 0.065 | 77.9 | 0.016 | 0.015 |
| Cement and Mortar Mixers | 0.043 | 0.060 | 0.010 | 0.000 | 0.004 | 0.003 | 7.2 | 0.001 | 0.001 |
| Rollers | 0.421 | 0.775 | 0.118 | 0.001 | 0.055 | 0.050 | 67.1 | 0.011 | 0.010 |
| Tractors/Loaders/Backhoes | 0.393 | 0.675 | 0.102 | 0.001 | 0.052 | 0.048 | 66.8 | 0.009 | 0.009 |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO lb/mile | NOx lb/mile | VOC lb/mile | SOX lb/mile | PM10 lb/mile | PM2.5 lb/mile | CO2 lb/mile | CH4 lb/mile | N2O lb/mile |
|---|---|---|---|---|---|---|---|---|---|
| Heavy-Duty Truck[d] | 0.01195456 | 0.03822102 | 0.00304157 | 0.00004131 | 0.00183062 | 0.00160083 | 4.21120578 | 0.0001420 | 0.00001058 |
| Worker Vehicles | 0.00826276 | 0.00091814 | 0.00091399 | 0.00001077 | 0.00008698 | 0.00005478 | 1.09568235 | 0.0000814 | 0.00010753 |

**On-Site Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | One-Way Trip Length (miles) |
|---|---|---|
| Delivery Truck[e] | 3 | 40 |
| Worker Vehcile | 8 | 20 |

## Table B-2c (Continued)
## Concrete Paving for Lead Control Device Foundation Construction Emissions

**Incremental Increase in Onsite Idling Emissions from Onroad Mobile Vehicles**

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

| **Equipment Type** | **CO** lb/day | **NOx** lb/day | **VOC** lb/day | **SOX** lb/day | **PM10** lb/day | **PM2.5** lb/day | **CO2** lb/day | **CH4** lb/day | **N2O** lb/day |
|---|---|---|---|---|---|---|---|---|---|
| Pavers | 2.8 | 4.9 | 0.9 | 0.00 | 0.35 | 0.33 | 390 | 0.08 | 0.08 |
| Cement and Mortar Mixers | 10.1 | 18.6 | 2.8 | 0.0 | 1.3 | 1.2 | 1,609 | 0.25 | 0.24 |
| Rollers | 0.22 | 0.30 | 0.05 | 0.00 | 0.0 | 0.0 | 36 | 0.00 | 0.00 |
| Tractors/Loaders/Backhoes | 1.96 | 3.37 | 0.51 | 0.00 | 0.26 | 0.24 | 334 | 0.05 | 0.04 |
| **Total** | **15.1** | **27.2** | **4.3** | **0.0** | **1.9** | **1.8** | **2,369** | **0.39** | **0.36** |

**Incremental Increase in Offsite Combustion Emissions from Construction Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| **Vehicle** | **CO** lb/day | **NOx** lb/day | **VOC** lb/day | **SOX** lb/day | **PM10** lb/day | **PM2.5** lb/day | **CO2** lb/day | **CH4** lb/day | **N2O** lb/day |
|---|---|---|---|---|---|---|---|---|---|
| Flatbed Truck | 2.9 | 9.2 | 0.73 | 0.010 | 0.44 | 0.38 | 1,011 | 0.034 | 0.0025 |
| Worker Vehicle | 2.6 | 0.29 | 0.29 | 0.003 | 0.028 | 0.018 | 351 | 0.026 | 0.0344 |
| **Total** | **5.5** | **9.5** | **1.02** | **0.013** | **0.47** | **0.40** | **1,361** | **0.060** | **0.0369** |

**Total Incremental Combustion Emissions from Construction Activities**

| **Sources** | **CO** lb/day | **NOx** lb/day | **VOC** lb/day | **SOX** lb/day | **PM10** lb/day | **PM2.5** lb/day | **CO2** Mton/project/ 30 yrs | **CH4** Mton/project/ 30 yrs | **N2O** Mton/project/ 30 yrs |
|---|---|---|---|---|---|---|---|---|---|
| On-Site Emissions | **20.6** | **36.7** | **5.3** | **0.041** | **2.4** | **2.2** | **0.056** | **0.0000067** | **0.0000060** |
| **Significance Threshold**[f] | ***550*** | ***100*** | ***75*** | ***150*** | ***150*** | ***55*** | | | |
| **Exceed Significance?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** |

## Table B-2c (Concluded)
## Concrete Paving for Lead Control Device Foundation Construction Emissions

**Notes:**

a) SCAQMD, estimated from survey data, Sept 2004.

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Oct 2006. Assumed equipment is diesel fueled. N2O values estimated from ratio of N2O and CH4 EF presented for on-road vehicles in the ARB Regulation for Mandatory Reporting of GHG Emissions.

d) 2009 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O-values from ARB Regulation for Mandatory Reporting of GHG Emissions.

e) Assumed haul truck travels 40 miles.

f) SCAQMD Regional Significant Thresholds

g) ARB's CEIDARS database PM2.5 fractions - construction dust category for fugitive and diesel vehicle exhaust category for combustion.

## Table B-2d
## Structure Construction Emissions

| Example | Construction Activity | | | | | |
|---|---|---|---|---|---|---|
| Three Acre Site | Building | 134,300 | Square Foot Structure[a] | Duration | 234 | days |

**Construction Schedule Unknown**

| Equipment Type[a,b] | No. of Equipment | hr/day | Crew Size |
|---|---|---|---|
| Forklifts | 2 | 7.0 | 9 |
| Cranes | 2 | 8.0 | |
| Tractors/Loaders/Backhoes | 2 | 6.0 | |
| Generator Sets | 2 | 8.0 | |
| Electric Welders | 4 | 8.0 | |

## Table B-2d (Continued)
## Structure Construction Emissions

**Construction Equipment Combustion Emission Factors**

| Equipment Type[c] | CO lb/hr | NOx lb/hr | VOC lb/hr | SOX lb/hr | PM10 lb/hr | PM2.5 lb/hr | CO2 lb/hr | CH4 lb/hr | N2O lb/hr |
|---|---|---|---|---|---|---|---|---|---|
| Forklifts | 0.232 | 0.516 | 0.069 | 0.001 | 0.028 | 0.026 | 54.4 | 0.006 | 0.006 |
| Cranes | 0.543 | 1.451 | 0.159 | 0.001 | 0.064 | 0.059 | 128.7 | 0.014 | 0.014 |
| Tractors/Loaders/Backhoes | 0.393 | 0.675 | 0.102 | 0.001 | 0.052 | 0.048 | 66.8 | 0.009 | 0.009 |
| Generator Sets | 0.329 | 0.644 | 0.096 | 0.001 | 0.040 | 0.036 | 61.0 | 0.009 | 0.008 |
| Electric Welders | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

**Construction Vehicle (Mobile Source) Emission Factors**

| | CO lb/mile | NOx lb/mile | VOC lb/mile | SOX lb/mile | PM10 lb/mile | PM2.5 lb/mile | CO2 lb/mile | CH4 lb/mile | N2O lb/mile |
|---|---|---|---|---|---|---|---|---|---|
| Heavy-Duty Truck[d] | 0.01195456 | 0.03822102 | 0.00304157 | 0.00004131 | 0.00183062 | 0.00160083 | 4.21120578 | 0.00014201 | 0.00001058 |
| Worker Vehicles | 0.00826276 | 0.00091814 | 0.00091399 | 0.00001077 | 0.00008698 | 0.00005478 | 1.09568235 | 0.00008146 | 0.00010753 |

**Construction Worker Number of Trips and Trip Length**

| Vehicle | No. of One-Way Trips/Day | Trip Length (miles) |
|---|---|---|
| Flatbed Truck[e] | 10 | 40 |
| Construction Workers | 9 | 20 |

## Table B-2d (Continued)
## Structure Construction Emissions

**Incremental Increase in Onsite Combustion Emissions from Construction Equipment**

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

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2 | CH4 | NO2 |
|---|---|---|---|---|---|---|---|---|---|
| **Equipment Type** | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day |
| Fork Lifts | 3.25 | 7.23 | 0.96 | 0.01 | 0.39 | 0.36 | 762 | 0.09 | 0.08 |
| Cranes | 8.69 | 23.22 | 2.55 | 0.02 | 1.03 | 0.95 | 2,058 | 0.23 | 0.22 |
| Tractors/Loaders/Backhoes | 4.72 | 8.10 | 1.22 | 0.009 | 0.62 | 0.57 | 802 | 0.11 | 0.10 |
| Generator Sets | 5.27 | 10.30 | 1.54 | 0.01 | 0.63 | 0.58 | 976 | 0.14 | 0.13 |
| Electric Welders | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Total** | **21.9** | **48.9** | **6.3** | **0.05** | **2.7** | **2.5** | **4,598** | **0.57** | **0.53** |

**Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles**

**Equation:** Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| **Vehicle** | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day |
| Flatbed Truck | 9.56 | 30.6 | 2.43 | 0.0330 | 1.46 | 1.28 | 3,369 | 0.11 | 0.01 |
| Worker Vehicles | 2.97 | 0.33 | 0.33 | 0 | 0.03 | 0.02 | 394 | 0.03 | 0.04 |
| **Total** | **12.5** | **30.9** | **2.76** | **0.03** | **1.49** | **1.30** | **3,763** | **0.14** | **0.05** |

**Total Incremental Combustion Emissions from Construction Activities**

| | CO | NOx | VOC | SOX | PM10 | PM2.5 | CO2[g] | CH4[g] | N2O[g] |
|---|---|---|---|---|---|---|---|---|---|
| **Sources** | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | Mton/project/ 30 yrs | Mton/project/ 30 yrs | Mton/project/ 30 yrs |
| On-Site Emissions | **34** | **80** | **9.0** | **0.08** | **4.2** | **3.8** | **30** | **0.003** | **0.002** |
| **Significance Threshold[f]** | ***550*** | ***100*** | ***75*** | ***150*** | ***150*** | ***55*** | 10,000 Mton/year | 10,000 Mton/year | 10,000 Mton/year |
| **Exceed Significance?** | **NO** | **NO** | **NO** | **NO** | **NO** | **NO** | | | |

## Table B-2d (Concluded)
## Structure Construction Emissions

**Notes:**

a) Based on permit applications

b) Equipment name must match CARB Off-Road Model (see Off-Road Model EF worksheet) equipment name for sheet to look up EFs automatically.

c) SCAB values provided by the ARB, Oct 2006. Assumed equipment is diesel fueled except the welders which are powered by the generator. N2O values estimated from ratio of N2O and CH4 EF presented for on-road vehicles in the ARB Regulation for Mandatory Reporting of GHG Emissions.

d) 2010 fleet year. http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. N2O values from ARB Regulation for Mandatory Reporting of GHG Emissions.

e) Assumed haul truck travels 40 miles round trip

f) SCAQMD Regional Significance Thresholds

g) GHGs are reported in metric tons (Mton) over 30 years.

## Table B-3
## Estimation of Area Swept

| Area, m2 | Area, ft2 | Area, acres | Width of Sweeper Path, ft | Linear Feet Traveled, ft | Linear Feet Traveled, miles |
|---|---|---|---|---|---|
| 36,000 | 387,501 | 8.9 | 7 | 55,357 | 10.48 |

## Table B-4
## EMFAC2007 On-Road Emission Factors

| Description | CO, lb/mile | NOx, lb/mile | VOC, lb/mile | SOX, lb/mile | PM10, lb/mile | PM2.5, lb/mile | CO2, lb/mile | CH4, lb/mile | N2O, lb/mile |
|---|---|---|---|---|---|---|---|---|---|
| Heavy-Duty Truck | 0.01195456 | 0.03822102 | 0.00304157 | 0.00004131 | 0.00183062 | 0.00160083 | 4.21120578 | 0.00014201 | 0.00001058 |
| Medium-Duty Truck | 0.018438 | 0.020625 | 0.002590 | 0.000027 | 0.000751 | 0.000642 | 2.732222 | 0.000126 | 0.000011 |
| Gasoline Vehicles | 0.00826276 | 0.00091814 | 0.00091399 | 0.00001077 | 0.00008698 | 0.00005478 | 1.09568235 | 0.00008146 | 0.00010753 |

**Table B-5**
**Additional Emissions from Visiting Air Monitors**

| Description | VMT, mile/day | CO, lb/day | NOx, lb/day | VOC, lb/day | SOX, lb/day | PM10, lb/day | PM2.5, lb/day | CO2, Mton/year | CH4, Mton/year | N2O, Mton/year |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline vehicle | 80 | 0.66 | 0.07 | 0.07 | 0.0009 | 0.007 | 0.0044 | 7.3 | 0.0005 | 0.000712 |

Assumes sweeping twice more per day
EMFAC2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

**Table B-6**
**Additional Emissions from Sweeping**

| Description | VMT, mile/day | CO, lb/day | NOx, lb/day | VOC, lb/day | SOX, lb/day | PM10, lb/day | PM2.5, lb/day | CO2, Mton/year | CH4, Mton/year | N2O, Mton/year |
|---|---|---|---|---|---|---|---|---|---|---|
| Medium-Duty Truck | 21.0 | 0.39 | 0.43 | 0.05 | 0.0006 | 0.016 | 0.013 | 9.5 | 0.00044 | 0.000037 |

Assumes sweeping twice more per day
EMFAC2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

**Table B-7**
**Additional Emissions from Aerial Lifts**

| Description | Usage, hr/day | CO, lb/day | NOx, lb/day | VOC, lb/day | SOX, lb/day | PM10, lb/day | PM2.5, lb/day | CO2, Mton/year | CH4, Mton/year | N2O, Mton/year |
|---|---|---|---|---|---|---|---|---|---|---|
| Aerial Lift | 6 | 1.26 | 2.16 | 0.40 | 0.002 | 0.15 | 0.14 | 11.3 | 0.0004 | 0.0007 |

Assumes weekly roof washing over 50 days per year (52 weeks minus existing semi-annual washing).
Offroad2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

**Table B-8**
**Additional Emissions from Delivery of Aerial Lifts**

| Description | VMT, mile/day | CO, lb/day | NOx, lb/day | VOC, lb/day | SOX, lb/day | PM10, lb/day | PM2.5, lb/day | CO2, Mton/year | CH4, Mton/year | N2O, Mton/year |
|---|---|---|---|---|---|---|---|---|---|---|
| Heavy-Duty Truck | 80.0 | 0.96 | 3.06 | 0.24 | 0.00 | 0.15 | 0.13 | 15.3 | 0.0005 | 0.000038 |

Assumes weekly roof washing over 50 days per year (52 weeks minus existing semi-annual washing).
EMFAC2007 emission factors, except for NO2, which is from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

**Table B-9**
**Additional Health Risk from Sweeping**

| Receptor Type | PM10, ton/yr | CP (mg/kg-day)-1 | X/Q, (ug/m3)/(ton/yr) | Afann | MET | DBR, L/kg-day | EVF | MP | Health Risk in a Million |
|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.0029 | 1.1 | 60.5 | 1 | 0.53 | 149 | 0.38 | 1 | 5.7 |
| Sensitive/Residential | 0.0029 | 1.1 | 1.57 | 1 | 0.53 | 302 | 0.96 | 1 | 0.8 |

SCAQD Teir II analysis used to evaluate health risk.
Off-site worker assumed to be within shortest downwind distance of 25 meters.
Nearest sensitive/residential receptor 260 meters downwind from source.

**Table B-10**
**Additional Sensitive/Residential Health Risk from Aerial Lifts**

| Aerial Lift PM10, ton/yr | CP (mg/kg-day)-1 | X/Q, (ug/m3)/(ton/yr) | Afann | MET | DBR, L/kg-day | EVF | MP | Health Risk in a Million |
|---|---|---|---|---|---|---|---|---|
| 0.0074 | 1.1 | 41.5 | 1 | 0.55 | 149 | 0.38 | 1 | 10.6 |

SCAQD Teir II analysis used to evaluate health risk.
Nearest sensitive/residential receptor 670 meters downwind from source.

# Table B-11
# ISCST Input File for Off-Site Worker Health Risk from Aerial Lifts

```
**
**************************************
**
** ISCST3 Input Produced by:
** AERMOD View Ver. 6.4.0
** Lakes Environmental Software Inc.
** Date: 4/23/2010
** File: C:\Users\jkoizumi\Documents\Lakes\ISCARMOD\2010\Exide\Exide\Exide.INP
**
**************************************
**
**
**************************************
** ISCST3 Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\jkoizumi\Documents\Lakes\ISCARMOD\2010\Exide\Exide\Exide.is
   MODELOPT CONC  URBAN NOCALM
   AVERTIME PERIOD
   POLLUTID OTHER
   TERRHGTS ELEV
   RUNORNOT RUN
CO FINISHED
**
**************************************
** ISCST3 Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION 1 AREA 389700.000 3763500.000 0.000
** Source Parameters **
   SRCPARAM 1 9.047E-09 0.000 139.000 167.000 5.870
   SRCGROUP ALL
SO FINISHED
**
**************************************
** ISCST3 Receptor Pathway
**************************************
**
**
RE STARTING
** DESCRREC "UCART1" "Receptors generated from Uniform Cartesian Grid"
   DISCCART    389262.72   3763009.78    0.00
   DISCCART    389312.72   3763009.78    0.00
   DISCCART    389362.72   3763009.78    0.00
   DISCCART    389412.72   3763009.78    0.00
   DISCCART    389462.72   3763009.78    0.00
   DISCCART    389512.72   3763009.78    0.00
   DISCCART    389562.72   3763009.78    0.00
   DISCCART    389612.72   3763009.78    0.00
   DISCCART    389662.72   3763009.78    0.00
   DISCCART    389712.72   3763009.78    0.00
   DISCCART    389762.72   3763009.78    0.00
   DISCCART    389812.72   3763009.78    0.00
   DISCCART    389862.72   3763009.78    0.00
   DISCCART    389912.72   3763009.78    0.00
   DISCCART    389962.72   3763009.78    0.00
   DISCCART    390012.72   3763009.78    0.00
   DISCCART    390062.72   3763009.78    0.00
   DISCCART    390112.72   3763009.78    0.00
   DISCCART    390162.72   3763009.78    0.00
   DISCCART    390212.72   3763009.78    0.00
   DISCCART    390262.72   3763009.78    0.00
   DISCCART    389262.72   3763059.78    0.00
   DISCCART    389312.72   3763059.78    0.00
   DISCCART    389362.72   3763059.78    0.00
   DISCCART    389412.72   3763059.78    0.00
   DISCCART    389462.72   3763059.78    0.00
   DISCCART    389512.72   3763059.78    0.00
   DISCCART    389562.72   3763059.78    0.00
   DISCCART    389612.72   3763059.78    0.00
   DISCCART    389662.72   3763059.78    0.00
   DISCCART    389712.72   3763059.78    0.00
   DISCCART    389762.72   3763059.78    0.00
   DISCCART    389812.72   3763059.78    0.00
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DISCCART    389862.72   3763059.78    0.00
DISCCART    389912.72   3763059.78    0.00
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DISCCART    390012.72   3763059.78    0.00
DISCCART    390062.72   3763059.78    0.00
DISCCART    390112.72   3763059.78    0.00
DISCCART    390162.72   3763059.78    0.00
DISCCART    390212.72   3763059.78    0.00
DISCCART    390262.72   3763059.78    0.00
DISCCART    389262.72   3763109.78    0.00
DISCCART    389312.72   3763109.78    0.00
DISCCART    389362.72   3763109.78    0.00
DISCCART    389412.72   3763109.78    0.00
DISCCART    389462.72   3763109.78    0.00
DISCCART    389512.72   3763109.78    0.00
DISCCART    389562.72   3763109.78    0.00
DISCCART    389612.72   3763109.78    0.00
DISCCART    389662.72   3763109.78    0.00
DISCCART    389712.72   3763109.78    0.00
DISCCART    389762.72   3763109.78    0.00
DISCCART    389812.72   3763109.78    0.00
DISCCART    389862.72   3763109.78    0.00
DISCCART    389912.72   3763109.78    0.00
DISCCART    389962.72   3763109.78    0.00
DISCCART    390012.72   3763109.78    0.00
DISCCART    390062.72   3763109.78    0.00
DISCCART    390112.72   3763109.78    0.00
DISCCART    390162.72   3763109.78    0.00
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DISCCART    389562.72   3763159.78    0.00
DISCCART    389612.72   3763159.78    0.00
DISCCART    389662.72   3763159.78    0.00
DISCCART    389712.72   3763159.78    0.00
DISCCART    389762.72   3763159.78    0.00
DISCCART    389812.72   3763159.78    0.00
DISCCART    389862.72   3763159.78    0.00
DISCCART    389912.72   3763159.78    0.00
DISCCART    389962.72   3763159.78    0.00
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DISCCART    390112.72   3763159.78    0.00
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DISCCART    389462.72   3763209.78    0.00
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DISCCART    389662.72   3763209.78    0.00
DISCCART    389712.72   3763209.78    0.00
DISCCART    389762.72   3763209.78    0.00
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DISCCART    389962.72   3763209.78    0.00
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DISCCART    390062.72   3763209.78    0.00
DISCCART    390112.72   3763209.78    0.00
DISCCART    390162.72   3763209.78    0.00
DISCCART    390212.72   3763209.78    0.00
DISCCART    390262.72   3763209.78    0.00
DISCCART    389262.72   3763259.78    0.00
DISCCART    389312.72   3763259.78    0.00
DISCCART    389362.72   3763259.78    0.00
DISCCART    389412.72   3763259.78    0.00
DISCCART    389462.72   3763259.78    0.00
DISCCART    389512.72   3763259.78    0.00
DISCCART    389562.72   3763259.78    0.00
DISCCART    389612.72   3763259.78    0.00
DISCCART    389662.72   3763259.78    0.00
DISCCART    389712.72   3763259.78    0.00
DISCCART    389762.72   3763259.78    0.00
DISCCART    389812.72   3763259.78    0.00
DISCCART    389862.72   3763259.78    0.00
DISCCART    389912.72   3763259.78    0.00
```

| | | | |
|---|---|---|---|
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| DISCCART | 390012.72 | 3763259.78 | 0.00 |
| DISCCART | 390062.72 | 3763259.78 | 0.00 |
| DISCCART | 390112.72 | 3763259.78 | 0.00 |
| DISCCART | 390162.72 | 3763259.78 | 0.00 |
| DISCCART | 390212.72 | 3763259.78 | 0.00 |
| DISCCART | 390262.72 | 3763259.78 | 0.00 |
| DISCCART | 389262.72 | 3763309.78 | 0.00 |
| DISCCART | 389312.72 | 3763309.78 | 0.00 |
| DISCCART | 389362.72 | 3763309.78 | 0.00 |
| DISCCART | 389412.72 | 3763309.78 | 0.00 |
| DISCCART | 389462.72 | 3763309.78 | 0.00 |
| DISCCART | 389512.72 | 3763309.78 | 0.00 |
| DISCCART | 389562.72 | 3763309.78 | 0.00 |
| DISCCART | 389612.72 | 3763309.78 | 0.00 |
| DISCCART | 389662.72 | 3763309.78 | 0.00 |
| DISCCART | 389712.72 | 3763309.78 | 0.00 |
| DISCCART | 389762.72 | 3763309.78 | 0.00 |
| DISCCART | 389812.72 | 3763309.78 | 0.00 |
| DISCCART | 389862.72 | 3763309.78 | 0.00 |
| DISCCART | 389912.72 | 3763309.78 | 0.00 |
| DISCCART | 389962.72 | 3763309.78 | 0.00 |
| DISCCART | 390012.72 | 3763309.78 | 0.00 |
| DISCCART | 390062.72 | 3763309.78 | 0.00 |
| DISCCART | 390112.72 | 3763309.78 | 0.00 |
| DISCCART | 390162.72 | 3763309.78 | 0.00 |
| DISCCART | 390212.72 | 3763309.78 | 0.00 |
| DISCCART | 390262.72 | 3763309.78 | 0.00 |
| DISCCART | 389262.72 | 3763359.78 | 0.00 |
| DISCCART | 389312.72 | 3763359.78 | 0.00 |
| DISCCART | 389362.72 | 3763359.78 | 0.00 |
| DISCCART | 389412.72 | 3763359.78 | 0.00 |
| DISCCART | 389462.72 | 3763359.78 | 0.00 |
| DISCCART | 389512.72 | 3763359.78 | 0.00 |
| DISCCART | 389562.72 | 3763359.78 | 0.00 |
| DISCCART | 389612.72 | 3763359.78 | 0.00 |
| DISCCART | 389662.72 | 3763359.78 | 0.00 |
| DISCCART | 389712.72 | 3763359.78 | 0.00 |
| DISCCART | 389762.72 | 3763359.78 | 0.00 |
| DISCCART | 389812.72 | 3763359.78 | 0.00 |
| DISCCART | 389862.72 | 3763359.78 | 0.00 |
| DISCCART | 389912.72 | 3763359.78 | 0.00 |
| DISCCART | 389962.72 | 3763359.78 | 0.00 |
| DISCCART | 390012.72 | 3763359.78 | 0.00 |
| DISCCART | 390062.72 | 3763359.78 | 0.00 |
| DISCCART | 390112.72 | 3763359.78 | 0.00 |
| DISCCART | 390162.72 | 3763359.78 | 0.00 |
| DISCCART | 390212.72 | 3763359.78 | 0.00 |
| DISCCART | 390262.72 | 3763359.78 | 0.00 |
| DISCCART | 389262.72 | 3763409.78 | 0.00 |
| DISCCART | 389312.72 | 3763409.78 | 0.00 |
| DISCCART | 389362.72 | 3763409.78 | 0.00 |
| DISCCART | 389412.72 | 3763409.78 | 0.00 |
| DISCCART | 389462.72 | 3763409.78 | 0.00 |
| DISCCART | 389512.72 | 3763409.78 | 0.00 |
| DISCCART | 389562.72 | 3763409.78 | 0.00 |
| DISCCART | 389612.72 | 3763409.78 | 0.00 |
| DISCCART | 389662.72 | 3763409.78 | 0.00 |
| DISCCART | 389862.72 | 3763409.78 | 0.00 |
| DISCCART | 389912.72 | 3763409.78 | 0.00 |
| DISCCART | 389962.72 | 3763409.78 | 0.00 |
| DISCCART | 390012.72 | 3763409.78 | 0.00 |
| DISCCART | 390062.72 | 3763409.78 | 0.00 |
| DISCCART | 390112.72 | 3763409.78 | 0.00 |
| DISCCART | 390162.72 | 3763409.78 | 0.00 |
| DISCCART | 390212.72 | 3763409.78 | 0.00 |
| DISCCART | 390262.72 | 3763409.78 | 0.00 |
| DISCCART | 389262.72 | 3763459.78 | 0.00 |
| DISCCART | 389312.72 | 3763459.78 | 0.00 |
| DISCCART | 389362.72 | 3763459.78 | 0.00 |
| DISCCART | 389412.72 | 3763459.78 | 0.00 |
| DISCCART | 389462.72 | 3763459.78 | 0.00 |
| DISCCART | 389512.72 | 3763459.78 | 0.00 |
| DISCCART | 389562.72 | 3763459.78 | 0.00 |
| DISCCART | 389612.72 | 3763459.78 | 0.00 |
| DISCCART | 389662.72 | 3763459.78 | 0.00 |
| DISCCART | 389912.72 | 3763459.78 | 0.00 |
| DISCCART | 389962.72 | 3763459.78 | 0.00 |
| DISCCART | 390012.72 | 3763459.78 | 0.00 |
| DISCCART | 390062.72 | 3763459.78 | 0.00 |
| DISCCART | 390112.72 | 3763459.78 | 0.00 |
| DISCCART | 390162.72 | 3763459.78 | 0.00 |
| DISCCART | 390212.72 | 3763459.78 | 0.00 |
| DISCCART | 390262.72 | 3763459.78 | 0.00 |
| DISCCART | 389262.72 | 3763509.78 | 0.00 |
| DISCCART | 389312.72 | 3763509.78 | 0.00 |

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|---|---|---|---|
| DISCCART | 389362.72 | 3763509.78 | 0.00 |
| DISCCART | 389412.72 | 3763509.78 | 0.00 |
| DISCCART | 389462.72 | 3763509.78 | 0.00 |
| DISCCART | 389512.72 | 3763509.78 | 0.00 |
| DISCCART | 389562.72 | 3763509.78 | 0.00 |
| DISCCART | 389612.72 | 3763509.78 | 0.00 |
| DISCCART | 389662.72 | 3763509.78 | 0.00 |
| DISCCART | 389912.72 | 3763509.78 | 0.00 |
| DISCCART | 389962.72 | 3763509.78 | 0.00 |
| DISCCART | 390012.72 | 3763509.78 | 0.00 |
| DISCCART | 390062.72 | 3763509.78 | 0.00 |
| DISCCART | 390112.72 | 3763509.78 | 0.00 |
| DISCCART | 390162.72 | 3763509.78 | 0.00 |
| DISCCART | 390212.72 | 3763509.78 | 0.00 |
| DISCCART | 390262.72 | 3763509.78 | 0.00 |
| DISCCART | 389262.72 | 3763559.78 | 0.00 |
| DISCCART | 389312.72 | 3763559.78 | 0.00 |
| DISCCART | 389362.72 | 3763559.78 | 0.00 |
| DISCCART | 389412.72 | 3763559.78 | 0.00 |
| DISCCART | 389462.72 | 3763559.78 | 0.00 |
| DISCCART | 389512.72 | 3763559.78 | 0.00 |
| DISCCART | 389562.72 | 3763559.78 | 0.00 |
| DISCCART | 389612.72 | 3763559.78 | 0.00 |
| DISCCART | 389662.72 | 3763559.78 | 0.00 |
| DISCCART | 389912.72 | 3763559.78 | 0.00 |
| DISCCART | 389962.72 | 3763559.78 | 0.00 |
| DISCCART | 390012.72 | 3763559.78 | 0.00 |
| DISCCART | 390062.72 | 3763559.78 | 0.00 |
| DISCCART | 390112.72 | 3763559.78 | 0.00 |
| DISCCART | 390162.72 | 3763559.78 | 0.00 |
| DISCCART | 390212.72 | 3763559.78 | 0.00 |
| DISCCART | 390262.72 | 3763559.78 | 0.00 |
| DISCCART | 389262.72 | 3763609.78 | 0.00 |
| DISCCART | 389312.72 | 3763609.78 | 0.00 |
| DISCCART | 389362.72 | 3763609.78 | 0.00 |
| DISCCART | 389412.72 | 3763609.78 | 0.00 |
| DISCCART | 389462.72 | 3763609.78 | 0.00 |
| DISCCART | 389512.72 | 3763609.78 | 0.00 |
| DISCCART | 389562.72 | 3763609.78 | 0.00 |
| DISCCART | 389612.72 | 3763609.78 | 0.00 |
| DISCCART | 389662.72 | 3763609.78 | 0.00 |
| DISCCART | 389912.72 | 3763609.78 | 0.00 |
| DISCCART | 389962.72 | 3763609.78 | 0.00 |
| DISCCART | 390012.72 | 3763609.78 | 0.00 |
| DISCCART | 390062.72 | 3763609.78 | 0.00 |
| DISCCART | 390112.72 | 3763609.78 | 0.00 |
| DISCCART | 390162.72 | 3763609.78 | 0.00 |
| DISCCART | 390212.72 | 3763609.78 | 0.00 |
| DISCCART | 390262.72 | 3763609.78 | 0.00 |
| DISCCART | 389262.72 | 3763659.78 | 0.00 |
| DISCCART | 389312.72 | 3763659.78 | 0.00 |
| DISCCART | 389362.72 | 3763659.78 | 0.00 |
| DISCCART | 389412.72 | 3763659.78 | 0.00 |
| DISCCART | 389462.72 | 3763659.78 | 0.00 |
| DISCCART | 389512.72 | 3763659.78 | 0.00 |
| DISCCART | 389562.72 | 3763659.78 | 0.00 |
| DISCCART | 389612.72 | 3763659.78 | 0.00 |
| DISCCART | 389662.72 | 3763659.78 | 0.00 |
| DISCCART | 389912.72 | 3763659.78 | 0.00 |
| DISCCART | 389962.72 | 3763659.78 | 0.00 |
| DISCCART | 390012.72 | 3763659.78 | 0.00 |
| DISCCART | 390062.72 | 3763659.78 | 0.00 |
| DISCCART | 390112.72 | 3763659.78 | 0.00 |
| DISCCART | 390162.72 | 3763659.78 | 0.00 |
| DISCCART | 390212.72 | 3763659.78 | 0.00 |
| DISCCART | 390262.72 | 3763659.78 | 0.00 |
| DISCCART | 389262.72 | 3763709.78 | 0.00 |
| DISCCART | 389312.72 | 3763709.78 | 0.00 |
| DISCCART | 389362.72 | 3763709.78 | 0.00 |
| DISCCART | 389412.72 | 3763709.78 | 0.00 |
| DISCCART | 389462.72 | 3763709.78 | 0.00 |
| DISCCART | 389512.72 | 3763709.78 | 0.00 |
| DISCCART | 389562.72 | 3763709.78 | 0.00 |
| DISCCART | 389612.72 | 3763709.78 | 0.00 |
| DISCCART | 389662.72 | 3763709.78 | 0.00 |
| DISCCART | 389712.72 | 3763709.78 | 0.00 |
| DISCCART | 389762.72 | 3763709.78 | 0.00 |
| DISCCART | 389812.72 | 3763709.78 | 0.00 |
| DISCCART | 389862.72 | 3763709.78 | 0.00 |
| DISCCART | 389912.72 | 3763709.78 | 0.00 |
| DISCCART | 389962.72 | 3763709.78 | 0.00 |
| DISCCART | 390012.72 | 3763709.78 | 0.00 |
| DISCCART | 390062.72 | 3763709.78 | 0.00 |
| DISCCART | 390112.72 | 3763709.78 | 0.00 |
| DISCCART | 390162.72 | 3763709.78 | 0.00 |
| DISCCART | 390212.72 | 3763709.78 | 0.00 |

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DISCCART    390262.72   3763709.78    0.00
DISCCART    389262.72   3763759.78    0.00
DISCCART    389312.72   3763759.78    0.00
DISCCART    389362.72   3763759.78    0.00
DISCCART    389412.72   3763759.78    0.00
DISCCART    389462.72   3763759.78    0.00
DISCCART    389512.72   3763759.78    0.00
DISCCART    389562.72   3763759.78    0.00
DISCCART    389612.72   3763759.78    0.00
DISCCART    389662.72   3763759.78    0.00
DISCCART    389712.72   3763759.78    0.00
DISCCART    389762.72   3763759.78    0.00
DISCCART    389812.72   3763759.78    0.00
DISCCART    389862.72   3763759.78    0.00
DISCCART    389912.72   3763759.78    0.00
DISCCART    389962.72   3763759.78    0.00
DISCCART    390012.72   3763759.78    0.00
DISCCART    390062.72   3763759.78    0.00
DISCCART    390112.72   3763759.78    0.00
DISCCART    390162.72   3763759.78    0.00
DISCCART    390212.72   3763759.78    0.00
DISCCART    390262.72   3763759.78    0.00
DISCCART    389262.72   3763809.78    0.00
DISCCART    389312.72   3763809.78    0.00
DISCCART    389362.72   3763809.78    0.00
DISCCART    389412.72   3763809.78    0.00
DISCCART    389462.72   3763809.78    0.00
DISCCART    389512.72   3763809.78    0.00
DISCCART    389562.72   3763809.78    0.00
DISCCART    389612.72   3763809.78    0.00
DISCCART    389662.72   3763809.78    0.00
DISCCART    389712.72   3763809.78    0.00
DISCCART    389762.72   3763809.78    0.00
DISCCART    389812.72   3763809.78    0.00
DISCCART    389862.72   3763809.78    0.00
DISCCART    389912.72   3763809.78    0.00
DISCCART    389962.72   3763809.78    0.00
DISCCART    390012.72   3763809.78    0.00
DISCCART    390062.72   3763809.78    0.00
DISCCART    390112.72   3763809.78    0.00
DISCCART    390162.72   3763809.78    0.00
DISCCART    390212.72   3763809.78    0.00
DISCCART    390262.72   3763809.78    0.00
DISCCART    389262.72   3763859.78    0.00
DISCCART    389312.72   3763859.78    0.00
DISCCART    389362.72   3763859.78    0.00
DISCCART    389412.72   3763859.78    0.00
DISCCART    389462.72   3763859.78    0.00
DISCCART    389512.72   3763859.78    0.00
DISCCART    389562.72   3763859.78    0.00
DISCCART    389612.72   3763859.78    0.00
DISCCART    389662.72   3763859.78    0.00
DISCCART    389712.72   3763859.78    0.00
DISCCART    389762.72   3763859.78    0.00
DISCCART    389812.72   3763859.78    0.00
DISCCART    389862.72   3763859.78    0.00
DISCCART    389912.72   3763859.78    0.00
DISCCART    389962.72   3763859.78    0.00
DISCCART    390012.72   3763859.78    0.00
DISCCART    390062.72   3763859.78    0.00
DISCCART    390112.72   3763859.78    0.00
DISCCART    390162.72   3763859.78    0.00
DISCCART    390212.72   3763859.78    0.00
DISCCART    390262.72   3763859.78    0.00
DISCCART    389262.72   3763909.78    0.00
DISCCART    389312.72   3763909.78    0.00
DISCCART    389362.72   3763909.78    0.00
DISCCART    389412.72   3763909.78    0.00
DISCCART    389462.72   3763909.78    0.00
DISCCART    389512.72   3763909.78    0.00
DISCCART    389562.72   3763909.78    0.00
DISCCART    389612.72   3763909.78    0.00
DISCCART    389662.72   3763909.78    0.00
DISCCART    389712.72   3763909.78    0.00
DISCCART    389762.72   3763909.78    0.00
DISCCART    389812.72   3763909.78    0.00
DISCCART    389862.72   3763909.78    0.00
DISCCART    389912.72   3763909.78    0.00
DISCCART    389962.72   3763909.78    0.00
DISCCART    390012.72   3763909.78    0.00
DISCCART    390062.72   3763909.78    0.00
DISCCART    390112.72   3763909.78    0.00
DISCCART    390162.72   3763909.78    0.00
DISCCART    390212.72   3763909.78    0.00
DISCCART    390262.72   3763909.78    0.00
DISCCART    389262.72   3763959.78    0.00
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   DISCCART    389312.72   3763959.78    0.00
   DISCCART    389362.72   3763959.78    0.00
   DISCCART    389412.72   3763959.78    0.00
   DISCCART    389462.72   3763959.78    0.00
   DISCCART    389512.72   3763959.78    0.00
   DISCCART    389562.72   3763959.78    0.00
   DISCCART    389612.72   3763959.78    0.00
   DISCCART    389662.72   3763959.78    0.00
   DISCCART    389712.72   3763959.78    0.00
   DISCCART    389762.72   3763959.78    0.00
   DISCCART    389812.72   3763959.78    0.00
   DISCCART    389862.72   3763959.78    0.00
   DISCCART    389912.72   3763959.78    0.00
   DISCCART    389962.72   3763959.78    0.00
   DISCCART    390012.72   3763959.78    0.00
   DISCCART    390062.72   3763959.78    0.00
   DISCCART    390112.72   3763959.78    0.00
   DISCCART    390162.72   3763959.78    0.00
   DISCCART    390212.72   3763959.78    0.00
   DISCCART    390262.72   3763959.78    0.00
   DISCCART    389262.72   3764009.78    0.00
   DISCCART    389312.72   3764009.78    0.00
   DISCCART    389362.72   3764009.78    0.00
   DISCCART    389412.72   3764009.78    0.00
   DISCCART    389462.72   3764009.78    0.00
   DISCCART    389512.72   3764009.78    0.00
   DISCCART    389562.72   3764009.78    0.00
   DISCCART    389612.72   3764009.78    0.00
   DISCCART    389662.72   3764009.78    0.00
   DISCCART    389712.72   3764009.78    0.00
   DISCCART    389762.72   3764009.78    0.00
   DISCCART    389812.72   3764009.78    0.00
   DISCCART    389862.72   3764009.78    0.00
   DISCCART    389912.72   3764009.78    0.00
   DISCCART    389962.72   3764009.78    0.00
   DISCCART    390012.72   3764009.78    0.00
   DISCCART    390062.72   3764009.78    0.00
   DISCCART    390112.72   3764009.78    0.00
   DISCCART    390162.72   3764009.78    0.00
   DISCCART    390212.72   3764009.78    0.00
   DISCCART    390262.72   3764009.78    0.00
** Discrete Cartesian Plant Boundary - Primary Receptors
** Plant Boundary Name PLBN1
** DESCRREC "FENCEPRI" "Cartesian plant boundary Primary Receptors"
   DISCCART    389698.41   3763685.68    0.00
   DISCCART    389881.14   3763669.63    0.00
   DISCCART    389856.29   3763373.55    0.00
   DISCCART    389671.49   3763390.12    0.00
** Discrete Cartesian Plant Boundary - Intermediate Receptors
** Plant Boundary Name PLBN1
** DESCRREC "FENCEINT" "Cartesian plant boundary Intermediate Receptors"
   DISCCART    389721.25   3763683.67    0.00
   DISCCART    389744.09   3763681.67    0.00
   DISCCART    389766.93   3763679.66    0.00
   DISCCART    389789.78   3763677.66    0.00
   DISCCART    389812.62   3763675.65    0.00
   DISCCART    389835.46   3763673.64    0.00
   DISCCART    389858.30   3763671.64    0.00
   DISCCART    389879.07   3763644.96    0.00
   DISCCART    389877.00   3763620.28    0.00
   DISCCART    389874.93   3763595.61    0.00
   DISCCART    389872.86   3763570.94    0.00
   DISCCART    389870.79   3763546.26    0.00
   DISCCART    389868.71   3763521.59    0.00
   DISCCART    389866.64   3763496.92    0.00
   DISCCART    389864.57   3763472.24    0.00
   DISCCART    389862.50   3763447.57    0.00
   DISCCART    389860.43   3763422.90    0.00
   DISCCART    389858.36   3763398.22    0.00
   DISCCART    389833.19   3763375.62    0.00
   DISCCART    389810.09   3763377.69    0.00
   DISCCART    389786.99   3763379.76    0.00
   DISCCART    389763.89   3763381.83    0.00
   DISCCART    389740.79   3763383.91    0.00
   DISCCART    389717.69   3763385.98    0.00
   DISCCART    389694.59   3763388.05    0.00
   DISCCART    389673.73   3763414.75    0.00
   DISCCART    389675.98   3763439.38    0.00
   DISCCART    389678.22   3763464.01    0.00
   DISCCART    389680.46   3763488.64    0.00
   DISCCART    389682.71   3763513.27    0.00
   DISCCART    389684.95   3763537.90    0.00
   DISCCART    389687.19   3763562.53    0.00
   DISCCART    389689.44   3763587.16    0.00
   DISCCART    389691.68   3763611.79    0.00
   DISCCART    389693.92   3763636.42    0.00
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   DISCCART    389696.17   3763661.05    0.00
RE FINISHED
**
****************************************
** ISCST3 Meteorology Pathway
****************************************
**
**
ME STARTING
   INPUTFIL C:\METEOR~1\ISC\VERNON.ASC
   ANEMHGHT 10 METERS
   SURFDATA 52132 1981
   UAIRDATA 91919 1981
ME FINISHED
**
****************************************
** ISCST3 Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL Exide.IS\PE00GALL.PLT
OU FINISHED
**
****************************************
** Project Parameters
****************************************
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**Table B-12**
**Additional Off-Site Worker Health Risk from Aerial Lifts**

| Conc., ug/m3 | CP (mg/kg-day)-1 | DBR, L/kg-day | EF, day/yr | ED, yr | AT, day | Health Risk in a Million |
|---|---|---|---|---|---|---|
| 0.0344 | 1.1 | 149 | 245 | 40 | 25,550 | 2.16 |

**Table B-13**
**GHG Emission Summary**

| **Description** | **CO2, Mton/year** | **CH4, Mton/year** | **N2O, Mton/year** | **CO2eq, Mton/year** |
|---|---|---|---|---|
| Demolition | 0.26 | 0.000012 | 0.000005 | 0.26 |
| Concrete Paving | 0.056 | 0.0000067 | 0.0000060 | 0.056 |
| Structure Construction | 30 | 0.0025 | 0.0021 | 30 |
| Total Construction* | 30 | 0.0025 | 0.0021 | 30 |
| Sweeping | 20 | 0.0009 | 0.00008 | 20 |
| Aerial Lift | 11 | 0.0004 | 0.001 | 11 |
| Aerial Lift Delivery | 15 | 0.0005 | 0.00004 | 15 |
| Air Monitor Visit | 7.3 | 0.0005 | 0.0007 | 7.3 |
| Total Operation | 54 | 0.0024 | 0.0015 | 54 |
| Total | 84 | 0.005 | 0.004 | 84 |

CO2 GHG potential – 1; CH4 GHG potential – 21; N2O GHG potential 310

**Table B-14**
**Electricity Use from New Blowers**

| Area | Combined Blower Rating, HP | Electricity Use, kW/hr | Electricity Use, MW/year | Area Consumption, GWH | Percent of Area Consumption | Area Peak Consumption MW | Percent of Area Peak Consumption |
|---|---|---|---|---|---|---|---|
| Edison | 200 | 142 | 1,241 | 105,054 | 1.3E-07 | 23,727 | 0.6 |
| LADWP | 450 | 319 | 2,793 | 25,921 | 1.2E-06 | 5,717 | 5.6 |

**Table B-15b**
**Diesel Fuel Use from Demolition Equipment**

| Equipment | No. of Equipment | Usage hr/day | Consumption (gal/hr) | Fuel Use (gal/day) |
|---|---|---|---|---|
| Concrete/Industrial Saws | 1 | 8.0 | 2.68 | 21 |
| Tractors/Loaders/Backhoes | 2 | 8.0 | 2.68 | 43 |
| Rubber Tired Dozers | 1 | 2.0 | 11.8 | 24 |
| | | | | 88 |

**Table B-15b**
**Diesel Fuel Use from Construction Equipment**

| Equipment | No. of Equipment | Usage hr/day | Consumption (gal/hr) | Fuel Use (gal/day) |
|---|---|---|---|---|
| Forklifts | 2 | 7.0 | 2.5 | 35 |
| Cranes | 2 | 8.0 | 9.8 | 157 |
| Tractors/Loaders/Backhoes | 2 | 6.0 | 3.4 | 41 |
| Generator Sets | 2 | 8.0 | 2.8 | 45 |
| Electric Welders | 4 | 8.0 | 0 | 0 |
| | | | | 277 |

**Table B-16**
**Fuel Use from Construction Vehicles**

| Vehicle | Phase | Fuel | No. of One-Way Trips/Day | Trip Length (miles) | Distance Traveled (miles) | Consumption (mpg) | Fuel Use (gal/day) |
|---|---|---|---|---|---|---|---|
| Heavy-Duty Truck | Demolition | Diesel | 7 | 259 | 1,813 | 10 | 181 |
| Worker Vehicles | Demolition | Gasoline | 6 | 20 | 120 | 16 | 8 |
| Heavy-Duty Truck | Structure | Diesel | 10 | 40 | 400 | 10 | 40 |
| Worker Vehicles | Structure | Gasoline | 8 | 20 | 160 | 10 | 16 |

**Table B-17**
**Additional Diesel Fuel Use from Sweepers**

| VMT, mile/day | Fuel Efficiency miles/gal | Usage, gal/day |
|---|---|---|
| 21.0 | 10 | 2.1 |

**Table B-18**
**Additional Gasoline Fuel Use from Visiting Monitors**

| VMT, mile/day | Fuel Efficiency miles/gal | Usage, gal/day |
|---|---|---|
| 80 | 16 | 5.0 |

**Table B-19**
**Additional Gasoline Fuel Use from Aerial Lifts**

| Consumption, (gal/hr) | Usage, hr/day | Usage, gal/day |
|---|---|---|
| 1.4 | 6 | 8.4 |

**Table B-20**
**Additional Gasoline Fuel Use from Aerial Lifts Delivery**

| Distance Traveled miles | Consumption mpg | Usage, gal/day |
|---|---|---|
| 80 | 10 | 8.0 |

**Table B-21**
**Water Use for Buildings**

| Surface Area, ft2 | Area, acres | Depth of Water Applied, ft | Volume of Water, ft3/area | Volume of Water, gal/area | Daily Number of Washings | Volume of Water, gal/day |
|---|---|---|---|---|---|---|
| 753,424 | 17.3 | 0.005 | 3,924 | 29,354 | 1 | 29,354 |

Surface area of both affected facilities added together
Assumed 1/16 inch depth of water applied per washing
PR 1420.1 requires washing areas weekly. Assumed all washing occurs on single day

~~**Table B-22**~~
~~**Water Use for Trucks**~~

| ~~Truck Height, ft~~ | ~~Truck Length ft~~ | ~~Truck Width ft~~ | ~~Surface Area of Rectangular Box, ft2~~ | ~~Depth of Water Applied, ft~~ | ~~Volume of Water, ft3/truck~~ | ~~Volume of Water, gal/truck~~ | ~~Daily Number of Trucks~~ | ~~Volume of Water, gal/day~~ |
|---|---|---|---|---|---|---|---|---|
| ~~15~~ | ~~75~~ | ~~9~~ | ~~3,870~~ | ~~0.005~~ | ~~20~~ | ~~151~~ | ~~100~~ | ~~15,078~~ |

~~Assumed 1/16 inch depth of water applied per washing~~
~~Daily Number of Trucks from both affected facilities added together~~

**Table B-22**
**Water Use for Washing Pond Area**

| Area of Pond, acre | Area of Pond, ft2 | Depth of Water Applied, feet | Volume, ft3/ washing | Volume, gal/day |
|---|---|---|---|---|
| 1 | 43,560 | 0.005 | 227 | 1,697 |

Assumed 1/16 inch depth of water applied per washing

**Table B-23**
**Water Use from Washing Process Areas**

| Facility | Area, ft2 | Area, acres | Depth of Water Applied, ft | Volume of Water, ft3/area | Volume of Water, gal/area | Daily Number of Washings | Volume of Water, gal/day |
|---|---|---|---|---|---|---|---|
| Facility A | 50,000 | 1.1 | 0.005 | 260 | 1,948 | 1 | 1,948 |
| Facility B | 120,000 | 2.8 | 0.005 | 625 | 4,675 | 1 | 4,675 |
| **Total** | **170,000** | **3.9** | **0.005** | **885** | **6,623** | **1** | **6,623** |

**Table B-24**
**Volume of Spend Filters from New Baghouses**

| Control | No of Control Units | Diameter, ft | Width, ft | Length, ft | Height, ft | Area, ft2 | Volume, ft3 |
|---|---|---|---|---|---|---|---|
| Filter bags | 196 | 0.52 | | 13 | | | 543 |
| HEPA filters | 25 | | 2 | 1 | 2 | | 100 |
| Filter bags | 196 | 0.52 | | 13 | | | 543 |
| HEPA filters | 25 | | 2 | 1 | 2 | | 100 |
| **Total** | | | | | | | **1,286** |

Baghouse filters and filter bags are disposed every two years.

**Table B-25**
**Volume of Spend Secondary Filters for Dryer**

| No of Filters | Filter Length, ft | Filter Height, ft | Filters Width, ft | Waste Volume, ft3 | Waste Volume, yd3 |
|---|---|---|---|---|---|
| 18 | 2 | 2 | 0.33 | 24 | 0.89 |

Dryer secondary filters are disposed annually.