BOARD MEETING DATE: July 11, 2014 AGENDA NO. 39

REPORT: 2013 Annual Report on AB 2588 Air Toxics Hot Spots Program

SYNOPSIS: The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) requires local air pollution districts to prepare an annual report. Key accomplishments for 2013 include: (1) reviewed and approved five facility health risk assessments (HRAs), which included two public notices and a total of 11 public meetings; (2) notified two facilities to prepare HRAs; (3) notified two facilities to prepare air toxic inventory reports; (4) required one facility to prepare a risk reduction plan; (5) completed development of a mapping tool to display health risks from retail gas stations and perchloroethylene dry cleaners; (6) prioritized approximately 50 facilities; and (7) updated AB 2588 website information.

COMMITTEE: Stationary Source, May 16, 2014, Reviewed

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:SN:VM

Introduction

The South Coast Air Quality Management District (SCAQMD) has a comprehensive air toxics program. At the heart of this program are Rule 1401 – New Source Review of Toxic Air Contaminants to ensure toxic emissions from new and modified sources do not exceed specified thresholds and Rule 1402 – Control of Toxic Air Contaminants from Existing Sources which implements various aspects of AB 2588. The SCAQMD's air toxic program also includes a series of source-specific rules that address toxic air contaminants for specific industry or equipment categories. The 2010 Clean Communities Plan also includes measures to reduce toxic air contaminants.

The SCAQMD staff has prepared an annual report that summarizes the agency's air toxics program activities throughout 2013, including Air Toxics "Hot Spots" Information and Assessment Act (or AB 2588) activities, rule development activities, and other air toxic related programs, such as Multiple Air Toxics Exposure Study (MATES), source testing and air monitoring efforts. This report also satisfies Section 44363 of the California Health and Safety Code which requires the SCAQMD to annually prepare and publish a status and forecast report of the AB 2588 activities.

Background

To date, staff has reviewed and approved 311 facility Health Risk Assessments (HRAs), 50 facilities were required to perform a public notice, and 22 facilities were subject to risk reduction. After implementation of the AB 2588 Program, about 95% of the facilities now have cancer risks below ten in a million and about 98% of the facilities have acute and chronic non-cancer hazard indices less than 1.

Accomplishments

The attached report summarizes the program activities throughout 2013, including AB 2588 program, rule development activities, and other air toxic related programs such as Multiple Air Toxics Exposure Study (MATES), source testing and air monitoring efforts, and anticipated activities during 2014.

Annual Emissions Reporting – Toxic Emissions Inventories

Under the AB 2588 program, facilities are required to report their toxic emissions to the SCAQMD quadrennially through the web-based Annual Emissions Reporting (AER) Program. In 2013, 50 facilities submitted quadrennial toxic emissions inventory updates that the SCAQMD reviewed, categorized, and prioritized.

Prioritization of Facilities

Based on emissions inventory submittals, the SCAQMD staff prioritizes facilities. High-priority facilities are those with a priority score greater than 10. In 2013, thirteen facilities with priority scores greater than 10 were reviewed. SCAQMD staff conducted a more detailed evaluation and audit of high-priority facilities and found that one facility needed to submit an Air Toxic Inventory Report (ATIR) and HRA, and eight facility priority scores were modified due to revised proximity to receptors and other corrections. Four facilities had existing HRAs, and their current risk drivers compared to previous approved HRAs resulted in similar health risks, and request for new HRAs were not necessary.

Notification to Prepare Air Toxic Inventory Reports (ATIR) and Health Risk Assessments (HRA)

There are two general paths in which a facility will be asked to prepare an ATIR and HRA, either with a priority score greater than or equal to ten or by evidence through monitoring or source testing results showing elevated levels of toxic air contaminants providing evidence that the facility may exceed the action risk thresholds of Rule 1402. In 2013, the SCAQMD staff notified the following four facilities to prepare an ATIR

and/or HRA. Kaiser Aluminum Fabricated Products, LLC (ID 16338) had a priority score greater than or equal to 10 that was asked to prepare an ATIR. Carlton Forge Works (ID 22911), Gerdau – Rancho Cucamonga Mill (ID 18931), and Quemetco (ID 8547) were asked to prepare an ATIR and an HRA based on monitoring efforts and source testing.

Approving Health Risk Assessments, Public Notices, and Risk Reduction Plans

In 2013, five facility HRAs were reviewed and approved which included two public notices and a total of 11 public meetings. These facilities were Exide Technologies (ID 124838), ConocoPhillips Wilmington Refinery (ID 800363), Tesoro Refining and Marketing (ID 800436), Southern California Edison (ID 160437), ExxonMobile Oil Corporation (ID 800089). Based on the results contained in the approved HRA for Exide Technologies, the facility was subject to the public notification requirements of AB 2588 and the risk reduction requirements of SCAQMD Rule 1402.

A summary of the results of the health risk, public notifications and risk reduction for each facility is presented in the following Table.

Facility	Health Risk	Public Notice	Risk Reduction Plan (RRP)
Exide Technologies (ID 124838)	MICR: 156 in a million (worker) Cancer Burden: 10 Acute HI: 3.8; Chronic HI: 63	Yes. Nine public notification meetings: • May 30, 2013 (three meetings), • June 1, 2013 (three meetings), • June 4, 2013, • June 5, 2013, and • June 27, 2013.	Yes. RRP approved (3/19/2014)
Conoco Phillips Wilmington Refinery (ID 800363)	MICR: 23.2 in a million (residential) Cancer Burden: 0.29 Acute HI: 0.13; Chronic HI: 0.73	Yes. Public notification meeting was held on March 21, 2013.	Not required
Southern California Edison (ID 160437)	MICR: 2.3 in a million (residential) Cancer burden: < 0.01 Acute HI <0.01; Chronic HI <0.01	Not required	Not required
Tesoro Refining and Marketing (ID 800436)	MICR: 10.8 in a million (sensitive) Cancer Burden: 0.37 Acute HI: 0.30; Chronic HI: 0.43	Yes. Public notification meeting was held on February 4, 2014.	Not required
ExxonMobile Oil Corporation (ID 800089)	MICR: 7.7 in a million (residential) Cancer Burden: 0.15 Acute HI: 0.21; Chronic HI: 0.47	Not required	Not required

In addition, the SCAQMD staff initiated posting new health risk assessments received for Exide Technologies (ID 124838) and Tesoro Refining and Marketing (ID 800436) on the SCAQMD website for public review, and will continue to post all other new HRAs received for facilities from this point forward.

Air Monitoring and Source Testing Activities to Support the AB 2588 Program
Over the past year, the SCAQMD staff has been conducting monitoring efforts on a variety of metal industries. The staff is continuing to investigate sources such as metal forging, metal melting, and plating operations to better understand potential air toxics and if additional controls are needed. These sources include Exide Technologies (ID 124838), Carlton Forge Works (ID 22911), Gerdau (ID 18931), Quemetco (ID 8547), and Hixson (ID 11818).

Rule 1401 Permitting and HRA Modeling Projects
In 2013, SCAQMD staff processed approximately 4,327 Rule 1401 applications for 1,908 facilities. Under Rule 1401, the SCAQMD staff also conducts air dispersion modeling to confirm that new and modified permits do not exceed the health risk thresholds. In 2013, SCAQMD staff reviewed and approved 21 HRA modeling projects for permitting.

Industry-Wide Categories
In 2013, the SCAQMD staff implemented Public Notification Procedures for the Industry-wide Category of Retail Gas Stations and Perchloroethylene Dry Cleaners. In addition, AB 2588 staff completed the development of a viewable and searchable mapping utility for displaying the industry-wide retail gas station and perchloroethylene dry cleaner risk assessment results. This was accomplished by developing a GIS application to display the estimated cancer risk for these two categories on the SCAQMD website, which can be found at:
http://www3.aqmd.gov/webappl/OI.Web/OI.aspx?jurisdictionID=AQMD.gov&shareID=e25b31a1-f9dc-48d4-8ce2-86e13a835583

Rule Development
Rule 1420.1 was amended to establish requirements for owners or operators of large lead-acid battery recycling facilities to reduce arsenic emissions and other key toxic air contaminant emissions. Proposed amendments included requirements for ambient air concentration limits for arsenic, as well as hourly emission limits of arsenic, benzene, and 1,3-butadiene. In addition, Rule 1420.1 includes a pilot study for continuous in-stack monitors and continuous ambient monitors for multi-metals. Results from the pilot study are expected in late 2014 or early 2015.

Future Activities

In 2014, staff plans to:

- Continue implementation of AB 2588 – reviewing AER inventories, categorizing and prioritizing facilities, evaluating more detailed analyses of high-priority facilities, and notifying facilities to prepare ATIRs and HRAs, when appropriate.
- Work with facilities that are required to conduct public notices under Rule 1402.
- Continue reviewing, approving HRAs and Risk Reduction Plans.
- Develop an internal work plan for addressing emission inventory, risk assessment, and public notification procedures for the Industry-wide category of auto body shops.
- Prioritize AB 2588 facilities and notify those with high-priority scores to prepare detailed ATIRs and HRAs.
- Continue to work on facility HRAs and detailed ATIRs that are either under review or will be submitted in 2014.
- Complete the MATES IV report assessing toxic risk throughout the Basin.
- Analysis and review of preliminary and final versions of the 2011 U.S. EPA National-Scale Air Toxics Assessment (NATA).
- Assessment of OEHHA Revised Air Toxics Hot Spots Program Risk Assessment Guidelines (2015) for implementation.
- Streamline the AB 2588 program through Rule 1401/1402 amendments and revisions to program guidance documents.
- Amend or adopt other proposed toxics rules (i.e. Rules 1430, 1420, 1420.1, 1420.2).

The annual report will be available on the SCAQMD's website and distributed to county boards of supervisors, city councils, and local health officers.

Attachment

Annual Report on AB 2588 Air Toxics "Hot Spots" Program

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Annual Report on AB 2588 Air Toxics "Hot Spots" Program

June 2014

Deputy Executive Officer
Planning, Rule Development and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development and Area Sources
Philip Fine, Ph.D.

Director of Strategic Initiatives
Planning, Rule Development and Area Sources
Susan Nakamura

Author:	Victoria Moaveni, Senior Air Quality Engineer
Contributors:	Thomas Chico, Program Supervisor Pierre Sycip, Air Quality Specialist
Reviewed by:	William Wong, Principal Deputy District Counsel

INTRODUCTION

The South Coast Air Quality Management District (SCAQMD) has a comprehensive air toxics program. At the heart of this program are Rule 1401 – New Source Review of Toxic Air Contaminants to ensure toxic emissions from new and modified sources do not exceed specified thresholds and Rule 1402 – Control of Toxic Air Contaminants from Existing Sources which implements various aspects of AB 2588. The SCAQMD's air toxic program also includes a series of source specific rules that address toxic air contaminants for specific industry or equipment categories. The 2010 Clean Communities Plan (CCP) also includes measures to reduce toxic air contaminants.

This report summarizes the SCAQMD's air toxics program activities throughout 2013, including Air Toxics "Hot Spots" Information and Assessment Act (or AB 2588) activities, rule development activities, and other air toxic related programs such as implementation of the Clean Communities Plan, Multiple Air Toxics Exposure Study (MATES), source testing and air monitoring efforts. This report also satisfies Section 44363 of the California Health and Safety Code which requires the SCAQMD to annually[*] prepare and publish a status and forecast report of the AB 2588 activities.

BACKGROUND

To date, staff has reviewed and approved 311 facility Health Risk Assessments (HRAs). Of these facilities, 50 facilities were required to perform a public notice and 22 facilities were subject to risk reduction. After implementation of the AB 2588 Program, about 95% of the facilities now have cancer risks below ten in a million and about 98% of the facilities have acute and chronic non-cancer hazard indices less than 1. The effectiveness of the AB 2588 Program is illustrated in Figures 1, 2 and 3 which shows the results of the approved facility HRAs after implementation of the AB 2588 Program. Appendix A lists the facilities and the current risks as reviewed and approved by the AB 2588 staff. Table A-1 lists the facilities in order of their cancer risks and Table A-2 is ordered by facility ID. Table A-3 lists facilities which have prepared health risk assessments for the AB 2588 program and their corresponding risks [Section 44363(a) (2) and (3)]. Appendix B shows trends in ambient air toxics in the South Coast Air Basin and vicinity.

[*] It was suggested, at the May 2011 Governing Board meeting, that reports be prepared every other year or every three years. Unfortunately, the Health and Safety Code Section 44363 requires that "each District shall prepare and publish an **annual** report . . ." and the ". . . board shall **hold one or more public hearings** to present the report and discuss its content and significance." (emphasis added)

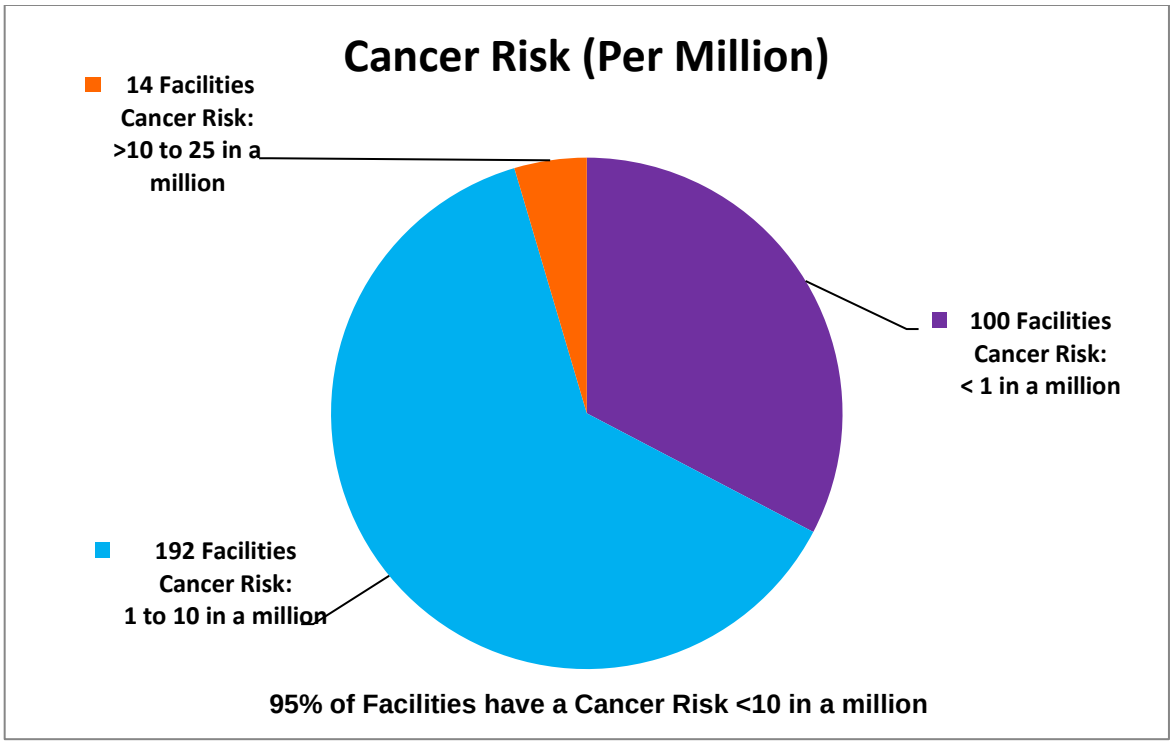


Figure 1. Summary of facility cancer risks

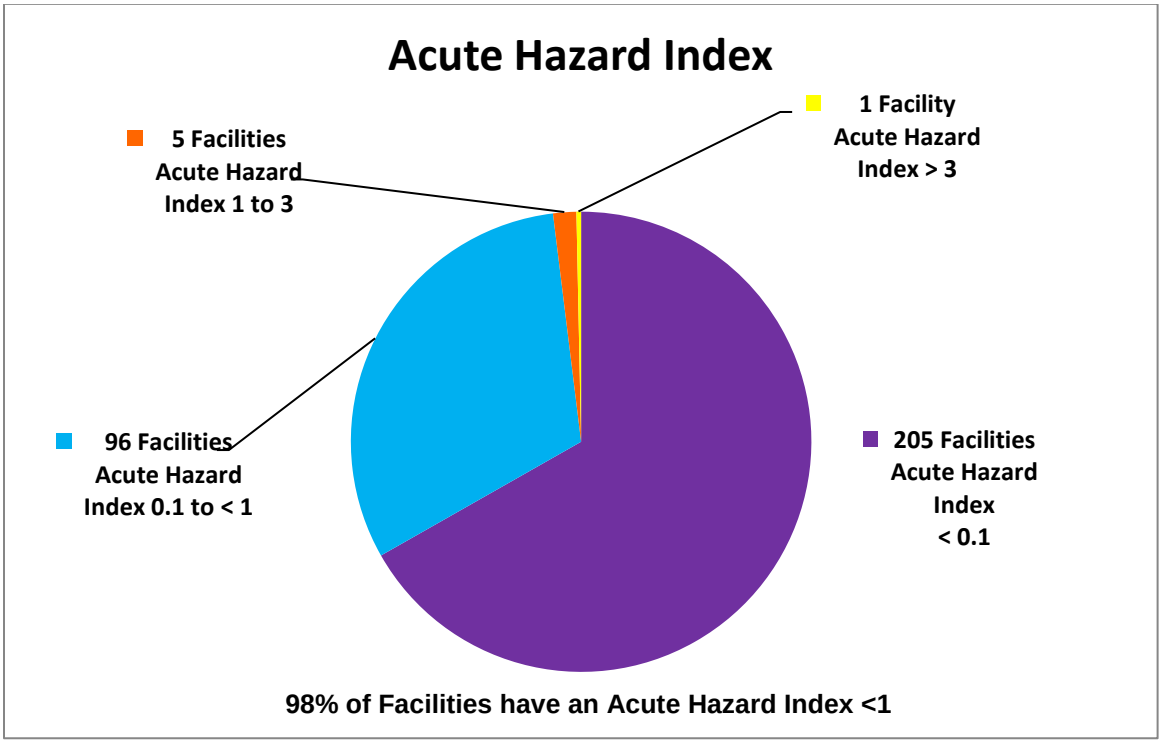


Figure 2. Distribution of Acute Hazard Indices for AB2588 Facilities

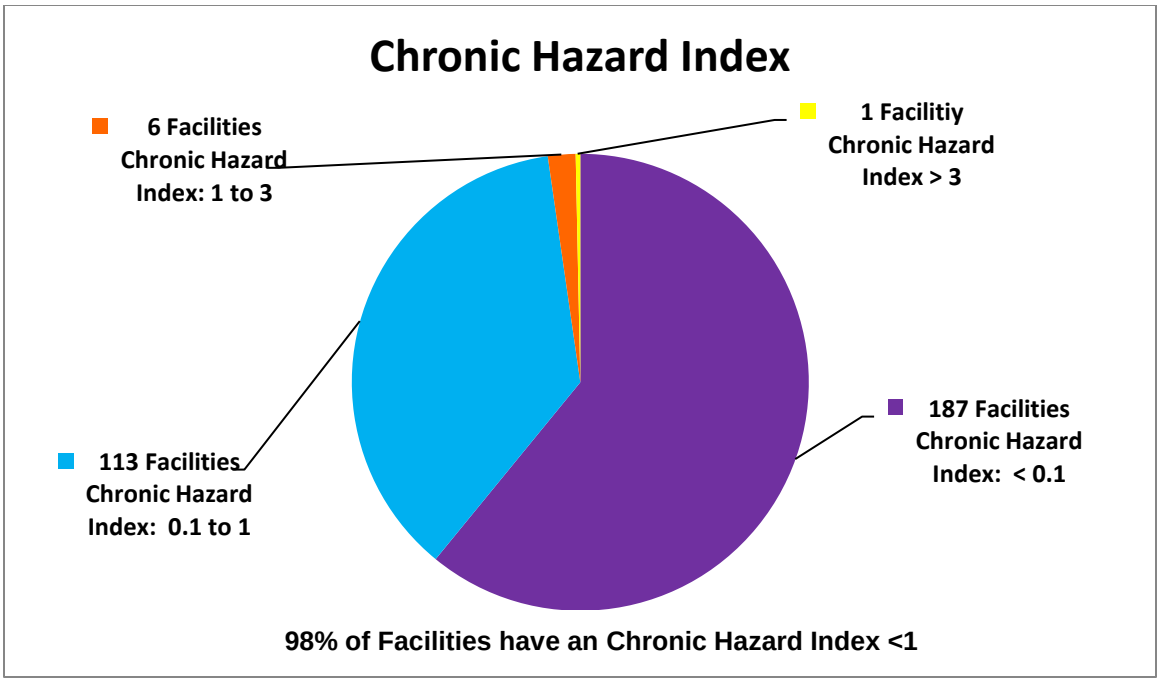


Figure 3. Distribution of Chronic Hazard Indices for AB2588 Facilities

2013 ACCOMPLISHMENTS

This section highlights SCAQMD's accomplishments in 2013 for the AB 2588 Program, implementation of Rules 1402 and 1401, as well as source-specific air toxic rule development efforts. Accomplishments for AB 2588 also include industry-wide source categories, air monitoring and source testing projects done in concurrence with AB2588 and Rule 1402.

AB 2588 Program

In 1987, the California legislature adopted the Air Toxics "Hot Spots" Information and Assessment Act (or AB 2588). To date, staff has reviewed and approved over 300 facility HRAs under the AB 2588 program. The majority of facilities that have prepared HRA's have demonstrated that their health risk are below Rule 1402 health risk thresholds that would require implementation of a Risk Reduction Plan. Throughout the implementation of the AB 2588 and Rule 1402, the SCAQMD staff has approved 22 Risk Reduction Plans.

The SCAQMD's AB 2588 program is comprehensive and currently, there are approximately 400 facilities that are included in the program. The AB 2588 program combined with implementation of Rule 1402 includes reviewing toxic emissions inventories, categorizing and prioritizing facilities, reviewing and approving detailed air toxic inventory reports (ATIRs), health risk assessments, public notifications, and risk

reduction plans. A summary of the SCAQMD's AB 2588 program is illustrated in Figure 4.

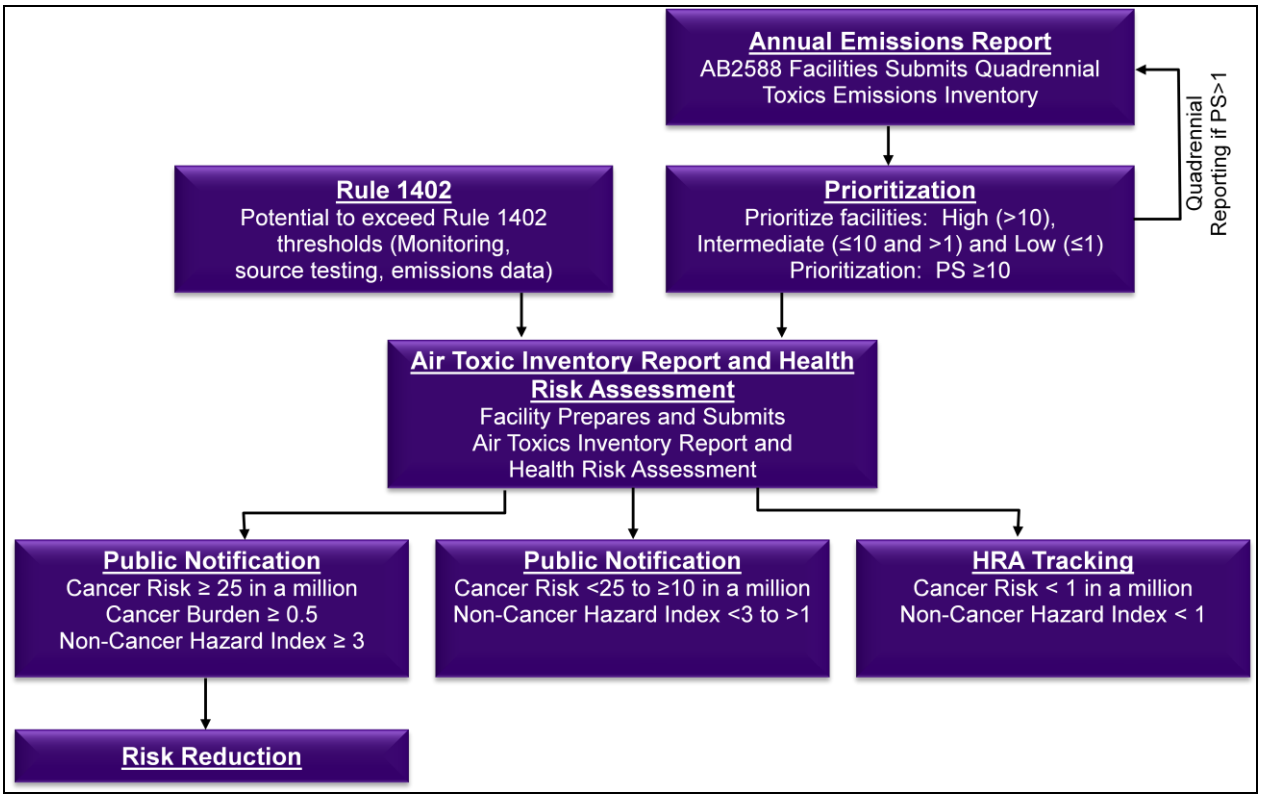


Figure 4. Overview of the AB 2588 Hot Spots Program

Under the AB 2588 program, facilities are required to report their toxic emissions to the SCAQMD quadrennially (i.e., once every four years) through the web-based Annual Emissions Reporting (AER) Program in a combined streamlined reporting process to obtain a preliminary toxic inventory. Under this streamlined process, facilities only report emissions of 177 toxic compounds which will be used to calculate priority scores for each facility. Every year, SCAQMD staff posts criteria and toxic emissions for the previous calendar year to the AB 2588 website and makes it available to the public. In 2013, 50 facilities submitted quadrennial toxic emissions inventory updates. Based on emissions inventory submittals, the SCAQMD staff calculates priority scores for each facility which takes into account potency, toxicity, and the amount of toxics released into the air, as well as the distance to workers, residents and sensitive receptors (such as hospitals, schools, and day care centers).

SCAQMD staff conducts a more detailed evaluation and audit of those facilities with a priority score greater than 10 to confirm use of the correct emission factors, control efficiencies, source test method, weight percent of toxic compounds as well as proximity to the nearest receptors. In 2013, thirteen facilities with priority score greater than 10 were reviewed. The disposition of these facilities is shown in Table 1.

Table 1 - Disposition of Facilities with a Priority Score (PS) Greater than 10

Facility Identification Number and Facility Name		Disposition
13920	St. Joseph Hospital	• Priority Score verified to be ≥10 • Current risk drivers compared to previous approved HRA resulted in similar health risk • Request for new HRA not necessary
18989	Bowman Plating Co. Inc.	• Priority Score verified to be ≥10 • Current risk drivers compared to previous approved HRA resulted in similar health risk • Request for new HRA not necessary
126060	Sterigenics US, LLC	• Priority Score verified to be ≥10 • Current risk drivers compared to previous approved HRA resulted in similar health risk • Request for new HRA not necessary
800267	Triumph Processing, Inc.	• Priority Score verified to be ≥10 • Current risk drivers compared to previous approved HRA resulted in similar health risk • Request for new HRA not necessary
11245	Hoag Memorial Hospital Presbyterian	• Priority Score revised to be <10 • Priority Score revised due to proximity to receptors and other corrections.
83876	United Parcel Service	• Priority Score revised to be <10 • Priority Score revised due to proximity to receptors and other corrections.
102268	Reproduction Plastics Inc.	• Priority Score revised to be <10 • Priority Score revised due to proximity to receptors and other corrections.
800318	Griswold Industries	• Priority Score revised to be <10 • Priority Score revised due to proximity to receptors and other corrections.
107652	Ralphs Grocery Co.	• Priority Score revised to be <10 • Priority Score revised due to proximity to receptors and exclusion of portable diesel internal combustion engine emissions.
100154	Colmac Energy Inc.	• Priority Score revised to be <10 • Priority Score revised due to corrections to receptor proximity.
134943	Alcoa Global Fasteners, Inc. South Bay	• Priority Score revised to be <10 • Priority Score revised due to corrections to receptor proximity.
800201	Arco Terminal Services Corporation	• Priority Score revised to be <10 • Priority Score revised due to corrections to receptor proximity.
16338	Kaiser Aluminum & Chem. Corp.	• Priority Score verified to be ≥10 • ATIR request letter was sent

Air Toxic Inventory Reports (ATIR) and Health Risk Assessments (HRAs)

There are two general paths in which a facility will be asked to prepare an ATIR and HRA: 1) AER preliminary toxic inventory reporting shows that the facility has a priority score greater than or equal to 10; and 2) The Executive Officer, based upon investigation, determines that emission levels from the facility could potentially cause exceedance of the action risk thresholds of Rule 1402 - Control of Toxic Air contaminants From Existing Sources; monitoring or source testing shows elevated levels of toxic air contaminants and provides evidence that the facility may exceed the action risk thresholds of Rule 1402.

Facilities that are asked to prepare an ATIR and HRA, must submit a detailed inventory of approximately 450 toxic compounds as well as stack parameters and locations using CARB's Hotspots Analysis and Reporting Program (HARP).[3]

There was one facility Kaiser Aluminum Fabricated Products, LLC (ID 16338) that had a priority score greater than or equal to 10 that was asked to prepare an ATIR. The following three facilities based on monitoring efforts and source testing were asked to prepare an ATIR and an HRA:

- Carlton Forge Works (ID 22911);
- Gerdau – Rancho Cucamonga Mill (ID 18931), and
- Quemetco (ID 8547).

The section titled, "Air Monitoring and Source Testing Activities to Support the AB 2588 Program" provides more information regarding the monitoring and source testing efforts for these three facilities.

Reviewing and Approving Health Risk Assessments and Risk Reduction Plans

In 2013, five HRAs were reviewed and approved including three refineries as discussed below. Under Rule 1402 – Control of Toxic Air Contaminants from Existing Sources, one-time public notification and a public meeting are required for facilities with cancer risks greater than or equal to ten in a million or non-cancer acute or chronic hazard index greater than one. In addition, Rule 1402 requires annual public notice until the facility gets below the action risk levels. Detailed discussions of the results of the HRAs are presented below with a summary of the health risk, public notifications and risk reduction presented in Table 2. In 2013, the SCAQMD staff posted new health risk assessments received for Exide Technologies (ID 124838) and Tesoro Refining and Marketing (ID 800436) on the SCAQMD website for public review, and will continue to post all other new HRAs received for facilities from this point forward.

Exide Technologies (ID 124838)

Exide Technologies is a secondary lead smelting facility which recovers lead from recycled automotive batteries, and has been in operation since 1922. Equipment used in the battery recycling process includes machines to break batteries apart and separate different materials, furnaces and kettles to melt metals, and miscellaneous equipment including storage tanks, conveying equipment, and engines. The facility poses a maximum individual cancer risk of 156 in a million primarily from arsenic at a worker receptor. The cancer burden is 10. The maximum chronic hazard index is 63 at a worker receptor, mainly from arsenic. The maximum acute hazard index is 3.8 at a residential receptor, mainly from arsenic. Based on the results contained in the approved HRA, the facility was subject to the public notification requirements of AB 2588 and the risk reduction requirements of SCAQMD Rule 1402. Exide hosted nine public meetings. Three public meetings were held on Thursday, May 30, 2013, and another three on Saturday, June 1, 2013 to allow for maximum community participation. Based on community demand, SCAQMD held three more public meetings on June 4, 5, and 27, 2013. Exide submitted a Risk Reduction Plan on August 28, 2013 to comply with SCAQMD Rule 1402 and an amended revised Risk Reduction Plan on January 17, 2014 which was approved on March 19, 2014. Furthermore, pursuant to SCAQMD Rule 1402, Exide is required to provide annual public notice in addition to annual progress reports until the Rule 1402 Action Risk Levels are met.

ConocoPhillips Wilmington Refinery (ID 800363)

ConocoPhillips Company owns and operates a two-part refinery in the cities of Carson & Wilmington. The Carson Plant receives various crude stocks, via rail car and pipeline, which are processed into intermediate feed stocks. The Wilmington refinery receives the intermediate feed stocks and further processes them into a variety of petroleum-based products and by-products including gasoline, diesel fuel, jet fuel, & liquefied petroleum gas. The Wilmington facility poses a maximum individual cancer risk of 23.2 in a million at residential receptor. This is mainly from diesel particulate matter (DPM), 1,3-butadiene, polycyclic aromatic hydrocarbons (PAH), and arsenic emissions. The cancer burden is 0.29. The maximum non-cancer acute hazard index is 0.13 at a boundary receptor, mainly from sulfuric acid, ammonia, and nickel emissions. The maximum non-cancer chronic hazard index is 0.73 at a worker receptor, primarily from sulfuric acid, arsenic, and nickel emissions. Based on the results of the approved HRA, the facility was subject to the public notification requirements of AB 2588, and a public notification meeting was conducted on March 21, 2013.

Tesoro Refining and Marketing (ID 800436)

Tesoro Refining and Marketing Company operate the refinery in the city of Wilmington which extends over 300 acres. The Plant processes various crude stocks into a variety of petroleum-based products and by-products including gasoline, jet fuel, and diesel. The facility poses a maximum individual cancer risk of 10.8 in a million at a sensitive receptor located east of the facility. The risk is mainly from diesel particulate matter

(DPM), 1,3-butadiene, benzene, hexavalent chromium, and arsenic emissions from refining processes. The cancer burden is 0.37. The maximum non-cancer acute hazard index is 0.30, mainly from hydrogen sulfide emissions. The maximum non-cancer chronic hazard index is 0.43, primarily from arsenic, nickel, and hydrogen chloride emissions. Based on the results of the approved HRA, the facility was subject to the public notification requirements of AB 2588, and a public notification meeting was held on February 4, 2014.

Southern California Edison (ID 160437)

The Southern California Edison, Mountainview Generating Station is a nominal 1,056-megawatt (MW), natural gas-fired combined cycle power plant. The main power facilities for the project occupy about 16.3 acres and contain the power-block, administrative buildings, chemical storage areas, cooling towers and other support facilities. The facility poses the maximum individual cancer risk of 2.3 in a million at residential receptor primarily from diesel exhaust particulates, hexavalent chromium, and formaldehyde emissions. The cancer burden is less than 0.01. Both non-cancer maximum chronic and acute hazard indices are less than 0.01.

Table 2 - Summary of Health Risk Assessments Approved in 2013

Facility	Health Risk	Public Notice	Risk Reduction Plan
Exide Technologies (ID 124838)	MICR: 156 in a million (worker) Cancer Burden: 10 Acute HI: 3.8; Chronic HI: 63	Yes. Nine public notification meetings: • May 30, 2013 (three meetings), • June 1, 2013 (three meetings), • June 4, 2013 • June 5, 2013, and • June 27, 2013.	Yes. RRP approved (3/19/2014)
Conoco Phillips Wilmington Refinery (ID 800363)	MICR: 23.2 in a million (residential) Cancer Burden: 0.29 Acute HI: 0.13; Chronic HI: 0.73	Yes. Public notification meeting was held on March 21, 2013.	Not required
Southern California Edison (ID 160437)	MICR: 2.3 in a million (residential) Cancer burden: < 0.01 Acute HI <0.01; Chronic HI <0.01	Not required	Not required
Tesoro Refining and Marketing (ID 800436)	MICR: 10.8 in a million (sensitive) Cancer Burden: 0.37 Acute HI: 0.30; Chronic HI: 0.43	Yes. Public notification meeting was held on February 4, 2014.	Not required
ExxonMobil Oil Corporation (ID 800089)	MICR: 7.7 in a million (residential) Cancer Burden: 0.15 Acute HI: 0.21; Chronic HI: 0.47	Not required	Not required

ExxonMobile Oil Corporation (ID 800089)

ExxonMobile Oil Corporation owns and operates a refinery in the city of Torrance. The facility refines crude oil to produce gasoline, diesel fuel, jet fuel, and other related petroleum products. The facility poses a maximum individual cancer risk of 7.7 in a million at a residential receptor. The risk is mainly from diesel particulate, arsenic, benzene and cadmium emissions. The cancer burden is estimated to be 0.15. The maximum non-cancer acute hazard index is 0.21, primarily from mercury, hydrogen sulfide and arsenic emissions. The maximum non-cancer chronic hazard index is 0.47, mainly from arsenic, mercury and manganese emissions.

Public Notification Procedures for Industry-wide Categories: Retail Gas Stations and Perchloroethylene Dry Cleaners

In 2013, the SCAQMD staff implemented Public Notification Procedures for the Industry-wide Category of Retail Gas Stations and Perchloroethylene Dry Cleaners. There are approximately 2,300 gas stations in the Basin, and based on staff's estimates, only a couple of gasoline dispensing stations are above the notification level. Perchloroethylene Dry Cleaners are regulated by Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Systems. Unless a dry cleaner has gone through New Source Review after September 1998, their risk will be over 10 in a million and can be many times higher. This industry is under-going a transition to non-perc, less or non-toxic alternatives, which is required by Rule 1421 by December 31, 2020. Currently there are about 650 perc dry cleaning facilities remaining in the Basin which are subject to public notification requirements.

The staff implemented the streamlined public notification process of posting public notice including a newspaper notice specifying information available on the SCAQMD web site, an on-site notice, information to SCAQMD and local libraries, corresponding planning agencies, as well as school districts. In addition, each facility exceeding the public notice threshold was required to post an AB 2588 notice at their facility. The on-site notice include information regarding pollutants at the facility, their toxicity as well as explanation of health risks associated with exposure to the pollutant. Facilities with the public notice are required to post it where it is most likely to be read by employees and customers.

Development of Mapping Tool for Industry-wide Sources (IWS) Facilities

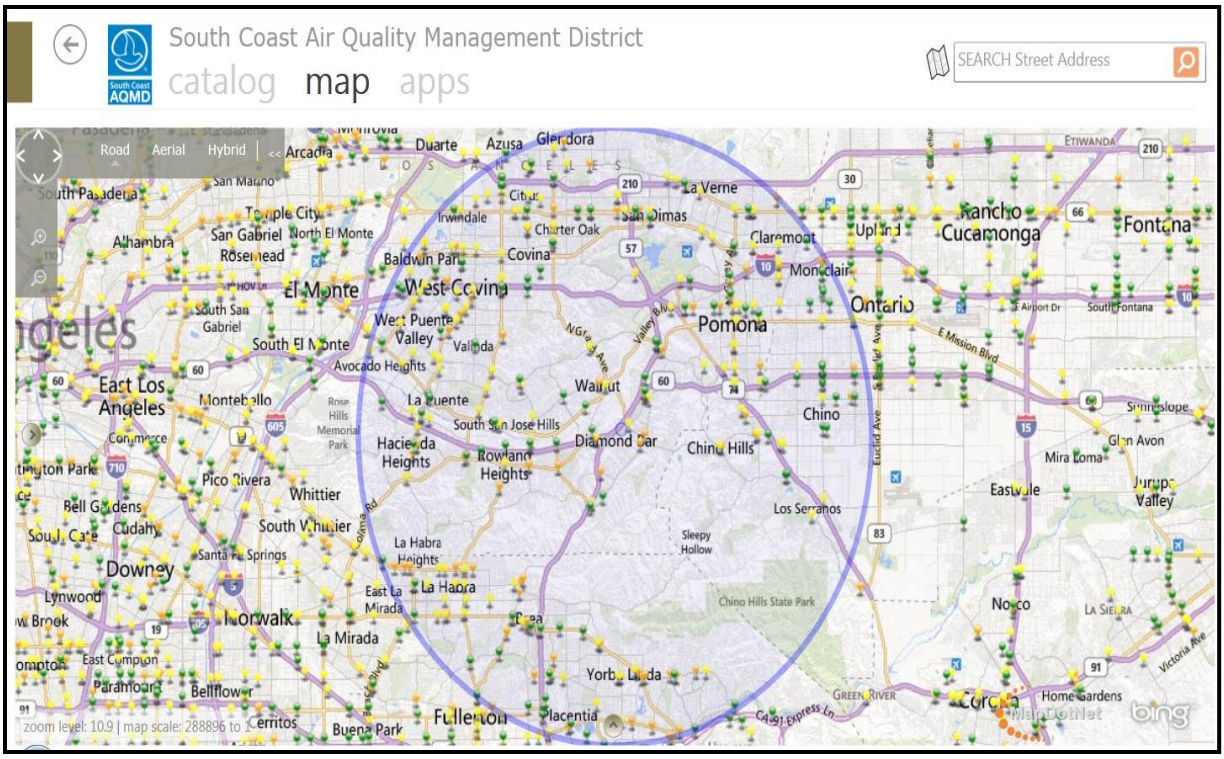
Air districts are also permitted to identify Industry-wide categories. The facilities that qualify for these categories share the same Standard Industrial Classification (SIC) code, for the most part are small businesses that would suffer severe economic hardships by individual compliance, and can be easily and generically characterized. To date, the SCAQMD has identified seven Industry-wide categories:

- Retail Gasoline Dispensing,
- Perchloroethylene Dry Cleaning,
- Auto Body Shops,
- Fiberglass Molding,
- Printing,
- Metal Plating, and
- Wood Stripping / Refinishing.

In addition to the Public Notification Procedures for retail gas stations and perchloroethylene dry cleaners, the SCAQMD staff developed a mapping tool to display health risks from these two industry-wide source categories. This was accomplished by developing a GIS application to display the estimated cancer risk for these two categories on a viewable and searchable map (mapping tool) on the SCAQMD website. Detailed maps of retail gas stations and perchloroethylene dry cleaners and their associated estimated cancer risks can be found at:

http://www3.aqmd.gov/webappl/OI.Web/OI.aspx?jurisdictionID=AQMD.gov&shareID=e25b31a1-f9dc-48d4-8ce2-86e13a835583.

A map of retail gas stations and perchloroethylene dry cleaners is shown with tags of orange, yellow, or green. Orange represents risks between 10 and 25 in a million; yellow represents risks between 1 and 10 in a million; and green represents risks less than 1 in a million. A specific address can be searched by using the querying function or by using the zoom icons in the upper left corner of the map. In addition, if a tag is clicked, then the facility name, ID, address, and risk value will pop-up; or if a cluster of facilities are clicked, then a list of facilities will pop-up. These are only a few examples of the functionalities of the web site. The following map is an example and it illustrates the retail gas stations and perchloroethylene dry cleaners within a 10 mile radius of the SCAQMD.



Air Monitoring and Source Testing Activities to Support the AB 2588 Program

The SCAQMD regularly engages in air toxics monitoring and air toxics source testing at AB 2588 facilities, or at facilities that are brought into the AB 2588 program based on monitoring and testing results. In addition to conducting or observing source tests, SCAQMD source testing engineers are responsible for reviewing and approving source test reports submitted by facilities to estimate air toxic emissions for the AB 2588 program. Over the past year, the SCAQMD staff has been conducting monitoring efforts on a variety of metal industries. The SCAQMD staff is continuing to investigate sources such as metal forging, metal melting, and plating operations to identify potential air toxics and if additional controls are needed. Many metal operations generate metal particulate and some cases gaseous vapors that can be very toxic.

Exide Technologies (ID 124838) - Vernon

At Exide Technologies, source testing staff reviewed numerous source testing protocols and reports related to the facilities HRA and subsequent efforts to reduce emissions. Staff conducted several series of source tests at the facility, and observed other tests conducted by the facility and third party contractors. Furthermore, air monitoring for lead which began in 2007, was expanded in 2013 to include analysis for arsenic as well. Three sites are currently operating, two of which conduct daily sampling. As mentioned

above, Exide is in the process of implementing a Risk Reduction Plan under the AB 2588 program.

Carlton Forge Works (ID 22911) - Paramount

Carlton Forge Works manufactures forged high-temperature alloy rings for aerospace, gas turbine, and other industries, using principal alloy metals such as nickel, titanium, aluminum, cobalt, zirconium, niobium, and iron, as well as other high temperature metals with special properties. CFW operates a large grinding room with 25 grinding booths, each equipped with a handheld air grinder or a swing grinder and vented to one of three air pollution control equipment (baghouses). The facility is located in a mixed residential/industrial area of Paramount CA and is surrounded by public areas and private residences.

Complaints of burning metallic odors reported by local community members led SCAQMD to supplement ongoing complaint investigations, inspections and surveillance activities with preliminary air sampling in February, April and May of 2013 to investigate potential health impacts from exposure to gaseous and particulate pollutants emitted by CFW operations. Because the major activities at CFW are forging, abrasive blasting, coating, and grinding, particular attention was given to the monitoring of the metallic components of particle emissions to better characterize the emissions and determine ambient levels of potential exposure off-site and in the community.

A series of source tests were conducted in the summer of 2013 by a SCAQMD contractor to better assess the locations and levels of emissions. Starting in August 2013, based on the preliminary air and soil sampling results, SCAQMD began ambient field measurements for the monitoring of the metallic components of particle emissions at two nearby sites downwind. Nickel and hexavalant chromium were of initial concern. One of the sites was relocated to a location slightly farther away in November 2013 to collect gradient information. Sampling is ongoing and shows some reductions in ambient levels since sampling began due to improvements at the facility. Based on these field measurements, CFW was asked to prepare an ATIR, and HRA and begin work on a risk reduction plan. In addition, in 2014 the SCAQMD staff has initiated rule development to address potential toxic emissions from forging and grinding operations. More information regarding toxic rule development activities in 2014 are discussed in the section titled, “Rule Making”.

Gerdau (ID 18931) - Rancho Cucamonga

Gerdau North America acquired the TAMCO Rancho Cucamonga steel mini mill in October, 2010. In 2012, a contractor was retained to perform an environmental audit and found discrepancies in reported emissions. It was found that substantial SOx emissions were not reported prior to 2012, NOx emissions were not accurately being measured and Pb emissions may have contributed to an exceedence of Rule 1420 limits. SCAQMD conducted inspections of the facility to address issues, as well as conducting source tests

of the bag house exhaust. SCAQMD ambient monitoring for Pb and select particulate metals (Mn, Ni, and hexavalent chromium) began at and around the facility in 2012 at two locations and continued through 2013. Gerdau has recently submitted an HRA and SCAQMD staff has asked for revisions prior to approval.

Quemetco (ID 8547) - Industry

In October and November 2013, the SCAQMD staff conducted additional source tests at Quemetco. The results of the 2013 source tests showed elevated arsenic, benzene, and 1,3-butadiene emissions compared to previous 2009, 2010, and 2012 source tests. As a result, the SCAQMD staff has requested that Quemetco prepare a Health Risk Assessment in 2013 pursuant to Rule 1402.

Hixson (ID 11818) – Newport Beach

Hixson Metal Finishing is metal finishing company conducting anodizing, plating, painting and other coatings, and non-destructive testing operations located in Newport Beach, California. The SCAQMD began ambient air monitoring for hexavalent chromium in a City near the facility in 2003, and in 2013, SCAQMD continued ambient air monitoring for hexavalent chromium at two sites. Levels of hexavalent chromium near the facility have increased in 2013, and SCAQMD staff is conducting investigations into the specific source and cause, including materials analysis on site and several shorter term intensive monitoring campaigns with higher frequency and more numerous air samples being collected. Results of short-term intensive monitoring on site in 2014 confirmed Hixson as the source of hexavelant chromium. In 2014 the SCAQMD staff notified Hixson to prepare an HRA to account for the recent increase in ambient concentrations.

Pilot Study for Multi-Metals In-Stack and Ambient Continuous Monitors

Throughout the 2013, initial studies have revealed the need for additional tools for more continuous monitoring of in-stack and ambient emissions metal operations. As a result, the SCAQMD initiated the process in 2013 to conduct a pilot study for continuous in-stack monitors and continuous ambient monitors for multi-metals. Contracts with Cooper Environmental Services, the only manufacturer of these types of continuous monitors, will be initiated in 2014 to implement this pilot study. Results from the pilot study are expected in late 2014 or early 2015.

Rule 1401 Permitting and HRA Modeling Projects

Under Rule 1401, any new, relocated, and modified permit units which emit toxic air contaminants as specified in the rule are subject to specific allowable limits for maximum individual cancer risk (MICR), cancer burden, and non-cancer acute and chronic hazard index (HI). In 2013, SCAQMD staff processed approximately 4,327 Rule 1401

applications for 1,908 facilities. Under Rule 1401, the SCAQMD staff also conducts air dispersion modeling to confirm that new and modified permits do not exceed the health risk thresholds. In 2013, SCAQMD staff reviewed and approved 21 HRA modeling projects for permitting.

Rule Development

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

In January 2014, Rule 1420.1 was amended to establish requirements for owners or operators of large lead-acid battery recycling facilities to reduce arsenic emissions and other key toxic air contaminant emissions. Proposed amendments included requirements for ambient air concentration limits for arsenic, as well as hourly emission limits of arsenic, benzene, and 1,3-butadiene. Other amendments also contain additional administrative, monitoring and source testing requirements for stack emissions. The majority of work for this rule was done in 2013 and the rule was originally scheduled for the December 6, 2013 Board Hearing, and therefore listed in this annual report.

FUTURE ACTIVITIES

AB2588 Activities

Staff will prioritize about 100 facilities and notify those with high priority scores to prepare detailed Air Toxics Inventory Reports (ATIRs) and HRAs. Staff anticipates the review of about 10 facility HRAs and 10 detailed ATIRs. In addition, the Tesoro Refining and Marketing (ID 800436) public notice was scheduled for February 04, 2014 at the Boys and Girls Clubs of Long Beach. Public notices are also expected for Carlton Forge Works (ID 22911) and Gerdau (ID 18931).

Develop Internal Procedures for the Other Industry-wide Categories

The California Air Pollution Control Officers Association's (CAPCOA) Toxics Committee has been tasked with developing statewide emission inventory and risk assessment guidelines for several of these Industry-wide categories. Specifically, such guidelines have been completed for auto body shops[4] and gasoline service stations.[5]. The guidelines for perchloroethylene dry cleaners[6] are being finalized by CAPCOA. The guidelines provide a cost-effective and uniform method for calculating facility emissions and estimating toxic risks for the approximately 1,770 auto body shops, 2,300 gasoline service stations, and 640 perchloroethylene dry cleaners under the SCAQMD's jurisdiction. In this manner, the SCAQMD may prepare Industry-wide inventories, risk assessments, and public notices and risk reduction plans if necessary. Facilities with only emergency diesel internal combustion engines (DICEs) are treated similarly to an Industry-wide category. In 2014, staff will develop an internal work plan for addressing

emission inventory, risk assessment, and public notification procedures for the Industry-wide category of auto body shops (approximately 1,770 facilities).

Multiple Air Toxics Exposure Study (MATES)

MATES IV[7] is the fourth in a series of urban toxics monitoring and evaluation studies conducted in the Basin. The previous studies took place in 1985-86, 1998-99,[8] and 2004-06.[9] MATES IV consists of several elements as follows: a comprehensive monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to fully characterize Basin risk. The measurement of ultrafine particle concentrations is a new focus for MATES IV. In addition, shorter-term measurements were conducted at various locations, such as airports, freeways, rail yards, and busy intersections near warehouse operations to assess exposures to ultrafine particles and black carbon. Sampling began in June 2012 and concluded June 2013, providing a full year of ambient data.

AB 2588 staff is expected to participate in MATES IV in 2014 because it affords an opportunity to identify facilities that may be contributing to elevated ambient risks, but have not been determined as such through our routine procedures of inventory assessment, prioritization, and risk assessment. Staff will also assist in the development and review of an air toxics emission inventory which is a key input to the regional modeling and risk assessment tasks of MATES IV.

National-Scale Air Toxics Assessment (NATA) Support

Every three years, beginning in 1996, the U.S. EPA prepares a National-Scale Air Toxics Assessment (NATA). [10] NATA is analogous to the modeling component of SCAQMD's Multiple Air Toxic Exposure Study (MATES). Whereas MATES looks at population risks in the four county jurisdiction of the SCAQMD, the 50 states are addressed in NATA. The purpose of NATA is to: (1) identify and prioritize the toxic air contaminants of greatest concern, (2) determine the risk contribution from each of the major source categories (i.e., on-road, off-road, point, and area), and (3) identify local areas (i.e., census tracts) with elevated risks.

Significant AB 2588 staff resources are expected to be dedicated in 2014 to the analysis and review of preliminary and final versions of the 2011 NATA. Staff is currently reviewing some very preliminary results for high risk facilities.

Assessment of OEHHA Revised Air Toxics Hot Spots Program Risk Assessment Guidelines (2015)

The Hot Spots Act requires that the Office of Environmental Health Hazard Assessment (OEHHA) develop risk assessment guidelines for the Hot Spots program. In 2003, OEHHA adopted the Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments. [1] The Guidance Manual contains a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and modeling protocols needed to perform a risk assessment under the Hot Spots Act. The information for the Guidance Manual is taken from three other technical support documents (TSDs)

that provide the input parameters for the risk assessments. OEHHA is updating these guidelines to include the most recent scientific data on exposures and toxic potencies.

To facilitate the development of risk assessments, a software program, the Hot Spots Analysis and Reporting Program (HARP), has been developed by the Air Resources Board in consultation with OEHHA and Air Pollution Control/Air Quality Management District representatives.[3] This is a tool that incorporates the components of the Guidance Manual and assists with the programmatic requirements of the Hot Spots program. HARP is an integrated software package that can be used by the air pollution control and air quality management districts, facility operators, and others. The SCAQMD uses HARP for the Hot Spots program, and also for health risk assessments in other areas such as facility permitting. The HARP software includes exposure variates and health values and is the recommended model for calculating and presenting HRA results for the Hot Spots Program. Information on obtaining the HARP software can be found on the ARB's web site at *www.arb.ca.gov* under the Hot Spots Program.

In the last few years, OEHHA has been updating the components of the risk assessment procedure and has adopted updated technical support documents that reflect new scientific information. The Technical Support Document for the Derivation of Noncancer Reference Exposure Levels (June, 2008) addresses the methodology for deriving acute, chronic and eight hour Reference Exposure Levels. [11] The Technical Support Document for Cancer Potency Factors (May 2009) addresses the methodology for deriving cancer potency factors and adjusts cancer potency to account for the increased sensitivity of early-in-life exposure to carcinogens. [12] The Technical Support Document for Exposure Assessment and Stochastic Analysis (June 2012) presents the exposure model for the Hot Spots program and reviews the available literature on exposure and relevant fate and transport variates. [13] All three TSDs are available on OEHHA's web site at: http://www.oehha.ca.gov/air/hot_spots/index.html.

Additionally, consideration of possible differential effects on the health of infants and children has been included in the updates.

The three TSDs have been updated and are now being incorporated in revisions to the Guidance Manual for Risk Assessments. The intent of the Guidance Manual and the HARP software is to incorporate children's health concerns, update risk assessment practices, and to provide consistent risk assessment procedures.

Estimates prepared by CARB/OEHHA staff indicate that, for a given level of emissions, the cancer risk assessments will likely yield significantly higher risk values. The estimated risk increases based on the new OEHHA guidance will range from a factor of about 2.7 for inhalation-only risks up to a factor of about 6.1 for substances that exhibit multi-pathway exposures (inhalation, soil, dermal, and breast milk). Staff will perform more detailed assessment on the resource impacts and impacts on the regulated community and prepare an action plan for Board's consideration.

The revisions to the Guidance Manual will be released for public review and OEHHA will respond to public comments. Both the Guidance Manual and OEHHA's response to the comments will then be reviewed by the State's Scientific Review Panel on Toxic Air Contaminants (SRP), which has already reviewed the three TSDs upon which this guidance is based. Following review by the SRP, OEHHA will finalize this Guidance Manual and the HARP software, which will supersede the risk assessment methods presented in the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2003). Staff estimates that the Guidance Manual & release of the updated HARP software will be complete by early 2015.

Rulemaking

Streamlining Rules 1401/1402 and AB 2588 Program

Based on recent experience with several AB 2588 facilities associated community concerns, staff believes the current timelines and procedures of the program should be modified and streamlined to provide better information to the public and achieve faster toxic emissions reductions when necessary. To this end, staff has initiated the rule amendment process with regards to SCAQMD Rule 1402 – Control of Toxic Air Contaminants from Existing Sources, to streamline implementation of inventories, risk assessment, and risk reduction under the AB 2588 Program, while also improving the reporting process, the availability of the data, and communication to the affected community. Staff will also be revising AB 2588 internal and external AB 2588 guidelines documents to reflect new rule amendments and further provide for program enhancements. The proposed changes will be subject to the standard rulemaking process with enhanced stakeholder outreach to both community members and the affected businesses. The AB 2588 program staff will be part of the program evaluation effort.

Other Proposed Rules

Rule 1420 – *Emissions Standard for Lead* applies to all non-vehicular sources of lead emissions and contains requirements for emission levels, controls, housekeeping, and monitoring. On October 15, 2008, U.S.EPA lowered the lead National Ambient Air Quality Standard (NAAQS) from 1.5 to 0.15 ug/m^3. Proposed amendments will reassess the current requirements and realigns them to ensure compliance with the revised lead standard. Proposed amendments to the rule may also include general housekeeping provisions and enclosure requirements to control fugitive lead emissions. The public process could begin in early fall of 2014.

Rule 1420.1 – *Emissions Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities* applies to lead-acid battery recycling facilities that have processed more than 50,000 tons of lead per year in any one of the five calendar years prior to November 5, 2010, or annually thereafter. The purpose of Rule 1420.1 is to protect public health by reducing exposure and emissions of lead, arsenic, benzene, and 1,3-butadiene from large lead-acid battery recycling facilities, and to help ensure attainment and maintenance of the National Ambient Air Quality Standards

(NAAQS) for Lead. Potential proposed amendments will consider lowering the total facility mass lead emission rate of 0.045 lb/hr from all lead point sources and/or the ambient lead concentration. The public process will begin in fall of 2014.

Rule 1420.2 – *Emission Standards for Lead from Metal Melting Processes (tentative)* is a new rule that reduces exposure to lead emissions from facilities that conduct metal melting processes such as lead-acid battery manufacturing facilities and foundries. In addition to meeting an ambient air quality concentration standard of 0.15 $\mu g/m^3$ averaged over 30 days, the rule may establish requirements to meet a total facility lead emission rate and total enclosures of areas used in the metal melting process. Other requirements such as ambient air monitoring and housekeeping practices to control fugitive lead-dust emissions may be proposed. The public process could begin in early fall of 2014.

Proposed Rule 1430 – C*ontrol of Toxic Air Contaminants from Metal Forging and Grinding* is a new rule which will establish requirements to control toxic air contaminants from metal forging and grinding operations. SCAQMD staff has identified 21 facilities in the South Coast Air Basin that conduct metal forging and grinding operations. SCAQMD staff is currently investigating regulatory requirements that would ensure affected facilities employ the best means available to minimize toxic air contaminants not adequately addressed by existing regulations. Specifically, the rule requirements currently under review by SCAQMD staff range from housekeeping provisions to source specific limitations such as grinding enclosures, curtains, ventilation requirements and air pollution control equipment. The SCAQMD staff will continue to review and analyze all emission reduction strategies available for this source category. The public process could begin in early fall of 2014.

NOTES AND REFERENCES

[1] OEHHA. 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. The document is available at http://www.oehha.org/air/hot_spots/HRAguidefinal.html.

[2] SCAQMD. 2011. Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act (AB2588). The document is available at http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=4.

[3] CARB. 2005. Hotspots Analysis and Reporting Program (HARP). Link to HARP is http://www.arb.ca.gov/toxics/harp/harp.htm.

[4] CAPCOA. 1996. Auto Bodyshop Industry-wide Risk Assessment Guidelines. Prepared by CAPCOA, September 1996. The document is located at the following link: http://www.arb.ca.gov/ab2588/riskassess.htm.

[5] CAPCOA. 1997. Gasoline Service Station Industry-wide Risk Assessment Guidelines. Prepared by CAPCOA, December 1997. The document is located at the following link: http://www.arb.ca.gov/ab2588/riskassess.htm.

[6] CAPCOA. 2003. Perchloroethylene Dry Cleaner Industry-wide Risk Assessment Guidelines. Prepared by CAPCOA, January 13, 2003 (Draft). The document is located at the following link: http://www.arb.ca.gov/ab2588/riskassess.htm.

[7] MATES IV preliminary material is available at: http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv.

[8] The MATES II report and related material is available at: http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-ii.

[9] The MATES III report and related material is available at: http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iii.

[10] The U.S. EPA's web portal to NATA is at: http://www.epa.gov/ttn/atw/natamain/.

[11] Air Toxics Hot Spots Risk Assessment Guidelines Technical Support Document For the Derivation of Noncancer Reference Exposure Levels, Office of Environmental Health Hazard Assessment, 2008 http://www.oehha.ca.gov/air/hot_spots/2008/NoncancerTSD_final.pdf

[12] Technical Support Document for Cancer Potency Factors: Methodologies for derivation, listing of available values, and adjustments to allow for early life stage exposures, Office of Environmental Health Hazard Assessment, May 2009 http://www.oehha.ca.gov/air/hot_spots/2009/TSDCancerPotency.pdf

[13] Air Toxics Hot Spots Program Risk Assessment Guidelines Technical Support Document for Exposure Assessment and Stochastic Analysis, Office of Environmental Health Hazard Assessment, August, 2012 http://www.oehha.ca.gov/air/hot_spots/pdf/2012tsd/TSDportfolio2012.pdf

Appendix A

Health Risk from Facilities with an Approved Health Risk Assessment (HRA)

The tables in Appendix A lists the facilities and the current risks as reviewed and approved by the AB 2588 staff. Table A-1 lists the facilities in order of their cancer risks and Table A-2 is ordered by facility ID. In most instances, the listed risks are from an approved HRA. However, in some instances, the risks are from after the implementation of a risk reduction plan. Table A-3 lists the status of the facility's risk reduction plan. Attention should also be given to the other footnotes in the table denoting facilities with updated HRAs pending approval and facilities with risk including emergency DICEs. It also provides current status of each facility as follows:

- A – Active
- I – Inactive
- OB – Out of business (with the year in which the facility went out of business)

"Inactive" and "out of business" facilities have been retained for historical purposes since staff occasionally receives public inquiries regarding "inactive" or "out of business" facilities. Staff realizes that facilities that have gone through change of ownership could have different name and facility ID numbers. The following risk levels are identified in SCAQMD Rule 1402 – Control of Toxic Air Contaminants from Existing Sources:

- **Action Risk Levels:** Cancer risk $\geq$ 25 in a million; Acute HI $\geq$ 3.0; Chronic HI $\geq$ 3.0, Cancer Burden $\geq$ 0.5
- **Public Notification Levels:** Cancer risk $\geq$ 10 in a million; Acute HI > 1.0; Chronic HI > 1.0
- **Exemption Levels:** Cancer risk < 1 in a million; Acute HI < 0.1; Chronic HI < 0.1

Appendix A-1
Health Risks from Facilities with an Approved HRA
(listed in descending order by cancer risks)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
124838	A	EXIDE TECHNOLOGIES	Vernon	156	10	3.8	63	2013
800363	A	CONOCO-PHILLIPriority Score CO.	Wilmington	23.2	0.29	0.13	0.73	2013
122822	OB	CONSOLIDATED FILM INDUSTRIES	Hollywood	21.00	n/a	0.11	0.40	2000
45448	A	GAS RECOVERY SYSTEMS, INC.	Newport Coast	20.1	0.18	0.56	0.32	2009
14495	A	VISTA METALS CORP.	Fontana	19.80	0.057	0.01	0.29	2008
126501	A	VOUGHT AIRCRAFT INDUSTRIES (b)	Hawthorne	19.70	n/a	0.64	0.24	2001
114927	A	ANVIL CASES / A CALZONE COMPANY	Industry	19.00	n/a	0.13	0.08	2002
11142	OB (2003)	KEYSOR-CENTURY CORP	Saugus	17.00	n/a	0.54	0.06	2000
18989	A	BOWMAN PLATING CO. INC.	Compton	14.20	0.021	<0.01	<0.01	2007
41229	A	LUBECO, INC.	Long Beach	14.02	n/a	0.00	0.12	2003
35302	A	OWENS CORNING FIBERGLASS CORP. (c)	Compton	14.00	0.015	0.07	0.10	2000
48323	A	SIGMA PLATING COMPANY	La Puente	13.84	0.017	0.01	0.74	2004
18648	OB (2006)	CROWN CITY PLATING COMPANY	El Monte	11.99	0.130	0.39	0.13	2000
800436	A	TESORO REFINING AND MARKETING CO	Wilmington	10.80	0.38	0.3	0.43	2013
29110	A	OR. CO., SANITATION DIST	Huntington Beach	10.70 (d)	0.210	1.78	0.48	2007
106797	OB (2005)	SAINT-GOBAIN CONTAINERS LLC	Los Angeles	9.85	n/a	0.00	0.07	2000
101380	OB (2005)	GENERAL DYNAMICS OTS (DOWNEY) INC	Downey	9.80	n/a	0.01	0.05	2000
148925	A	CHERRY TEXTRON	Santa Ana	9.70	n/a	0.07	0.15	1999
800183	A	PARAMOUNT PETROLEUM CORPORATION	Paramount	9.61	n/a	0.02	0.01	2002
800318	A	GRISWOLD INDUSTRIES	Costa Mesa	9.51	0.009	0.10	0.01	2001

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
15504	A	SCHLOSSER FORGE CO.	Rancho Cucamonga	9.50	0.067	1.59	1.11	2003
800149	A	US BORAX & CHEM CORP	Wilmington	9.46	n/a	0.00	0.03	2000
10510	OB (2009)	GREGG INDUSTRIES INC.	El Monte	9.40	0.010	0.60	0.56	2008
155828	A	GARRETT AVIATION SERVICES INC.	Los Angeles	9.33	n/a	0.91	0.10	2005
42922	OB (2006)	CMC PRINTED BAG INC	Whittier	9.00	n/a	<0.01	<0.01	1995
800396	A	BP WEST COAST PRODUCTS, ARCO VINVALE	South Gate	9.00	0.023	<0.01	0.03	1994
169990	A	SPriority Score TECHNOLOGIES, LLC	Gardena	8.91	0.010	0.09	0.06	1999
1744	A	KIRKHILL RUBBER CO	Brea	8.70	0.001	0.20	0.06	2007
800431	A	PRATT & WHITNEY ROCKETDYNE, INC.	Canoga Park	8.70	0.130	<0.01	<0.01	1995
44454	A	STRUCTURAL COMPOSITES INDUSTRIES, INC.	Pomona	8.60	0.001	0.01	0.23	2002
2680	A	LA CO., SANITATION DISTRICT	Whittier	8.57	n/a	0.00	0.03	1999
15736	I	HENRY CO	Huntington Park	8.50	0.026	0.00	0.00	2000
800057	A	GATX TANK STORAGE TERMINAL CORP	Carson	8.50	n/a	0.01	0.06	1999
800079	A	PETRO DIAMOND TERMINAL CO	Long Beach	8.30	n/a	0.00	0.16	1998
125281	OB (2004)	MODERN PLATING ALCO CAD-NICKEL PLATING	Los Angeles	8.20	n/a	0.10	0.01	1997
21615	OB (2004)	OPTICAL RADIATION CORP	Azusa	8.08	n/a	0.17	0.10	1998
110924	OB (2008)	WESTWAY TERMINAL COMPANY	San Pedro	8.00	0.370	0.33	0.51	1997
3609	I	AL'S PLATING CO INC	Los Angeles	7.81	n/a	0.26	0.17	1999
37603	A	POLYCARBON INC	Valencia	7.80	0.012	0.01	0.36	1998
800182	A	RIVERSIDE CEMENT CO. (c)	Riverside	7.80	n/a	0.05	0.13	2001
13920	A	ST. JOSEPH HOSPITAL	Orange	7.73	0.014	0.79	0.26	2008

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
800089	A	EXXON-MOBIL OIL CORPORATION	Torrance	7.7	0.15	0.21	0.47	2013
18294	A	NORTHROP CORP., AIRCRAFT DIV. - WEST	El Segundo	7.60	n/a	0.13	0.05	2000
113170	A	SANTA MONICA HOSPITAL MEDICAL CTR UNIT 2 (b)	Santa Monica	7.60	0.000	0.17	0.01	1997
800214	A	LA CITY, HYPERION TREATMENT PLANT (c)	Playa del Rey	7.59	0.027	0.06	0.01	1999
20197	A	LAC/USC MEDICAL CENTER	Los Angeles	7.50	0.031	0.70	0.38	2007
800032	A	CHEVRON U.S.A. INC	Montebello	7.46	0.143	0.01	0.18	1999
800150	A	US GOVT., AF DEPT, MARCH AFB	Riverside	7.35	0.020	0.31	0.01	2008
108701	OB (2007)	BALL FOSTER GLASS CONTAINER CO.	El Monte	7.30	0.056	0.09	0.07	2000
117560	A	EQUILON ENTER, LLC-SHELL OIL PROD. US	Wilmington	7.30	n/a	0.03	0.07	1998
131003	A	BP WEST COAST PRODUCTS LLC	Carson	7.28	n/a	0.30	0.08	2000
800026	A	ULTRAMAR INC.	Wilmington	7.2	0.18	0.70	0.23	2012
800113	A	ROHR IND INC	Riverside	7.20	0.011	0.86	0.02	2007
800236	A	LA CO., SANITATION DIST UNIT NO.01	Carson	7.20	0.058	0.17	0.12	2007
49387	A	UNIV CAL RIVERSIDE	Riverside	7.13	0.220	0.00	0.04	1999
57094	A	G S ROOFING PRODUCTS CO INC (c)	Wilmington	7.00	n/a	0.01	0.01	2000
140499	A	AMERESCO HUNTINGTON BEACH, LLC	Huntington Beach	7.00	n/a	<0.01	<0.01	1995
55449	A	BKK CORPORATION, LANDFILL DIVISION GNRL	W. Covina	6.90	n/a	0.01	0.10	2000
800372	A	EQUILON ENTERPRISES,LLC	Carson	6.90	0.030	0.44	0.07	2001
20280	A	METAL SURFACES INC.	Bell Gardens	6.8	0.000	0.88	0.34	2011
42514	A	LA CO., SANITATION DIST., CALABASAS LANDFILL	Agoura	6.78	0.00	0.02	<0.01	2010
5723	A	AEROCHEM INC	Orange	6.70	0.004	0.02	0.10	1999

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
34764	A	CADDOCK ELECTRONICS, INC.	Riverside	6.70	0.034	0.01	0.09	2002
8570	A	EMBEE INC	Santa Ana	6.62	n/a	0.21	0.58	2001
800362	A	CONOCO-PHILLIPriority Score CO.	Carson	6.6	0.11	0.03	0.26	2011
17301	A	OR CO., SANITATION DIST	Fountain Valley	6.60	0.032	0.39	0.34	2007
6643	A	TECHNICOLOR, INC	N. Hollywood	6.53	0.003	0.03	0.08	2007
141585	A	RESOLUTION SPECIALTY MATERIALS, LLC	Lynwood	6.50	0.150	0.13	1.60	1995
11726	I	GE ENGINE SERVICES	Ontario	6.46	n/a	0.12	0.59	1999
2852	A	WALT DISNEY CO	Burbank	6.40	0.031	0.02	0.02	1997
800066	A	HITCO	Gardena	6.40	0.310	0.34	0.05	1998
4477	A	SOUTHERN CALIFORNIA EDISON COMPANY	Avalon	6.3	0.02	0.01	0.02	2012
1226	A	HYATT DIE CAST & ENGINEERING CORP	Cypress	6.24	0.008	<0.01	0.12	1996
800067	A	BOEING SATELLITE SYSTEMS INC	El Segundo	6.22	n/a	0.03	0.08	2000
146570	OB (2009)	ROHM AND HAAS CHEMICALS LLC	La Mirada	6.20	n/a	0.54	0.76	1999
45262	A	LA CO, SANITATION DISTRICT UNIT NO.02	Glendale	6.17	n/a	0.01	0.05	1998
140961	A	GKN AEROSPACE TRANSPARENCY SYS INC	Garden Grove	6.00	n/a	<0.01	0.49	1996
800022	A	CALNEV PIPE LINE CO	Bloomington	5.90	n/a	0.00	0.07	1999
800198	A	ULTRAMAR INC	Wilmington	5.90	n/a	0.01	0.09	1999
800279	A	SFPP, L.P.	Orange	5.85	n/a	0.00	0.24	1999
8578	OB (2002)	ASSOCIATED CONCRETE PROD. INC	Santa Ana	5.80	n/a	0.13	0.57	1999
136148	A	E/M CORP, GREAT LAKES CHEMICAL CORP SUB	N Hollywood	5.80	0.000	0.28	0.57	1998
800129	A	SO PACIFIC PIPELINES INC	Rialto	5.75	n/a	<0.01	0.02	1996
154540	A	ARROWHEAD BRASS PROD. INC	Los Angeles	5.70	n/a	0.26	0.04	1995

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
800288	A	UNIV CAL IRVINE UNIT NO 01	Irvine	5.64	n/a	0.00	0.07	1996
22410	OB (2012)	PALACE PLATING	Los Angeles	5.60	n/a	0.73	0.38	2004
38971	A	RICOH ELECTRONICS INC	Irvine	5.60	0.007	0.02	0.39	1995
43201	A	SNOW SUMMIT SKI CORP	Big Bear Lake	5.53	0.003	0.01	0.01	2007
14146	A	MAC GREGOR YACHT CORP	Costa Mesa	5.50	n/a	0.00	0.10	1998
54424	A	L & L CUSTOM SHUTTERS	Placentia	5.50	0.000	0.15	0.21	2001
800409	A	TRW INC.	Redondo Beach	5.48	n/a	0.45	0.24	1998
800196	A	AMERICAN AIRLINES, INC.	Los Angeles	5.40	0.190	0.86	0.08	2005
800171	A	MOBIL OIL CO	Vernon	5.33	0.016	0.07	0.02	1997
134018	A	INDUSTRIAL CONTAINER SERVICES	Montebello	5.24	n/a	0.57	0.23	2000
109198	I	TORCH OPERATING CO. (STEARNS GAS CO)	Brea	4.97	n/a	0.05	0.01	2001
800037	A	DEMENNO/KERDOON	Compton	4.9	0.01	<0.01	0.02	2009
103888	OB (2010)	A J INDUSTRIES INC, SARGENT-FLETCHER CO	El Monte	4.90	0.280	0.16	0.02	1999
11192	A	HI-SHEAR CORP	Torrance	4.80	0.002	0.04	0.02	2008
800038	A	DOUGLAS AIRCRAFT CO	Long Beach	4.80	n/a	0.15	0.11	1999
800264	A	EDGINGTON OIL, CO.	Long Beach	4.78	0.001	0.01	0.01	2002
101977	A	AMERIGAS PROPANE L.P.	Long Beach	4.70	0.002	0.59	0.97	1998
3950	OB (2005)	CROWN CORK & SEAL COMPANY, INC.	La Mirada	4.60	0.000	0.00	0.11	1997
83102	A	LIGHT METALS	Industry	4.50	0.008	0.04	2.70	2002
8547	A	QUEMETCO INC.	Industry	4.4	0.023	0.086	0.74	2010
136395	A	THOMASON MECHNICAL CORP, BENDER MACHINE	Vernon	4.40	0.001	0.99	0.02	2002
800041	OB (2009)	DOW U.S.A.	Torrance	4.40	n/a	0.09	0.01	2000

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
93346	I	COOPER DRUM CO	S. El Monte	4.30	n/a	0.09	0.16	1997
115240	A	MARCHEM TECHNOLOGIES, LONZA INC	Long Beach	4.30	0.005	0.28	0.01	2001
131249	A	BP WEST COAST PRODUCTS LLC (c)	Wilmington	4.30	0.180	0.08	0.18	1995
124506	A	BOEING ELECTRON DYNAMIC DEVICES	Torrance	4.17	n/a	0.46	0.07	1995
6459	OB (2002)	HONEYWELL INTERNATIONAL INC.	Vernon	4.13	n/a	0.01	0.01	1999
18439	OB (2006)	ACE PLATING CO INC	Los Angeles	4.08	n/a	0.58	0.19	1998
118406	A	CARSON COGENERATION COMPANY	Carson	3.86	n/a	0.16	0.01	2007
45489	A	GUIDANT CORP	Temecula	3.80	0.006	1.31	0.01	2002
126060	A	STERIGENICS US, LLC	Ontario	3.80	0.000	0.00	0.01	2007
8820	A	REULAND ELECTRIC CO. H.BRITTON LEES	Industry	3.70	0.002	<0.01	<0.01	1996
9114	I	SOMITEX PRINTS OF CALIFORNIA	Industry	3.70	n/a	0.06	<0.01	1996
17325	A	ACE CLEARWATER ENTERPRISES	Paramount	3.70	0.001	0.01	0.00	2002
106838	A	VALLEY-TODECO, INC	Sylmar	3.70	0.000	0.20	0.20	2000
105598	A	SENIOR FLEXONICS INC	Burbank	3.64	0.007	0.98	0.49	2001
7427	A	OWENS-BROCKWAY GLASS CONTAINER	Vernon	3.60	0.000	0.01	0.06	2001
800007	OB (2005)	ALLIED SIGNAL INC, El Segundo	El Segundo	3.58	n/a	0.02	0.53	2000
126197	A	ION BEAM APPLICATIONS INC.	Los Angeles	3.56	0.000	<0.01	0.01	1996
127568	A	ENGINEERED POLYMER SOLUTION	Montebello	3.53	0.000	0.05	0.48	2000
151899	A	MEDALLION CALIFORNIA PROPERTIES CO	Newhall	3.51	n/a	0.02	0.20	2000
140811	A	DUCOMMUN AEROSTRUCTURES INC	Monrovia	3.50	0.007	0.01	0.01	2002
8015	A	ANADITE INC	South Gate	3.48	n/a	0.63	0.78	2003
9163	A	INLAND EMPIRE UTILITIES AGENCY	Ontario	3.44	0.001	0.25	0.01	2007

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
151415	A	AERA ENERGY LLC	Brea	3.40	0.020	0.05	0.00	1999
153546	A	HUCK INTERNATIONAL INC	Carson	3.30	0.017	0.00	0.02	1999
126191	A	ION BEAM APPLICATIONS INC.	Los Angeles	3.29	0.000	<0.01	0.00	1996
800063	A	GROVER PROD. CO	Los Angeles	3.29	0.039	0.88	0.07	2002
800189	A	DISNEYLAND RESORT	Anaheim	3.25	0.030	0.11	0.06	2009
18396	A	SPRAYLAT CORPORATION	Los Angeles	3.2	0.000	0.74	<0.01	2012
6384	A	LA CO., RANCHO LOS AMIGOS MEDICAL CENTER	Downey	3.14	0.082	0.01	0.06	1999
11435	A	THE PQ CORP	South Gate	3.00	n/a	0.00	0.01	1998
800395	A	BP WEST COAST PRODUCTS, ARCO CARSON	Carson	3.00	0.001	<0.01	0.02	1994
10005	A	ELECTRONIC CHROME GRINDING CO, INC.	Santa Fe Springs	2.96	0.010	0.24	0.06	2001
52517	A	REXAM PLC, REXAM BEVERAGE CAN COMPANY	Chatsworth	2.93	0.0076	0.73	0.1	2009
18452	A	UCLA (REGENTS OF UC) (c)	Los Angeles	2.91	n/a	0.01	0.11	1999
2613	A	US GOVT, NAVY DEPT, NAVAL WEAPONS STN	Seal Beach	2.90	0.004	0.11	0.00	2002
16660	A	MC DONNELL DOUGLAS SPACE SYS CO.	Huntington Beach	2.89	0.001	0.23	0.05	2007
116868	I	EQUILON ENTERPRISES,LLC	Rialto	2.88	n/a	0.00	0.04	1999
800035	OB (2011)	CONTINENTAL AIRLINES INC	Los Angeles	2.83	n/a	0.01	0.13	1997
48274	OB	FENDER MUSICAL INST	Corona	2.81	0.004	0.03	0.37	1997
151798	A	TESORO REFINING AND MARKETING CO.	Carson	2.77	n/a	0.14	0.00	1999
151984	A	TESORO REFINING AND MARKETING CO.	Wilmington	2.75	0.002	0.00	0.01	2000
46268	A	CALIFORNIA STEEL INDUSTRIES, INC.	Fontana	2.74	0.016	0.16	0.31	1995
800030	A	CHEVRON U.S.A. INC	El Segundo	2.73	n/a	0.29	0.13	2001
5887	A	ANABOLIC INC	Irvine	2.70	0.154	0.03	0.00	1997

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
16642	A	ANHEUSER-BUSCH INC.(LA BREWERY)	Van Nuys	2.70	n/a	0.02	0.13	1999
25440	OB (2010)	ROBERTSHAW CONTROLS CO, GRAYSON CONTROLS	Long Beach	2.70	0.003	0.00	0.96	1998
27701	OB (2008)	CADDOCK ELECTRONICS, INC.	Riverside	2.70	n/a	0.02	0.06	2002
137517	I	RELIANT ENERGY ETIWANDA,LLC	Etiwanda	2.67	0.160	0.01	0.17	2000
133987	A	PLAINS EXPLORATION & PRODUCTION CO. LP	Inglewood	2.65	n/a	0.01	0.07	1997
134943	A	ALCOA GLOBAL FASTERNERS, INC.	Torrance	2.61	n/a	0.55	0.04	2008
35483	A	WARNER BROTHERS STUDIO FACILITIES	Burbank	2.60	0.008	0.10	0.26	1997
37507	A	TROJAN BATTERY COMPANY	Santa Fe Springs	2.55	0.000	1.08	1.27	2012
7949	A	CUSTOM FIBERGLASS MFG CO/CUSTOM HARDTOP	Long Beach	2.50	0.078	<0.01	<0.01	1995
79682	A	RAMCAR BATTERIES INC	Commerce	2.43	n/a	0.04	0.17	1998
800278	A	SFPP, L.P.	Carson	2.43	n/a	0.00	0.10	1999
18188	A	PLASMA TECHNOLOGY INC.	Torrance	2.40	0.000	0.11	0.00	2007
18508	A	AIR PROD & CHEM INC, PACIFIC ANCHOR CHEM	Los Angeles	2.40	0.000	0.10	0.81	1999
800202	A	UNIVERSAL STUDIOS INC	Universal City	2.40	n/a	<0.01	0.03	1996
800387	A	CALIFORNIA INSTITUTE OF TECHNOLOGY	Pasadena	2.40	n/a	0.05	0.00	2007
152033	A	TESORO REFINING AND MARKETING CO.	Long Beach	2.39	n/a	0.00	0.01	1999
133405	OB (2008)	BODYCOTE INC./BODYCOTE THERMAL PROCESSING	Los Angeles	2.36	n/a	0.03	0.20	1999
1208	OB (2008)	MICROSEMI CORPORATION	Santa Ana	2.30	0.004	0.01	0.01	2001
160437	A	SOUTHER CALIFORNIA EDISON	Redlands	2.30	<0.01	<0.01	<0.01	2013
800056	A	GATX STORAGE TERMINALS CORP	San Pedro	2.30	n/a	0.00	0.03	1997
103659	OB (2007)	FOUR MEDIA CO.	Burbank	2.22	n/a	0.61	0.04	2004

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
99773	A	CYTEC FIBERITE INC.	Anaheim	2.20	0.000	0.04	0.19	2000
9668	A	DELUXE LABORATORIES INC, DELUXE LABORATOR	Hollywood	2.10	0.000	0.01	0.02	2000
40829	A	HAWKER PACIFIC INC	Sun Valley	2.07	0.000	0.04	0.09	2009
18931	A	GERDAU (Formerly TAMCO)	Rancho Cucamonga	2.04	0.017	0.01	0.24	2001
142267	A	FS PRECISION TECH LLC	Rancho Dominguez	2.03	n/a	0.08	0.15	2001
800181	A	CALIFORNIA PORTLAND CEMENT CO (c)	Colton	2.00	0.001	<0.01	0.39	1996
2605	A	3M CO	Northridge	1.98	0.002	0.40	0.38	1996
14502	A	VERNON UTILITY DEPARTMENT	Vernon	1.98	0.000	0.01	0.01	2007
54627	A	HICKORY SPRINGS OF CAL INC	Commerce	1.95	n/a	0.01	0.48	1998
800325	A	TIDELANDS OIL PRODUCTION CO (L.B. Oil Co)	Long Beach	1.90	n/a	0.07	0.62	1999
10245	A	LA CITY SANITATION BUREAU,TERMINAL ISLAN	San Pedro	1.83	0.005	0.02	0.03	2000
23559	OB (2005)	JOHNSON CONTROLS BATTERY GROUP INC	Fullerton	1.80	n/a	0.01	0.08	2001
800003	A	HONEYWELL INTERNATIONAL INC	Torrance	1.77	n/a	0.00	0.01	1999
1947	A	THUMS LONG BEACH CO, UNIT NO.01	Long Beach	1.70	0.170	<0.01	0.14	1996
8309	A	CAMBRO MANUFACTURING CO	Huntington Beach	1.70	0.002	0.00	0.15	2000
22467	A	LEFIELL MFG CO	Santa Fe Springs	1.70	0.000	0.75	0.17	2000
82512	A	BREA CANYON OIL CO	Wilmington	1.70	n/a	0.01	<0.01	1996
119907	A	BERRY PETROLEUM	Santa Clarita	1.60	n/a	0.20	0.73	1999
119920	OB (2006)	ALUMINUM COMPANY OF AMERICA	Vernon	1.60	n/a	0.30	0.30	1996
133660	A	HAYDEN INDUSTRIAL PRODUCTS	Corona	1.60	n/a	0.82	0.44	1998
107350	OB (2007)	N O-RING CORPORATION	Downey	1.53	n/a	0.00	0.01	2001
2638	A	OCCIDENTAL COLLEGE	Los Angeles	1.50	0.002	0.07	0.01	2007

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
126536	A	CONSOLIDATED FOUNDRIES, POMONA	Pomona	1.50	n/a	0.00	0.02	1999
25070	A	LA CO., SANITATION DISTRICT (c)	Whittier	1.46	0.003	0.33	0.08	2009
82513	A	BREA CANYON OIL COMPANY INC	Harbor City	1.40	n/a	0.02	<0.01	1996
800408	A	TRW INC.	Manhattan Beach	1.37	n/a	0.92	0.10	1998
3968	A	TABC INC.	Long Beach	1.35	0.002	0.05	0.22	1999
62679	OB (2009)	KOP-COAT INC	Vernon	1.33	n/a	0.00	0.49	1997
123087	A	INDALEX WEST INC.	Industry	1.27	n/a	0.00	0.03	1999
126544	A	PAC FOUNDRIES INDUSTRY	Industry	1.27	n/a	0.59	0.09	1996
2526	A	CHEVRON USA INC	Van Nuys	1.25	0.007	<0.01	0.01	1996
22551	A	THUMS LONG BEACH CO, UNIT NO.04	Long Beach	1.20	0.000	0.00	0.01	2000
42633	A	LA CO., SANITATION DIST, Spadra Landfill	Walnut	1.20	0.002	<0.01	<0.01	1996
106009	A	VENOCO INC.	Beverly Hills	1.16	n/a	0.05	0.00	2005
152054	A	BREA CANYON OIL COMPANY, INC.	Brea	1.14	n/a	<0.01	0.12	1996
124806	OB (2004)	EXIDE TECHNOLOGIES	Industry	1.00	n/a	0.00	0.04	1999
800127	A	THE GAS CO.	Montebello	0.99	0.000	0.01	0.01	2009
7730	A	E R CARPENTER CO INC	Riverside	0.96	0.000	0.03	1.34	2003
20375	A	PRUDENTIAL OVERALL SUPPLY	Riverside	0.96	0.000	0.03	0.08	1997
6670	OB (2006)	TRU-CUT, INC.	Los Angeles	< 1	0.000	0.00	0.04	2002
47056	OB (2005)	MYERS CONTAINER CORP	Huntington Park	0.90	0.000	0.23	2.00	2002
800301	A	ITT GILFILLAN UNIT NO.01	Van Nuys	0.86	0.000	0.12	0.19	1998
3134	A	THUMS LONG BEACH CO, UNIT NO.05	Long Beach	0.84	0.000	<0.01	<0.01	1996
18378	A	GRUBER SYSTEMS, INC.	Valencia	0.83	0.000	0.14	0.10	2004

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
22556	A	THUMS LONG BEACH CO, UNIT NO.02	Long Beach	0.80	0.000	<0.01	<0.01	1996
111415	A	VAN CAN CO, SUBSIDIARY OF VAN CAMP SEAFO	Fontana	0.80	0.000	<0.01	0.08	1996
120088	A	BREITBURN ENERGY CO.	Santa Fe Springs	0.79	0.000	0.01	0.04	1998
126964	A	EDWARDS LIFESCIENCES LLC	Irvine	0.75	0.000	<0.01	0.00	1995
22373	OB (2011)	CONTAINER CORPORATION OF AMERICA	Los Angeles	0.74	0.000	<0.01	<0.01	1996
24060	OB (2011)	TOMKINS INDUSTRIES INC-LASCO PRODS GROUP	Anaheim	0.72	0.000	<0.01	0.02	1996
800091	A	MOBIL OIL CORP	Anaheim	0.72	0.000	0.01	0.00	1999
772	A	DEFT INC	Irvine	0.70	0.000	<0.01	<0.01	1995
24756	A	CRANE CO, HYDRO-AIRE DIV	Burbank	0.63	0.000	0.04	0.05	1997
115394	A	AES ALAMITOS, LLC	Long Beach	0.63	0.000	0.00	0.02	1999
134931	A	ALCOA GLOBAL FASTENERS, INC.	Fullerton	0.61	0.000	1.90	0.02	2003
24957	A	GLENDALE CITY	Glendale	0.59	0.000	0.00	0.02	1999
15647	A	CUSTOM ENAMELERS INC	Fountain Valley	0.55	0.000	0.11	0.02	2000
3093	A	LA CO., OLIVE VIEW/UCLA MEDICAL CENTER	Sylmar	0.53	0.000	0.00	0.02	1999
21895	A	AC PRODUCTS, INC.	Placentia	0.53	0.000	0.00	0.00	2003
6281	I	US GOVT,MARINE CORPriority Score AIR STATION,EL TORO	El Toro	0.51	0.000	<0.01	<0.01	1996
1634	OB (2005)	STEELCASE INC, WESTERN DIV	Tustin	0.50	0.000	<0.01	<0.01	1995
39388	A	THUMS LONG BEACH CO, UNIT NO.03	Long Beach	0.50	0.000	<0.01	<0.01	1996
61160	OB (2010)	GE ENGINE SERVICES	Ontario	0.50	0.000	0.70	0.01	2003
800267	A	TRIUMPH PROCESSING, INC.	Lynwood	0.48	0.000	0.12	0.36	2012
152501	A	PRECISION SPECIALTY METALS, INC.	Los Angeles	0.45	0.000	0.38	0.15	2001
43436	A	TIMCO	Fontana	0.43	0.000	0.00	0.43	1997

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
18990	A	LIFE PAINT COMPANY	Santa Fe Springs	0.41	0.000	0.02	0.00	2001
44577	A	LONG BEACH CITY, SERRF PROJECT (c)	Long Beach	0.4	0.000	0.02	0.08	2011
12660	OB (2009)	GOLDSHIELD FIBERGLASS, INC, PLANT #58	Fontana	0.40	0.000	0.01	0.05	1994
115536	A	AES REDONDO BEACH, LLC	Redondo Beach	0.40	0.000	0.01	0.04	1998
122295	OB (2007)	FALCON FOAM, A DIV OF ALTAS ROOFING	Los Angeles	0.40	0.000	0.00	0.00	1999
115663	A	EL SEGUNDO POWER, LLC	El Segundo	0.34	0.000	0.00	0.01	2000
25638	A	BURBANK CITY, PUB SERV DEPT	Burbank	0.33	0.000	0.33	0.01	1996
124805	A	EXIDE TECHNOLOGIES	Commerce	0.33	0.000	0.00	0.04	2000
550	A	LA CO., INTERNAL SERVICE DEPT	Los Angeles	0.32	0.000	0.02	0.00	2008
112192	OB (2005)	CONSOLIDATED DRUM RECONDITIONING CO. INC.	South Gate	0.31	0.000	0.00	0.00	1997
800343	A	BOEING SATELLITE SYSTEMS, INC.	El Segundo	0.30	0.000	<0.01	0.21	1996
24520	A	LA CO, SANITATION DISTRICTS	Rolling Hills Estates	0.29	0.000	<0.01	<0.01	1998
99119	A	INTERPLASTIC CORP	Hawthorne	0.28	0.000	0.05	0.32	1999
122300	OB (2010)	BASF CORPORATION	Colton	0.28	0.000	0.56	0.02	2002
19989	OB (2000)	PARKER HANNIFIN AEROSPACE CORP	Irvine	0.27	0.000	0.01	0.00	1999
107149	A	MARKLAND MANUFACTURING INC.	Santa Ana	0.26	0.000	0.06	0.12	2007
161142	A	FOAMEX L.P.	Compton	0.25	0.000	0.00	0.01	2010
160916	A	FOAMEX INNOVATIONS, INC.	Orange	0.18	0.000	0.39	0.43	1994
16264	A	INTL COATINGS CO INC	Cerritos	0.17	0.000	0.00	0.00	1999
800074	A	LA CITY, DWP HAYNES GENERATING STATION	Long Beach	0.17	0.000	0.00	0.01	2000
48300	A	PRECISION TUBE BENDING	Santa Fe Springs	0.15	0.000	0.00	0.00	2002
800168	A	PASADENA CITY, DWP	Pasadena	0.15	0.000	0.70	0.00	1996

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
800193	A	LA CITY, DWP; VALLEY STM PLANT	Sun Valley	0.15	0.000	0.25	0.00	1999
37336	A	COMMERCE REFUSE TO ENERGY FACILITY	Commerce	0.12	0.00	0.01	0.00	2010
42676	A	AES PLACERITA, INC.	Newhall	0.11	0.000	0.08	0.01	2003
114801	A	RHODIA INC.	Carson	0.11	0.000	0.02	0.05	2006
115389	A	SO CAL EDISON CO	Huntington Beach	0.11	0.000	0.00	0.00	1999
7416	A	PRAXAIR INC	Wilmington	0.11	0.000	0.04	0.03	2001
1992	OB (2009)	PRUDENTIAL OVERALL SUPPLY	Van Nuys	0.10	0.000	0.00	0.00	1997
16044	I	SPECIALTY ORGANICS INC	Irwindale	0.10	0.000	0.00	0.23	1997
25012	A	AMADA MFG AMERICA, INC.	La Mirada	<0.1	0.000	0.00	0.00	2002
24812	A	FARMER BROS CO	Torrance	0.09	0.000	0.00	0.02	1999
94872	A	METAL CONTAINER CORP.	Mira Loma	0.08	0.000	0.39	0.36	2002
111110	A	BRISTOL FIBERLITE IND	Santa Ana	0.08	0.000	0.00	0.02	1995
156741	A	HARBOR COGENERATION CO.	Wilmington	0.05	0.000	0.02	0.00	2002
20144	OB (2000)	CANON BUSINESS MACHINES INC	Costa Mesa	0.05	0.000	0.00	0.07	1999
800320	A	AMVAC CHEMICAL CORP.	Los Angeles	0.04	0.000	0.07	0.34	2004
45938	A	E.M.E. INC/ELECTRO MACHINE & ENGINEERING	Compton	0.04	0.000	0.00	<0.01	2001
117785	OB (2011)	BALL METAL BEVERAGE CONTAINER CORP.	Torrance	0.04	0.000	0.21	0.91	2001
22229	A	PROCESSES BY MARTIN, INC.	Lynwood	0.04	0.000	0.00	0.00	2002
800075	A	LA CITY, DWP SCATTERGOOD GENERATING STN.	Playa del Rey	0.03	0.000	0.00	0.00	2000
145368	A	SEMMATERIALS LP	Fontana	0.02	0.000	0.33	0.01	1999
115586	OB (2011)	SUNDANCE SPAS	Chino	0.02	0.000	0.05	0.43	1996
51620	A	WHEELABRATOR NORWALK ENERGY COMPANY	Norwalk	0.02	0.000	0.01	0.02	1996

Appendix A-1. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
800009	OB	AMERON PROTECTIVE COATINGS DIV	Brea	0.01	0.000	0.24	0.24	2000
55711	OB (2004)	SUNLAW COGENERATION PARTNERS I	Vernon	0.01	0.000	0.01	0.00	1996
124016	A	OAKITE PRODUCTS, INC.	La Mirada	0.00	0.000	0.14	0.08	2000
55714	OB	SUNLAW COGENERATION PARTNERS I	Vernon	0.00	0.000	0.01	0.00	1996
119127	OB (2009)	PRC DE SOTO INTERNATIONAL	Glendale	0.00	0.000	<0.01	<0.01	2002
809	OB (2011)	GARNER GLASS CO	Claremont	0.00	0.000	0.00	0.00	1996
1732	OB (1997)	INTL ELECTRONIC RESEARCH CORP	Burbank	0.00	0.000	0.00	0.00	1996
1746	A	UNITED ALLOYS INC	Los Angeles	0.00	0.000	0.00	0.00	1998
3084	A	CARDINAL INDUSTRIAL FINISHES INC	South El Monte	0.00	0.000	0.00	0.00	1996
3578	A	PRUDENTIAL OVERALL SUPPLY	Carson	0.00	0.000	0.00	0.00	2000
6163	A	OHLINE	Gardena	0.00	0.000	0.26	0.72	1996
6315	A	FLO-KEM, INC.	Rancho Dominguez	0.00	0.000	0.03	0.61	1999
7010	A	PRUDENTIAL OVERALL SUPPLY	Irvine	0.00	0.000	0.00	0.00	1995
8560	A	PRUDENTIAL OVERALL SUPPLY CO	Commerce	0.00	0.000	0.00	0.00	1995
8935	A	TRAIL RITE INC	Santa Ana	0.00	0.000	0.00	0.30	1996
10656	A	NEWPORT LAMINATES	Santa Ana	0.00	0.000	<0.01	<0.01	1996
19953	OB (2002)	RISTON KELLER INC	Irvine	0.00	0.000	<0.01	0.01	1996
21544	OB	US GOVT, MARINE CORPriority Score AIR STA @BLD	Tustin	0.00	0.000	0.00	0.00	2000
22092	A	WESTERN TUBE & CONDUIT CORP	Long Beach	0.00	0.000	0.02	0.62	1997
24647	A	J. B. I. INC	Compton	0.00	0.000	0.00	0.17	1999
40806	A	ASSOCIATED PLASTICS INC	Riverside	0.00	0.000	0.73	0.20	1997
51849	A	ELIMINATOR CUSTOM BOATS	Mira Loma	0.00	0.000	<0.01	<0.01	1995

Appendix A-1. Concluded.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
70021	A	XERXES CORP (A DELAWARE CORP)	Anaheim	0.00	0.000	<0.01	<0.01	1996
144677	A	PRATT & WHITNEY ROCKETDYNE/RUBY ACQ ENT	Canoga Park	0.00	0.000	<0.01	<0.01	1996
149241	A	REGAL CULTURED MARBLE	Pomona	0.00	0.000	<0.01	0.25	1995
800018	A	BAXTER HEALTH CARE CORP, BENTLEY DIV	Irvine	0.00	0.000	<0.01	0.37	1994

Notes: (a) A = Active; I = Inactive; OB = Out of Business (with the year in which the facility went out of business)

(b) The specific risk driver listed in this HRA is no longer in use & the resulting risk has been eliminated or minimized.

(c) SCAQMD staff has requested these facilities to update their HRAs.

(d) This includes risk attributable to the emergency DICE. The total facility risks excluding the emergency DICE are less than 10 in a million.

Appendix A-2
Health Risks from Facilities with an Approved HRA
(listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
550	A	LA CO., INTERNAL SERVICE DEPT	Los Angeles	0.32	0.000	0.02	0.00	2008
772	A	DEFT INC	Irvine	0.70	0.000	<0.01	<0.01	1995
809	OB (2011)	GARNER GLASS CO	Claremont	0.00	0.000	0.00	0.00	1996
1208	OB (2008)	MICROSEMI CORPORATION	Santa Ana	2.30	0.004	0.01	0.01	2001
1226	A	HYATT DIE CAST & ENGINEERING CORP	Cypress	6.24	0.008	<0.01	0.12	1996
1634	OB (2005)	STEELCASE INC, WESTERN DIV	Tustin	0.50	0.000	<0.01	<0.01	1995
1732	OB (1997)	INTL ELECTRONIC RESEARCH CORP	Burbank	0.00	0.000	0.00	0.00	1996
1744	A	KIRKHILL RUBBER CO	Brea	8.70	0.001	0.20	0.06	2007
1746	A	UNITED ALLOYS INC	Los Angeles	0.00	0.000	0.00	0.00	1998
1947	A	THUMS LONG BEACH CO, UNIT NO.01	Long Beach	1.70	0.170	<0.01	0.14	1996
1992	OB (2009)	PRUDENTIAL OVERALL SUPPLY	Van Nuys	0.10	0.000	0.00	0.00	1997
2526	A	CHEVRON USA INC	Van Nuys	1.25	0.007	<0.01	0.01	1996
2605	A	3M CO	Northridge	1.98	0.002	0.40	0.38	1996
2613	A	US GOVT, NAVY DEPT, NAVAL WEAPONS STN	Seal Beach	2.90	0.004	0.11	0.00	2002
2638	A	OCCIDENTAL COLLEGE	Los Angeles	1.50	0.002	0.07	0.01	2007
2680	A	LA CO., SANITATION DISTRICT	Whittier	8.57	n/a	0.00	0.03	1999
2852	A	WALT DISNEY CO	Burbank	6.40	0.031	0.02	0.02	1997
3084	A	CARDINAL INDUSTRIAL FINISHES INC	South El Monte	0.00	0.000	0.00	0.00	1996
3093	A	LA CO., OLIVE VIEW/UCLA MEDICAL CENTER	Sylmar	0.53	0.000	0.00	0.02	1999

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
3134	A	THUMS LONG BEACH CO, UNIT NO.05	Long Beach	0.84	0.000	<0.01	<0.01	1996
3578	A	PRUDENTIAL OVERALL SUPPLY	Carson	0.00	0.000	0.00	0.00	2000
3609	I	AL'S PLATING CO INC	Los Angeles	7.81	n/a	0.26	0.17	1999
3950	OB (2005)	CROWN CORK & SEAL COMPANY, INC.	La Mirada	4.60	0.000	0.00	0.11	1997
3968	A	TABC INC.	Long Beach	1.35	0.002	0.05	0.22	1999
4477	A	SOUTHERN CALIFORNIA EDISON COMPANY	Avalon	6.3	0.02	0.01	0.02	2012
5723	A	AEROCHEM INC	Orange	6.70	0.004	0.02	0.10	1999
5887	A	ANABOLIC INC	Irvine	2.70	0.154	0.03	0.00	1997
6163	A	OHLINE	Gardena	0.00	0.000	0.26	0.72	1996
6281	I	US GOVT,MARINE CORPriority Score AIR STATION,EL TORO	El Toro	0.51	0.000	<0.01	<0.01	1996
6315	A	FLO-KEM, INC.	Rancho Dominguez	0.00	0.000	0.03	0.61	1999
6384	A	LA CO., RANCHO LOS AMIGOS MEDICAL CENTER	Downey	3.14	0.082	0.01	0.06	1999
6459	OB (2002)	HONEYWELL INTERNATIONAL INC.	Vernon	4.13	n/a	0.01	0.01	1999
6643	A	TECHNICOLOR, INC	N. Hollywood	6.53	0.003	0.03	0.08	2007
6670	OB (2006)	TRU-CUT, INC.	Los Angeles	< 1	0.000	0.00	0.04	2002
7010	A	PRUDENTIAL OVERALL SUPPLY	Irvine	0.00	0.000	0.00	0.00	1995
7416	A	PRAXAIR INC	Wilmington	0.11	0.000	0.04	0.03	2001
7427	A	OWENS-BROCKWAY GLASS CONTAINER	Vernon	3.60	0.000	0.01	0.06	2001
7730	A	E R CARPENTER CO INC	Riverside	0.96	0.000	0.03	1.34	2003
7949	A	CUSTOM FIBERGLASS MFG CO/CUSTOM HARDTOP	Long Beach	2.50	0.078	<0.01	<0.01	1995
8015	A	ANADITE INC	South Gate	3.48	n/a	0.63	0.78	2003
8309	A	CAMBRO MANUFACTURING CO	Huntington Beach	1.70	0.002	0.00	0.15	2000

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
8547	A	QUEMETCO INC.	Industry	4.4	0.023	0.086	0.74	2010
8560	A	PRUDENTIAL OVERALL SUPPLY CO	Commerce	0.00	0.000	0.00	0.00	1995
8570	A	EMBEE INC	Santa Ana	6.62	n/a	0.21	0.58	2001
8578	OB (2002)	ASSOCIATED CONCRETE PROD. INC	Santa Ana	5.80	n/a	0.13	0.57	1999
8820	A	REULAND ELECTRIC CO. H.BRITTON LEES	Industry	3.70	0.002	<0.01	<0.01	1996
8935	A	TRAIL RITE INC	Santa Ana	0.00	0.000	0.00	0.30	1996
9114	I	SOMITEX PRINTS OF CALIFORNIA	Industry	3.70	n/a	0.06	<0.01	1996
9163	A	INLAND EMPIRE UTILITIES AGENCY	Ontario	3.44	0.001	0.25	0.01	2007
9668	A	DELUXE LABORATORIES INC, DELUXE LABORATOR	Hollywood	2.10	0.000	0.01	0.02	2000
10005	A	ELECTRONIC CHROME GRINDING CO, INC.	Santa Fe Springs	2.96	0.010	0.24	0.06	2001
10245	A	LA CITY SANITATION BUREAU,TERMINAL ISLAN	San Pedro	1.83	0.005	0.02	0.03	2000
10510	OB (2009)	GREGG INDUSTRIES INC.	El Monte	9.40	0.010	0.60	0.56	2008
10656	A	NEWPORT LAMINATES	Santa Ana	0.00	0.000	<0.01	<0.01	1996
11142	OB (2003)	KEYSOR-CENTURY CORP	Saugus	17.00	n/a	0.54	0.06	2000
11192	A	HI-SHEAR CORP	Torrance	4.80	0.002	0.04	0.02	2008
11435	A	THE PQ CORP	South Gate	3.00	n/a	0.00	0.01	1998
11726	I	GE ENGINE SERVICES	Ontario	6.46	n/a	0.12	0.59	1999
12660	OB (2009)	GOLDSHIELD FIBERGLASS, INC, PLANT #58	Fontana	0.40	0.000	0.01	0.05	1994
13920	A	ST. JOSEPH HOSPITAL	Orange	7.73	0.014	0.79	0.26	2008
14146	A	MAC GREGOR YACHT CORP	Costa Mesa	5.50	n/a	0.00	0.10	1998
14495	A	VISTA METALS CORP.	Fontana	19.80	0.057	0.01	0.29	2008
14502	A	VERNON UTILITY DEPARTMENT	Vernon	1.98	0.000	0.01	0.01	2007

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
15504	A	SCHLOSSER FORGE CO.	Rancho Cucamonga	9.50	0.067	1.59	1.11	2003
15647	A	CUSTOM ENAMELERS INC	Fountain Valley	0.55	0.000	0.11	0.02	2000
15736	I	HENRY CO	Huntington Park	8.50	0.026	0.00	0.00	2000
16044	I	SPECIALTY ORGANICS INC	Irwindale	0.10	0.000	0.00	0.23	1997
16264	A	INTL COATINGS CO INC	Cerritos	0.17	0.000	0.00	0.00	1999
16642	A	ANHEUSER-BUSCH INC.(LA BREWERY)	Van Nuys	2.70	n/a	0.02	0.13	1999
16660	A	MC DONNELL DOUGLAS SPACE SYS CO.	Huntington Beach	2.89	0.001	0.23	0.05	2007
17301	A	OR CO., SANITATION DIST	Fountain Valley	6.60	0.032	0.39	0.34	2007
17325	A	ACE CLEARWATER ENTERPRISES	Paramount	3.70	0.001	0.01	0.00	2002
18188	A	PLASMA TECHNOLOGY INC.	Torrance	2.40	0.000	0.11	0.00	2007
18294	A	NORTHROP CORP., AIRCRAFT DIV. - WEST	El Segundo	7.60	n/a	0.13	0.05	2000
18378	A	GRUBER SYSTEMS, INC.	Valencia	0.83	0.000	0.14	0.10	2004
18396	A	SPRAYLAT CORPORATION	Los Angeles	3.2	0.000	0.74	<0.01	2012
18439	OB (2006)	ACE PLATING CO INC	Los Angeles	4.08	n/a	0.58	0.19	1998
18452	A	UCLA (REGENTS OF UC) (c)	Los Angeles	2.91	n/a	0.01	0.11	1999
18508	A	AIR PROD & CHEM INC, PACIFIC ANCHOR CHEM	Los Angeles	2.40	0.000	0.10	0.81	1999
18648	OB (2006)	CROWN CITY PLATING COMPANY	El Monte	11.99	0.130	0.39	0.13	2000
18931	A	GERDAU (Formerly TAMCO)	Rancho Cucamonga	2.04	0.017	0.01	0.24	2001
18989	A	BOWMAN PLATING CO. INC.	Compton	14.20	0.021	<0.01	<0.01	2007
18990	A	LIFE PAINT COMPANY	Santa Fe Springs	0.41	0.000	0.02	0.00	2001
19953	OB (2002)	RISTON KELLER INC	Irvine	0.00	0.000	<0.01	0.01	1996
19989	OB (2000)	PARKER HANNIFIN AEROSPACE CORP	Irvine	0.27	0.000	0.01	0.00	1999

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
20144	OB (2000)	CANON BUSINESS MACHINES INC	Costa Mesa	0.05	0.000	0.00	0.07	1999
20197	A	LAC/USC MEDICAL CENTER	Los Angeles	7.50	0.031	0.70	0.38	2007
20280	A	METAL SURFACES INC.	Bell Gardens	6.8	0.000	0.88	0.34	2011
20375	A	PRUDENTIAL OVERALL SUPPLY	Riverside	0.96	0.000	0.03	0.08	1997
21544	OB	US GOVT, MARINE CORPriority Score AIR STA @BLD	Tustin	0.00	0.000	0.00	0.00	2000
21615	OB (2004)	OPTICAL RADIATION CORP	Azusa	8.08	n/a	0.17	0.10	1998
21895	A	AC PRODUCTS, INC.	Placentia	0.53	0.000	0.00	0.00	2003
22092	A	WESTERN TUBE & CONDUIT CORP	Long Beach	0.00	0.000	0.02	0.62	1997
22229	A	PROCESSES BY MARTIN, INC.	Lynwood	0.04	0.000	0.00	0.00	2002
22373	OB (2011)	CONTAINER CORPORATION OF AMERICA	Los Angeles	0.74	0.000	<0.01	<0.01	1996
22410	OB (2012)	PALACE PLATING	Los Angeles	5.60	n/a	0.73	0.38	2004
22467	A	LEFIELL MFG CO	Santa Fe Springs	1.70	0.000	0.75	0.17	2000
22551	A	THUMS LONG BEACH CO, UNIT NO.04	Long Beach	1.20	0.000	0.00	0.01	2000
22556	A	THUMS LONG BEACH CO, UNIT NO.02	Long Beach	0.80	0.000	<0.01	<0.01	1996
23559	OB (2005)	JOHNSON CONTROLS BATTERY GROUP INC	Fullerton	1.80	n/a	0.01	0.08	2001
24060	OB (2011)	TOMKINS INDUSTRIES INC-LASCO PRODS GROUP	Anaheim	0.72	0.000	<0.01	0.02	1996
24520	A	LA CO, SANITATION DISTRICTS	Rolling Hills Estates	0.29	0.000	<0.01	<0.01	1998
24647	A	J. B. I. INC	Compton	0.00	0.000	0.00	0.17	1999
24756	A	CRANE CO, HYDRO-AIRE DIV	Burbank	0.63	0.000	0.04	0.05	1997
24812	A	FARMER BROS CO	Torrance	0.09	0.000	0.00	0.02	1999
24957	A	GLENDALE CITY	Glendale	0.59	0.000	0.00	0.02	1999
25012	A	AMADA MFG AMERICA, INC.	La Mirada	<0.1	0.000	0.00	0.00	2002

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
25070	A	LA CO., SANITATION DISTRICT (c)	Whittier	1.46	0.003	0.33	0.08	2009
25440	OB (2010)	ROBERTSHAW CONTROLS CO, GRAYSON CONTROLS	Long Beach	2.70	0.003	0.00	0.96	1998
25638	A	BURBANK CITY, PUB SERV DEPT	Burbank	0.33	0.000	0.33	0.01	1996
27701	OB (2008)	CADDOCK ELECTRONICS, INC.	Riverside	2.70	n/a	0.02	0.06	2002
29110	A	OR. CO., SANITATION DIST	Huntington Beach	10.70 (d)	0.210	1.78	0.48	2007
34764	A	CADDOCK ELECTRONICS, INC.	Riverside	6.70	0.034	0.01	0.09	2002
35302	A	OWENS CORNING FIBERGLASS CORP. (c)	Compton	14.00	0.015	0.07	0.10	2000
35483	A	WARNER BROTHERS STUDIO FACILITIES	Burbank	2.60	0.008	0.10	0.26	1997
37336	A	COMMERCE REFUSE TO ENERGY FACILITY	Commerce	0.12	0.00	0.01	0.00	2010
37507	A	TROJAN BATTERY COMPANY	Santa Fe Springs	2.55	0.000	1.08	1.27	2012
37603	A	POLYCARBON INC	Valencia	7.80	0.012	0.01	0.36	1998
38971	A	RICOH ELECTRONICS INC	Irvine	5.60	0.007	0.02	0.39	1995
39388	A	THUMS LONG BEACH CO, UNIT NO.03	Long Beach	0.50	0.000	<0.01	<0.01	1996
40806	A	ASSOCIATED PLASTICS INC	Riverside	0.00	0.000	0.73	0.20	1997
40829	A	HAWKER PACIFIC INC	Sun Valley	2.07	0.000	0.04	0.09	2009
41229	A	LUBECO, INC.	Long Beach	14.02	n/a	0.00	0.12	2003
42514	A	LA CO., SANITATION DIST., CALABASAS LANDFILL	Agoura	6.78	0.00	0.02	<0.01	2010
42633	A	LA CO., SANITATION DIST, Spadra Landfill	Walnut	1.20	0.002	<0.01	<0.01	1996
42676	A	AES PLACERITA, INC.	Newhall	0.11	0.000	0.08	0.01	2003
42922	OB (2006)	CMC PRINTED BAG INC	Whittier	9.00	n/a	<0.01	<0.01	1995
43201	A	SNOW SUMMIT SKI CORP	Big Bear Lake	5.53	0.003	0.01	0.01	2007
43436	A	TIMCO	Fontana	0.43	0.000	0.00	0.43	1997

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
44454	A	STRUCTURAL COMPOSITES INDUSTRIES, INC.	Pomona	8.60	0.001	0.01	0.23	2002
44577	A	LONG BEACH CITY, SERRF PROJECT (c)	Long Beach	0.4	0.000	0.02	0.08	2011
45262	A	LA CO, SANITATION DISTRICT UNIT NO.02	Glendale	6.17	n/a	0.01	0.05	1998
45448	A	GAS RECOVERY SYSTEMS, INC.	Newport Coast	20.1	0.18	0.56	0.32	2009
45489	A	GUIDANT CORP	Temecula	3.80	0.006	1.31	0.01	2002
45938	A	E.M.E. INC/ELECTRO MACHINE & ENGINEERING	Compton	0.04	0.000	0.00	<0.01	2001
46268	A	CALIFORNIA STEEL INDUSTRIES, INC.	Fontana	2.74	0.016	0.16	0.31	1995
47056	OB (2005)	MYERS CONTAINER CORP	Huntington Park	0.90	0.000	0.23	2.00	2002
48274	OB	FENDER MUSICAL INST	Corona	2.81	0.004	0.03	0.37	1997
48300	A	PRECISION TUBE BENDING	Santa Fe Springs	0.15	0.000	0.00	0.00	2002
48323	A	SIGMA PLATING COMPANY	La Puente	13.84	0.017	0.01	0.74	2004
49387	A	UNIV CAL RIVERSIDE	Riverside	7.13	0.220	0.00	0.04	1999
51620	A	WHEELABRATOR NORWALK ENERGY COMPANY	Norwalk	0.02	0.000	0.01	0.02	1996
51849	A	ELIMINATOR CUSTOM BOATS	Mira Loma	0.00	0.000	<0.01	<0.01	1995
52517	A	REXAM PLC, REXAM BEVERAGE CAN COMPANY	Chatsworth	2.93	0.0076	0.73	0.1	2009
54424	A	L & L CUSTOM SHUTTERS	Placentia	5.50	0.000	0.15	0.21	2001
54627	A	HICKORY SPRINGS OF CAL INC	Commerce	1.95	n/a	0.01	0.48	1998
55449	A	BKK CORPORATION, LANDFILL DIVISION GNRL	W. Covina	6.90	n/a	0.01	0.10	2000
55711	OB (2004)	SUNLAW COGENERATION PARTNERS I	Vernon	0.01	0.000	0.01	0.00	1996
55714	OB	SUNLAW COGENERATION PARTNERS I	Vernon	0.00	0.000	0.01	0.00	1996
57094	A	G S ROOFING PRODUCTS CO INC (c)	Wilmington	7.00	n/a	0.01	0.01	2000
61160	OB (2010)	GE ENGINE SERVICES	Ontario	0.50	0.000	0.70	0.01	2003

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
62679	OB (2009)	KOP-COAT INC	Vernon	1.33	n/a	0.00	0.49	1997
70021	A	XERXES CORP (A DELAWARE CORP)	Anaheim	0.00	0.000	<0.01	<0.01	1996
79682	A	RAMCAR BATTERIES INC	Commerce	2.43	n/a	0.04	0.17	1998
82512	A	BREA CANYON OIL CO	Wilmington	1.70	n/a	0.01	<0.01	1996
82513	A	BREA CANYON OIL COMPANY INC	Harbor City	1.40	n/a	0.02	<0.01	1996
83102	A	LIGHT METALS	Industry	4.50	0.008	0.04	2.70	2002
93346	I	COOPER DRUM CO	S. El Monte	4.30	n/a	0.09	0.16	1997
94872	A	METAL CONTAINER CORP.	Mira Loma	0.08	0.000	0.39	0.36	2002
99119	A	INTERPLASTIC CORP	Hawthorne	0.28	0.000	0.05	0.32	1999
99773	A	CYTEC FIBERITE INC.	Anaheim	2.20	0.000	0.04	0.19	2000
101380	OB (2005)	GENERAL DYNAMICS OTS (DOWNEY) INC	Downey	9.80	n/a	0.01	0.05	2000
101977	A	AMERIGAS PROPANE L.P.	Long Beach	4.70	0.002	0.59	0.97	1998
103659	OB (2007)	FOUR MEDIA CO.	Burbank	2.22	n/a	0.61	0.04	2004
103888	OB (2010)	A J INDUSTRIES INC, SARGENT-FLETCHER CO	El Monte	4.90	0.280	0.16	0.02	1999
105598	A	SENIOR FLEXONICS INC	Burbank	3.64	0.007	0.98	0.49	2001
106009	A	VENOCO INC.	Beverly Hills	1.16	n/a	0.05	0.00	2005
106797	OB (2005)	SAINT-GOBAIN CONTAINERS LLC	Los Angeles	9.85	n/a	0.00	0.07	2000
106838	A	VALLEY-TODECO, INC	Sylmar	3.70	0.000	0.20	0.20	2000
107149	A	MARKLAND MANUFACTURING INC.	Santa Ana	0.26	0.000	0.06	0.12	2007
107350	OB (2007)	N O-RING CORPORATION	Downey	1.53	n/a	0.00	0.01	2001
108701	OB (2007)	BALL FOSTER GLASS CONTAINER CO.	El Monte	7.30	0.056	0.09	0.07	2000
109198	I	TORCH OPERATING CO. (STEARNS GAS CO)	Brea	4.97	n/a	0.05	0.01	2001

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
110924	OB (2008)	WESTWAY TERMINAL COMPANY	San Pedro	8.00	0.370	0.33	0.51	1997
111110	A	BRISTOL FIBERLITE IND	Santa Ana	0.08	0.000	0.00	0.02	1995
111415	A	VAN CAN CO, SUBSIDIARY OF VAN CAMP SEAFO	Fontana	0.80	0.000	<0.01	0.08	1996
112192	OB (2005)	CONSOLIDATED DRUM RECONDITIONING CO. INC.	South Gate	0.31	0.000	0.00	0.00	1997
113170	A	SANTA MONICA HOSPITAL MEDICAL CTR UNIT 2 (b)	Santa Monica	7.60	0.000	0.17	0.01	1997
114801	A	RHODIA INC.	Carson	0.11	0.000	0.02	0.05	2006
114927	A	ANVIL CASES / A CALZONE COMPANY	Industry	19.00	n/a	0.13	0.08	2002
115240	A	MARCHEM TECHNOLOGIES, LONZA INC	Long Beach	4.30	0.005	0.28	0.01	2001
115389	A	SO CAL EDISON CO	Huntington Beach	0.11	0.000	0.00	0.00	1999
115394	A	AES ALAMITOS, LLC	Long Beach	0.63	0.000	0.00	0.02	1999
115536	A	AES REDONDO BEACH, LLC	Redondo Beach	0.40	0.000	0.01	0.04	1998
115586	OB (2011)	SUNDANCE SPAS	Chino	0.02	0.000	0.05	0.43	1996
115663	A	EL SEGUNDO POWER, LLC	El Segundo	0.34	0.000	0.00	0.01	2000
116868	I	EQUILON ENTERPRISES,LLC	Rialto	2.88	n/a	0.00	0.04	1999
117560	A	EQUILON ENTER, LLC-SHELL OIL PROD. US	Wilmington	7.30	n/a	0.03	0.07	1998
117785	OB (2011)	BALL METAL BEVERAGE CONTAINER CORP.	Torrance	0.04	0.000	0.21	0.91	2001
118406	A	CARSON COGENERATION COMPANY	Carson	3.86	n/a	0.16	0.01	2007
119127	OB (2009)	PRC DE SOTO INTERNATIONAL	Glendale	0.00	0.000	<0.01	<0.01	2002
119907	A	BERRY PETROLEUM	Santa Clarita	1.60	n/a	0.20	0.73	1999
119920	OB (2006)	ALUMINUM COMPANY OF AMERICA	Vernon	1.60	n/a	0.30	0.30	1996
120088	A	BREITBURN ENERGY CO.	Santa Fe Springs	0.79	0.000	0.01	0.04	1998
122295	OB (2007)	FALCON FOAM, A DIV OF ALTAS ROOFING	Los Angeles	0.40	0.000	0.00	0.00	1999

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
122300	OB (2010)	BASF CORPORATION	Colton	0.28	0.000	0.56	0.02	2002
122822	OB	CONSOLIDATED FILM INDUSTRIES	Hollywood	21.00	n/a	0.11	0.40	2000
123087	A	INDALEX WEST INC.	Industry	1.27	n/a	0.00	0.03	1999
124016	A	OAKITE PRODUCTS, INC.	La Mirada	0.00	0.000	0.14	0.08	2000
124506	A	BOEING ELECTRON DYNAMIC DEVICES	Torrance	4.17	n/a	0.46	0.07	1995
124805	A	EXIDE TECHNOLOGIES	Commerce	0.33	0.000	0.00	0.04	2000
124806	OB (2004)	EXIDE TECHNOLOGIES	Industry	1.00	n/a	0.00	0.04	1999
124838	A	Exide Technologies	Vernon	156	10	3.8	63	2013
125281	OB (2004)	MODERN PLATING ALCO CAD-NICKEL PLATING	Los Angeles	8.20	n/a	0.10	0.01	1997
126060	A	STERIGENICS US, LLC	Ontario	3.80	0.000	0.00	0.01	2007
126191	A	ION BEAM APPLICATIONS INC.	Los Angeles	3.29	0.000	<0.01	0.00	1996
126197	A	ION BEAM APPLICATIONS INC.	Los Angeles	3.56	0.000	<0.01	0.01	1996
126501	A	VOUGHT AIRCRAFT INDUSTRIES (b)	Hawthorne	19.70	n/a	0.64	0.24	2001
126536	A	CONSOLIDATED FOUNDRIES, POMONA	Pomona	1.50	n/a	0.00	0.02	1999
126544	A	PAC FOUNDRIES INDUSTRY	Industry	1.27	n/a	0.59	0.09	1996
126964	A	EDWARDS LIFESCIENCES LLC	Irvine	0.75	0.000	<0.01	0.00	1995
127568	A	ENGINEERED POLYMER SOLUTION	Montebello	3.53	0.000	0.05	0.48	2000
131003	A	BP WEST COAST PRODUCTS LLC	Carson	7.28	n/a	0.30	0.08	2000
131249	A	BP WEST COAST PRODUCTS LLC (c)	Wilmington	4.30	0.180	0.08	0.18	1995
133405	OB (2008)	BODYCOTE INC./BODYCOTE THERMAL PROCESSING	Los Angeles	2.36	n/a	0.03	0.20	1999
133660	A	HAYDEN INDUSTRIAL PRODUCTS	Corona	1.60	n/a	0.82	0.44	1998

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
133987	A	PLAINS EXPLORATION & PRODUCTION CO. LP	Inglewood	2.65	n/a	0.01	0.07	1997
134018	A	INDUSTRIAL CONTAINER SERVICES	Montebello	5.24	n/a	0.57	0.23	2000
134931	A	ALCOA GLOBAL FASTENERS, INC.	Fullerton	0.61	0.000	1.90	0.02	2003
134943	A	ALCOA GLOBAL FASTERNERS, INC.	Torrance	2.61	n/a	0.55	0.04	2008
136148	A	E/M CORP, GREAT LAKES CHEMICAL CORP SUB	N Hollywood	5.80	0.000	0.28	0.57	1998
136395	A	THOMASON MECHNICAL CORP, BENDER MACHINE	Vernon	4.40	0.001	0.99	0.02	2002
137517	I	RELIANT ENERGY ETIWANDA,LLC	Etiwanda	2.67	0.160	0.01	0.17	2000
140499	A	AMERESCO HUNTINGTON BEACH, LLC	Huntington Beach	7.00	n/a	<0.01	<0.01	1995
140811	A	DUCOMMUN AEROSTRUCTURES INC	Monrovia	3.50	0.007	0.01	0.01	2002
140961	A	GKN AEROSPACE TRANSPARENCY SYS INC	Garden Grove	6.00	n/a	<0.01	0.49	1996
141585	A	RESOLUTION SPECIALTY MATERIALS, LLC	Lynwood	6.50	0.150	0.13	1.60	1995
142267	A	FS PRECISION TECH LLC	Rancho Dominguez	2.03	n/a	0.08	0.15	2001
144677	A	PRATT & WHITNEY ROCKETDYNE/RUBY ACQ ENT	Canoga Park	0.00	0.000	<0.01	<0.01	1996
145368	A	SEMMATERIALS LP	Fontana	0.02	0.000	0.33	0.01	1999
146570	OB (2009)	ROHM AND HAAS CHEMICALS LLC	La Mirada	6.20	n/a	0.54	0.76	1999
148925	A	CHERRY TEXTRON	Santa Ana	9.70	n/a	0.07	0.15	1999
149241	A	REGAL CULTURED MARBLE	Pomona	0.00	0.000	<0.01	0.25	1995
151415	A	AERA ENERGY LLC	Brea	3.40	0.020	0.05	0.00	1999
151798	A	TESORO REFINING AND MARKETING CO.	Carson	2.77	n/a	0.14	0.00	1999
151899	A	MEDALLION CALIFORNIA PROPERTIES CO	Newhall	3.51	n/a	0.02	0.20	2000
151984	A	TESORO REFINING AND MARKETING CO.	Wilmington	2.75	0.002	0.00	0.01	2000
152033	A	TESORO REFINING AND MARKETING CO.	Long Beach	2.39	n/a	0.00	0.01	1999

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
152054	A	BREA CANYON OIL COMPANY, INC.	Brea	1.14	n/a	<0.01	0.12	1996
152501	A	PRECISION SPECIALTY METALS, INC.	Los Angeles	0.45	0.000	0.38	0.15	2001
153546	A	HUCK INTERNATIONAL INC	Carson	3.30	0.017	0.00	0.02	1999
154540	A	ARROWHEAD BRASS PROD. INC	Los Angeles	5.70	n/a	0.26	0.04	1995
155828	A	GARRETT AVIATION SERVICES INC.	Los Angeles	9.33	n/a	0.91	0.10	2005
156741	A	HARBOR COGENERATION CO.	Wilmington	0.05	0.000	0.02	0.00	2002
160437	A	SOUTHERN CALIFORNIA EDISON	Redlands	2.3	<0.01	<0.01	<0.01	2013
160916	A	FOAMEX INNOVATIONS, INC.	Orange	0.18	0.000	0.39	0.43	1994
161142	A	FOAMEX L.P.	Compton	0.25	0.000	0.00	0.01	2010
169990	A	SPriority Score TECHNOLOGIES, LLC	Gardena	8.91	0.010	0.09	0.06	1999
800003	A	HONEYWELL INTERNATIONAL INC	Torrance	1.77	n/a	0.00	0.01	1999
800007	OB (2005)	ALLIED SIGNAL INC, El Segundo	El Segundo	3.58	n/a	0.02	0.53	2000
800009	OB	AMERON PROTECTIVE COATINGS DIV	Brea	0.01	0.000	0.24	0.24	2000
800018	A	BAXTER HEALTH CARE CORP, BENTLEY DIV	Irvine	0.00	0.000	<0.01	0.37	1994
800022	A	CALNEV PIPE LINE CO	Bloomington	5.90	n/a	0.00	0.07	1999
800026	A	ULTRAMAR INC.	Wilmington	7.2	0.18	0.70	0.23	2012
800030	A	CHEVRON U.S.A. INC	El Segundo	2.73	n/a	0.29	0.13	2001
800032	A	CHEVRON U.S.A. INC	Montebello	7.46	0.143	0.01	0.18	1999
800035	OB (2011)	CONTINENTAL AIRLINES INC	Los Angeles	2.83	n/a	0.01	0.13	1997
800037	A	DEMENNO/KERDOON	Compton	4.9	0.01	<0.01	0.02	2009
800038	A	DOUGLAS AIRCRAFT CO	Long Beach	4.80	n/a	0.15	0.11	1999
800041	OB (2009)	DOW U.S.A.	Torrance	4.40	n/a	0.09	0.01	2000

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
800056	A	GATX STORAGE TERMINALS CORP	San Pedro	2.30	n/a	0.00	0.03	1997
800057	A	GATX TANK STORAGE TERMINAL CORP	Carson	8.50	n/a	0.01	0.06	1999
800063	A	GROVER PROD. CO	Los Angeles	3.29	0.039	0.88	0.07	2002
800066	A	HITCO	Gardena	6.40	0.310	0.34	0.05	1998
800067	A	BOEING SATELLITE SYSTEMS INC	El Segundo	6.22	n/a	0.03	0.08	2000
800074	A	LA CITY, DWP HAYNES GENERATING STATION	Long Beach	0.17	0.000	0.00	0.01	2000
800075	A	LA CITY, DWP SCATTERGOOD GENERATING STN.	Playa del Rey	0.03	0.000	0.00	0.00	2000
800079	A	PETRO DIAMOND TERMINAL CO	Long Beach	8.30	n/a	0.00	0.16	1998
800089	A	EXXON-MOBIL OIL CORPORATION	Torrance	7.70	0.15	0.21	0.47	2013
800091	A	MOBIL OIL CORP	Anaheim	0.72	0.000	0.01	0.00	1999
800113	A	ROHR IND INC	Riverside	7.20	0.011	0.86	0.02	2007
800127	A	THE GAS CO.	Montebello	0.99	0.000	0.01	0.01	2009
800129	A	SO PACIFIC PIPELINES INC	Rialto	5.75	n/a	<0.01	0.02	1996
800149	A	US BORAX & CHEM CORP	Wilmington	9.46	n/a	0.00	0.03	2000
800150	A	US GOVT., AF DEPT, MARCH AFB	Riverside	7.35	0.020	0.31	0.01	2008
800168	A	PASADENA CITY, DWP	Pasadena	0.15	0.000	0.70	0.00	1996
800171	A	MOBIL OIL CO	Vernon	5.33	0.016	0.07	0.02	1997
800181	A	CALIFORNIA PORTLAND CEMENT CO (c)	Colton	2.00	0.001	<0.01	0.39	1996
800182	A	RIVERSIDE CEMENT CO. (c)	Riverside	7.80	n/a	0.05	0.13	2001
800183	A	PARAMOUNT PETROLEUM CORPORATION	Paramount	9.61	n/a	0.02	0.01	2002
800189	A	DISNEYLAND RESORT	Anaheim	3.25	0.030	0.11	0.06	2009
800193	A	LA CITY, DWP; VALLEY STM PLANT	Sun Valley	0.15	0.000	0.25	0.00	1999

Appendix A-2. Continued.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
800196	A	AMERICAN AIRLINES, INC.	Los Angeles	5.40	0.190	0.86	0.08	2005
800198	A	ULTRAMAR INC	Wilmington	5.90	n/a	0.01	0.09	1999
800202	A	UNIVERSAL STUDIOS INC	Universal City	2.40	n/a	<0.01	0.03	1996
800214	A	LA CITY, HYPERION TREATMENT PLANT (c)	Playa del Rey	7.59	0.027	0.06	0.01	1999
800236	A	LA CO., SANITATION DIST UNIT NO.01	Carson	7.20	0.058	0.17	0.12	2007
800264	A	EDGINGTON OIL, CO.	Long Beach	4.78	0.001	0.01	0.01	2002
800267	A	TRIUMPH PROCESSING, INC.	Lynwood	0.48	0.000	0.12	0.36	2012
800278	A	SFPP, L.P.	Carson	2.43	n/a	0.00	0.10	1999
800279	A	SFPP, L.P.	Orange	5.85	n/a	0.00	0.24	1999
800288	A	UNIV CAL IRVINE UNIT NO 01	Irvine	5.64	n/a	0.00	0.07	1996
800301	A	ITT GILFILLAN UNIT NO.01	Van Nuys	0.86	0.000	0.12	0.19	1998
800318	A	GRISWOLD INDUSTRIES	Costa Mesa	9.51	0.009	0.10	0.01	2001
800320	A	AMVAC CHEMICAL CORP.	Los Angeles	0.04	0.000	0.07	0.34	2004
800325	A	TIDELANDS OIL PRODUCTION CO (L.B. Oil Co)	Long Beach	1.90	n/a	0.07	0.62	1999
800343	A	BOEING SATELLITE SYSTEMS, INC.	El Segundo	0.30	0.000	<0.01	0.21	1996
800362	A	CONOCO-PHILLIPriority Score CO.	Carson	6.6	0.11	0.03	0.26	2011
800363	A	CONOCO-PHILLIPriority Score CO.	Wilmington	23.2	0.29	0.13	0.73	2013
800372	A	EQUILON ENTERPRISES,LLC	Carson	6.90	0.030	0.44	0.07	2001
800387	A	CALIFORNIA INSTITUTE OF TECHNOLOGY	Pasadena	2.40	n/a	0.05	0.00	2007
800395	A	BP WEST COAST PRODUCTS, ARCO CARSON	Carson	3.00	0.001	<0.01	0.02	1994
800396	A	BP WEST COAST PRODUCTS, ARCO VINVALE	South Gate	9.00	0.023	<0.01	0.03	1994
800408	A	TRW INC.	Manhattan Beach	1.37	n/a	0.92	0.10	1998

Appendix A-2. Concluded.

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk in a million	Cancer Burden	Acute Hazard Index	Chronic Hazard Index	HRA Approved (year)
800409	A	TRW INC.	Redondo Beach	5.48	n/a	0.45	0.24	1998
800431	A	PRATT & WHITNEY ROCKETDYNE, INC.	Canoga Park	8.70	0.130	<0.01	<0.01	1995
800436	A	TESORO REFINING AND MARKETING CO	Wilmington	10.80	0.38	0.3	0.43	2013

Notes:
(a) A = Active; I = Inactive; OB = Out of Business (with the year in which the facility went out of business)
(b) The specific risk driver listed in this HRA is no longer in use & the resulting risk has been eliminated or minimized.
(c) SCAQMD staff has requested these facilities to update their HRAs.
(d) This includes risk attributable to the emergency DICE. The total facility risks excluding the emergency DICE are less than 10 in a million.

Appendix A-3. Status of Risk Reduction Plans

Fac. ID	Facility Name	Submitted	Approved	Implemented	Residual Risk
7427	Owens-Brockway Glass	Yes	Yes	Yes	Cancer: 3.60 Acute HI: 0.01 Chronic HI: 0.06 Can. Burden: 0.00
7730	E.R. Carpenter	Yes	Yes	Yes	Cancer: 0.96 Acute HI: 0.03 Chronic HI: 1.34 Can. Burden: 0.000
8015	Anadite Inc.	Yes	Yes	Yes	Cancer: 3.5 Acute HI: 0.63 Chronic HI: 0.78 Can. Burden: n/a
8547	Quemetco	Yes	Yes	Yes	Cancer: 4.4 (d) Acute HI: 0.086 Chronic HI: 0.74 Can. Burden 0.023
8570	Embee Inc.	Yes	Yes	Yes	Cancer: 6.6 Acute HI: 0.21 Chronic HI: 0.58 Can. Burden: n/a
14191	Nicklor Chemical Co.	Yes	Yes	Yes	Cancer: 0.00 Acute HI: 0 (a) Chronic HI: 0 (a) Can. Burden: 0.000
15504	Schlosser Forge Co.	Yes	Yes	Yes	Cancer: 9.5 Acute HI: 1.59 Chronic HI: 1.11 Can. Burden: 0.067
18294	Northrop-Grumman	Yes	Yes	Yes	Cancer: 7.6 Acute HI: 0.13 Chronic HI: 0.05 Can. Burden: n/a
22410	Palace Plating	Yes	Yes	Yes	Cancer: 5.6 (b) Acute HI: 0.73 Chronic HI: 0.38 Can. Burden: n/a
25012	Amada Manufacturing America, Inc.	Yes	Yes	Yes	Cancer: <0.1 Acute HI: 0.00 Chronic HI: 0.00 Can. Burden: 0.000
41229	Lubeco, Inc.	Yes	Yes	Yes	Cancer: 14.0 Acute HI: 0.00 Chronic HI: 0.12 Can. Burden: n/a
45938	E.M.E. Inc.	Yes	Yes	Yes	Cancer: <0.1 Acute HI: 0.00 Chronic HI: < 0.01 Can. Burden: 0.000
48323	Sigma Plating Co.	Yes	Yes	Yes	Cancer: 13.8 Acute HI: 0.01 Chronic HI: 0.74 Can. Burden: 0.017

Appendix A-3. Concluded

Fac. ID	Facility Name	Submitted	Approved	Implemented	Residual Risk
61160	GE Engine Services	Yes	Yes	Yes	Cancer: 0.50
					Acute HI: 0.7
					Chronic HI: 0.01
					Can. Burden: 0.000
116459	GE Engine Services	Yes	Yes	Yes	Cancer: 9.3
					Acute HI: 0.19
					Chronic HI: 0.25
					Can. Burden: n/a
119127	PRC DeSoto International	Yes	Yes	Yes	Cancer: 0 (a)
					Acute HI: < 0.01
					Chronic HI: < 0.01
					Can. Burden: 0.000
124838	Exide Technologies	Yes	Yes	Pending	Cancer:
					Acute HI:
					Chronic HI:
					Can. Burden:
126501	Vought Aircraft Industries, Inc.	Yes	Yes	Yes	Cancer: 19.7 (c)
					Acute HI: 0.64
					Chronic HI: 0.24
					Can. Burden: n/a
134931	Alcoa Global Fasteners, Inc.	Yes	Yes	Yes	Cancer: 0.6
					Acute HI: 1.90
					Chronic HI: 0.02
					Can. Burden: 0.000
800037	DeMenno/Kerdoon	Yes	Yes	Yes	Cancer: 4.9
					Acute HI: < 0.01
					Chronic HI: 0.02
					Can. Burden: 0.01
800063	Grover Products Co.	Yes	Yes	Yes	Cancer: 3.3
					Acute HI: 0.88
					Chronic HI: 0.07
					Can. Burden: 0.039
800196	American Airlines, Inc.	Yes	Yes	Yes	Cancer: 5.4
					Acute HI: 0.86
					Chronic HI: 0.08
					Can. Burden: 0.190

(a) Facility left the South Coast Air Basin so their risks are zero.
(b) Facility is shutdown so their risks are zero.
(c) The specific risk driver listed in this HRA is no longer in use & the resulting risk has been eliminated.
(d) An updated HRA was requested on 12/10, 2013, based on November source test.

Appendix B

Trends in Ambient Air Toxics in the South Coast Air Basin and Vicinity

The California Air Resources Board (CARB) has maintained toxics monitoring network since the late 1980's.[1] In this appendix, trends in cancer risks are illustrated for sites in the South Coast Air Basin (Basin) and vicinity. Health risk levels for the most recent three-year period (i.e., 2010 to 2012) are also shown. Since this is ambient air quality data, both mobile and stationary emission sources are captured in the health risk levels provided here. Looking at this historical data set illustrates the benefits of past regulatory control efforts and also shows the way for future control strategies.

Five of the approximately 17 current active sites in CARB's statewide toxics monitoring network are in the Basin and vicinity as shown in Figure B-1. Simi Valley is included in this analysis since it is just outside the western edge of the Basin and represents conditions in the western end of the San Fernando Valley. The measurements consist of 24-hour integrated samples collected once every 12 days. Table B-1 lists the toxic air contaminants analyzed here. The carcinogens in the table are identified with an asterisk.

Figure B-1. ARB toxic monitoring sites in the South Coast Air Basin and vicinity

Table B-1. Toxic Air Contaminants Considered

Toxic VOC		Toxic PM
Acetaldehyde*	Methyl Bromide	Hexavalent Chromium*
Acrolein	Methyl Chloroform	Lead*
Benzene*	Methyl Ethyl Ketone	Manganese
1,3-Butadiene*	Methylene Chloride*	Nickel*
Carbon Tetrachloride*	Perchloroethylene*	Selenium
Chloroform*	Styrene	
Ethyl Benzene*	Toluene	
Formaldehyde*	Trichloroethylene*	

* carcinogen

Inhalation cancer risks have decreased significantly at all stations since 1990 as shown in Figure B-2. Specifically, risks have decreased by 86, 81, 85, 75, and 76 percent at Burbank, Los Angeles, Long Beach, Riverside, and Simi Valley, respectively. The improvement is primarily from reductions in ambient concentrations of benzene (87 to 91 percent) and 1,3-butadiene (85 to 91 percent) and secondarily from decreases in hexavalent chromium (77 to 93 percent) and perchloroethylene (85 to 96 percent) concentrations.

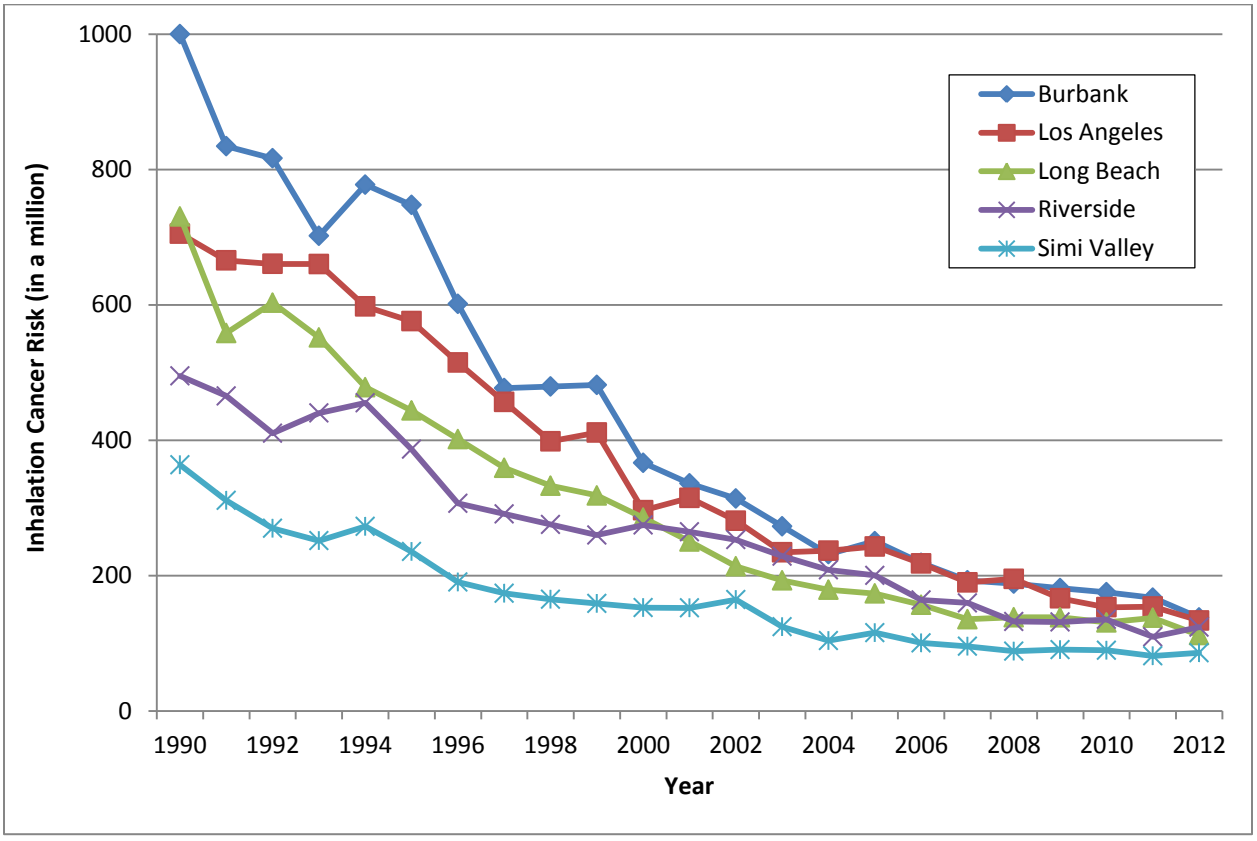


Figure B-2. Trends in inhalation cancer risks in the South Coast Air Basin and vicinity (excluding cancer risks from diesel particulate matter)

The risk reductions shown in Figure B-2 occurred in spite of significant increases in population and vehicle activity. As shown in Table B-2, population increased by 31.5 percent since 1990 and daily VMT, vehicle population, and daily fuel consumption increased by 36.3, 43.6, and 24.3 percent, respectively.

Table B-2. Change in Population and Vehicle Activity in the SCAQMD Since 1990

Activity Variable	1990	2012	% Increase
Population	13,083,594	17,198,994	31.5
Daily VMT (in thousands of miles per day)	282,561	385,212	36.3
Vehicle Population	7,547,354	10,836,390	43.6
Daily Fuel Consumption (in thousands of gallons per day)	18,338	22,791	24.3

Source: http://www.arb.ca.gov/app/emsinv/trends/ems_trends.php.
VMT = vehicle miles travelled.

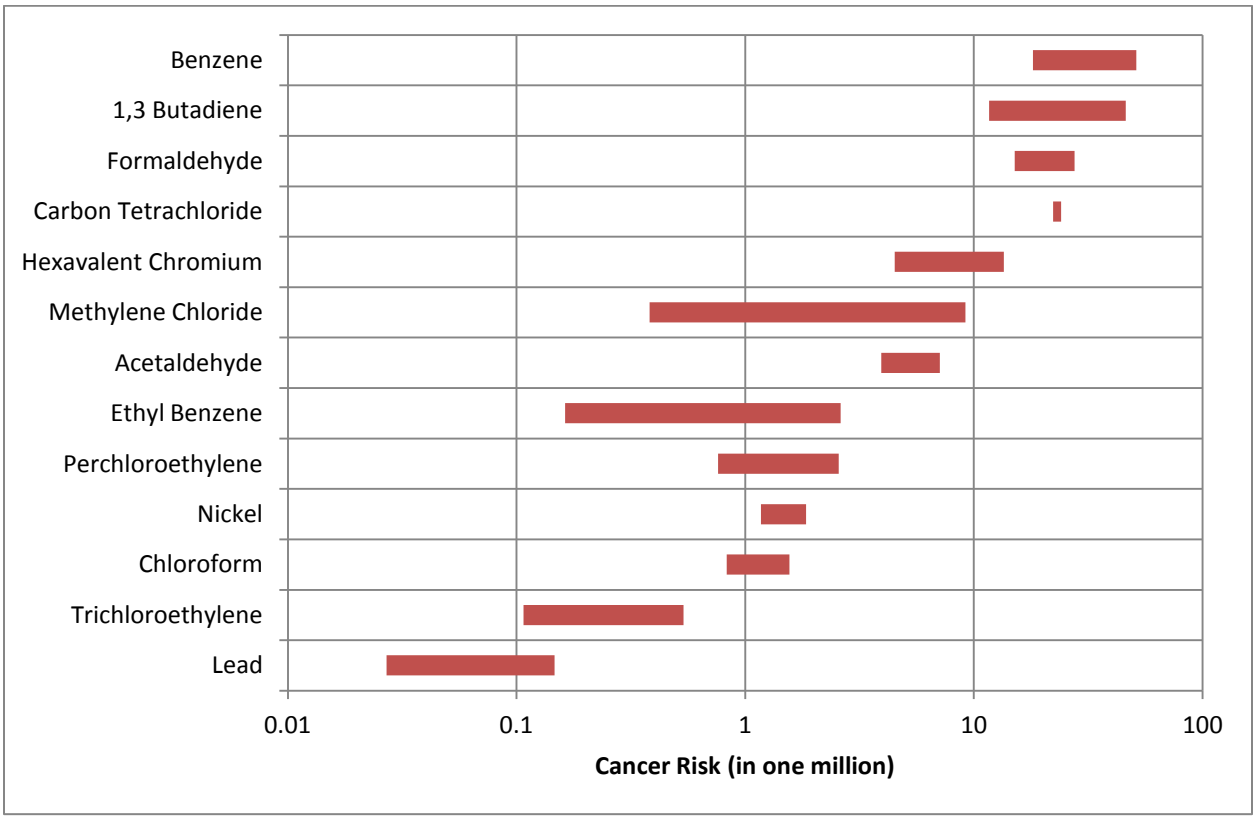


Figure B-3. Inhalation cancer risks in the Basin and vicinity over the period, 2010 to 2012 (excluding diesel particulate matter)

The relative importance of each of the toxics is illustrated in the Figure B-3 above. The range of cancer risks for the five sites analyzed here are shown for the most recently available three-year period (2010 to 2012). Benzene, 1,3-butadiene, formaldehyde,

carbon tetrachloride, and hexavalent chromium are the largest contributors to the inhalation cancer risks, contributing individually from 5 to over 50 in a million. The ambient carbon tetrachloride concentrations observed in the Basin are not from a local source of emissions but represent a background condition. Note that there is little variability in cancer risks attributable to carbon tetrachloride as indicated by its short bar in Figure B-3. In fact, there is little variability statewide in carbon tetrachloride concentrations, with concentrations varying by less than ten percent. Methylene chloride, acetaldehyde, ethyl benzene, perchloroethylene, chloroform, and nickel each contribute between 1 and 10 in a million and trichloroethylene and lead contribute less than 1 in a million to the inhalation cancer risks.

As demonstrated in the series of Multiple Air Toxics Exposure Studies (MATES) conducted by the SCAQMD, diesel particulate matter (DPM) is by far the largest contributor to inhalation cancer risks observed in the Basin. MATES III attributed about 84 percent of the inhalation cancer risks to DPM,[2] so cancer risks shown in Figures B-2 and B-3 represent only 16 percent of the total inhalation cancer risks.

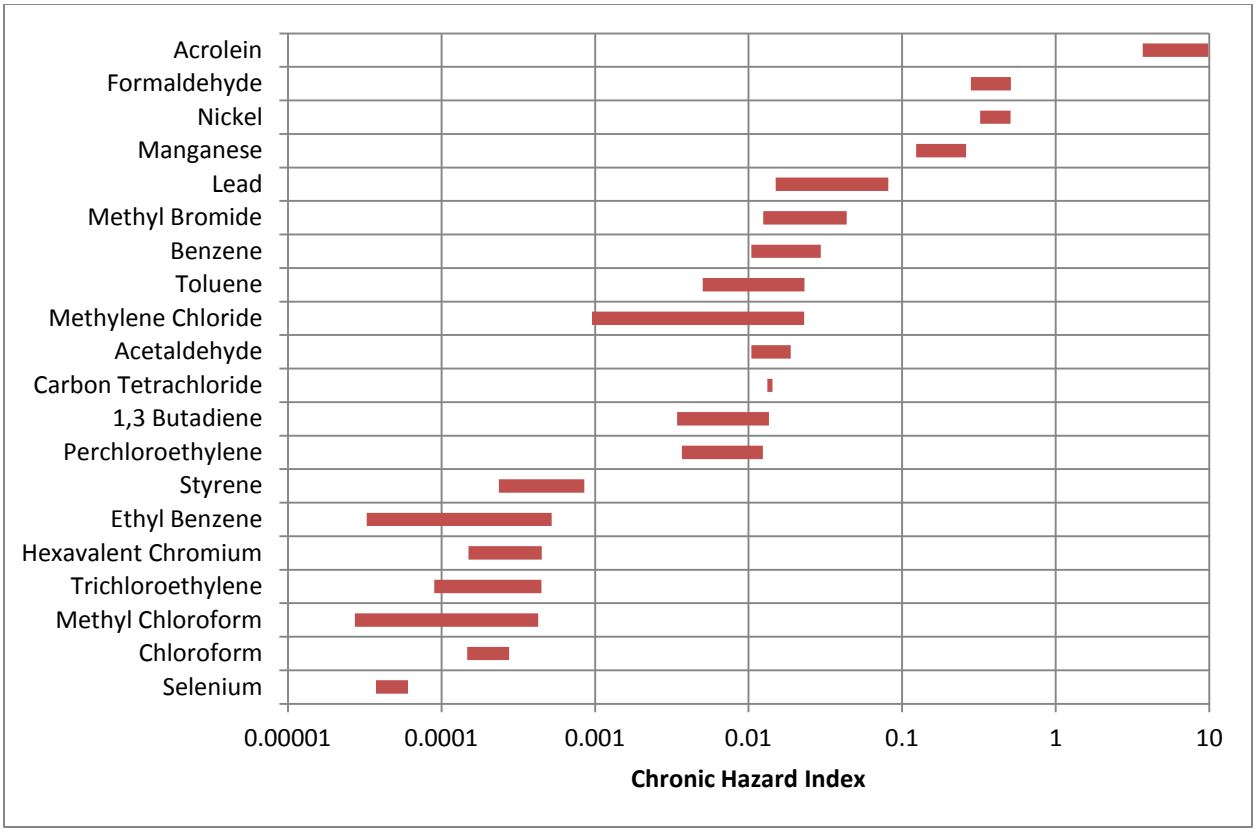


Figure B-4. Non-cancer chronic risks in the Basin and vicinity over the period, 2010 to 2012

The range of chronic non-cancer risks for the five sites analyzed here are shown above in Figure B-4 for the most recently available three-year period (2010 to 2012). For each

toxic, the ratio of the observed concentration to the pollutant's chronic reference exposure level (REL)[†] is shown. Ratios greater than one indicate the potential for adverse health effects. Note that acrolein, a respiratory irritant, is the only toxic in which ambient concentrations are above its REL. It should be noted that the ambient concentrations of acrolein are above its REL throughout the state.

NOTES AND REFERENCES

[1] Information about and data from ARB's toxic monitoring data are available at: http://www.arb.ca.gov/adam/toxics/toxics.html.

[2] See page ES-3 of the Executive Summary which is available at: http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iii/mates-iii-final-report.

[†] The REL is an exposure level at or below which no non-cancer adverse health is anticipated to occur in a human population for a specific duration. This definition is taken directly from: OEHHA, 2003 - *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.*