BOARD MEETING DATE: September 7, 2018 AGENDA NO. 32

REPORT: Receive and File 2017 Annual Report on AB 2588 Program and Approve Updates to Facility Prioritization Procedure, AB 2588 and Rule 1402 Supplemental Guidelines, and Guidelines for Participating in Rule 1402 Voluntary Risk Reduction Program

SYNOPSIS: The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) requires local air pollution control districts to prepare an annual report. The report provides the public with information regarding SCAQMD programs to reduce emissions of toxic air contaminants. This annual update describes the various activities in 2017 to satisfy the requirements of AB 2588 and Rule 1402, such as quadrennial emissions reporting and prioritization, the preparation and review of Air Toxics Inventory Reports, Health Risk Assessments, Voluntary Risk Reduction Plans, Risk Reduction Plans, and additional SCAQMD activities related to air toxics. Staff is also updating the Facility Prioritization Procedure, the AB 2588 and Rule 1402 Supplemental Guidelines, and the Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program to update information and provide more clarity for the implementation of AB 2588 and Rule 1402. These actions are to receive and file the 2017 Annual Report on the AB 2588 Air Toxics “Hot Spots” Program, and to approve revisions to: 1) Facility Prioritization Procedure for the AB 2588 Program; 2) AB 2588 and Rule 1402 Supplemental Guidelines; and 3) Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program.

COMMITTEE: Stationary Source, June 15, 2018, Reviewed

RECOMMENDED ACTIONS:

1. Receive and File:
   a. 2017 Annual Report on the AB 2588 Program.

2. Approve updates to the following guidance documents:
   a. Facility Prioritization Procedure for the AB 2588 Program;
   b. AB 2588 and Rule 1402 Supplemental Guidelines; and
   c. Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program.

Wayne Nastri
Executive Officer

PF:SN:JW:VM

Introduction

As required under the California Health and Safety Code Section 44363, staff has prepared the "2017 Annual Report on the AB 2588 Program." This annual report summarizes SCAQMD's air toxics program activities in 2017, including the Air Toxics "Hot Spots" Information and Assessment Act (or AB 2588) activities, rule development activities, and other air toxic related programs, such as analysis and review of the final version of U.S. EPA's National-Scale Air Toxics Assessment (NATA) for 2014, air toxic source testing, and air toxic monitoring efforts. The annual report will be available on SCAQMD's website and distributed to county boards of supervisors, city councils, and local health officers.

Background

The AB 2588 Program, combined with implementation of Rule 1402, includes requirements for toxic emissions inventories, categorizing and prioritizing facilities, and reviewing and approving detailed Air Toxic Inventory Reports (ATIRs), Health Risk Assessments (HRAs), public notifications, Voluntary Risk Reduction Plans (VRRPs) and Risk Reduction Plans (RRPs). Rule 1402 reduces the health risk associated with emissions of toxic air contaminants from existing sources as required by the "Hot Spots" Act.

There are two broad classes of facilities within the AB 2588 Program: core facilities, and facilities in the industry-wide source category. Industry-wide source category facilities are generally small businesses with relatively similar emission profiles (such as gas stations and autobody shops). Facilities that are in an industry-wide source category have fewer requirements under the AB 2588 Program than core facilities. Some industry-wide categories have requirements in source-specific rules to address toxic air contaminants.

Core facilities are required to report their air toxic emissions to SCAQMD quadrennially through the web-based Annual Emissions Reporting (AER) Program. Currently there are 432 facilities in SCAQMD's core AB 2588 Program. Of these 432

facilities that report their air toxic emissions quadrennially, 154 facilities were required to submit their reports in 2017. Additionally, on October 7, 2016, Rule 1402 was amended to add requirements for Potentially High Risk Level facilities that requires submittal of an Early Action Reduction Plan, ATIR, and the concurrent submittal of a HRA and RRP. So far, three facilities have been designated as Potentially High Risk Level facilities under Rule 1402.

From the beginning of the AB 2588 Program in 1987 through the end of 2017, staff has reviewed and approved 339 HRAs from 310 facilities. Of these, 55 facilities were required to perform public notification activities and 27 facilities were required to implement risk reduction measures.

Public Process

Staff is also proposing updates to the Facility Prioritization Procedure, the AB 2588 and Rule 1402 Supplemental Guidelines, and the Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program. The documents were made available on SCAQMD's website at http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588. Staff held a public consultation meeting on July 31, 2018 at SCAQMD headquarters to present a summary of the updates to these documents to stakeholders and receive public comments. Approximately 1,300 stakeholders were notified of the meeting. Further clarifications to the documents were made based on stakeholder feedback received at the meeting.

2017 Accomplishments

The attached report summarizes staff activities in 2017 for the AB 2588 Program, implementation of Rules 1401 and 1402, air toxic monitoring and source testing performed in conjunction with the AB 2588 Program and Rule 1402, dispersion modeling support for Rules 1401 and 1420.2, source-specific air toxic rule development efforts, analysis of toxic program impacts from the addition of new or revised air toxics, and future activities.

Summary of Activities for Specific AB 2588 Program Facilities

In 2017, staff initiated audit activities of quadrennial reports for 40 facilities with priority scores greater than 10 and reviewed a variety of work products submitted by 35 different facilities as a requirement of the AB 2588 Program. Key activities conducted include review of 14 Air Toxics Inventory Reports, three Health Risk Assessments, five Risk Reduction Plans, and 10 Voluntary Risk Reduction Plans. Many of these key activities were for facilities that are in Group I, which are facilities that tend to have more sources and are more complex such as refineries and other industrial facilities. In 2017, facilities that met the eligibility criteria were notified of the option for either submitting a traditional Air Toxics Inventory Report and Health Risk Assessment or a Voluntary Risk Reduction Plan. Of the 13 facilities that were offered the option to prepare either an Air Toxics Inventory Report or Voluntary Risk Reduction Plan, six

facilities selected the Voluntary Risk Reduction Plan option, four facilities selected to prepare an Air Toxics Inventory Report through the traditional AB 2588 process, and three facilities submitted emissions inventory corrections which resulted in revised priority scores of less than 10. One facility was notified as a Potentially High Risk Level facility. Overall, a total of 76 documents were reviewed in 2017 with some facilities having multiple documents submitted for staff review. Table 1 lists the facilities that either had an Air Toxics Inventory Report (ATIR), Health Risk Assessment (HRA), or Risk Reduction Plan (RRP) reviewed by staff in 2017. The attached Annual Report provides detailed information regarding the AB 2588 Program activities at each facility.

Table 1 – AB 2588 Program Facilities in 2017

Facility Name	ID No.	Facility Name	ID No.
Aerocraft	23752	Matrix Oil	182970
All American Asphalt	132954	MM West Covina*	113873
Anadite*	8015	Orange County Sanitation District, Fountain Valley*	17301
Anaplex	16951	Orange County Sanitation District, Huntington Beach*	29110
Boral Roofing	1073	Phillips 66 Carson Refinery*	171109
Bowman Plating Company	18989	Phillips 66 Wilmington Refinery*	171107
Chevron Products Co. *	800030	Quemetco	8547
Equilon Enter. LLC, Shell Oil Prod. US*	800372	So Cal Gas Co./Playa Del Rey Storage Facility	8582
Fontana Paper Mills	11716	SoCal Holding, LLC*	169754
Gerdau/TAMCO	18931	Tesoro Calciner*	174591
Glendale City Water and Power*	800327	Tesoro Los Angeles Refinery*	800436 174655 174694 174703
Griswold Industries	800318	Tesoro Sulfur Recovery Plant*	151798
GS II, Inc.*	183567	Torrance Refining*	181667
Hixson Metal Finishing	11818	Triumph Processing	800267
Hyperion Water Reclamation Plant, City of Los Angeles Bureau of Sanitation*	800214	UC Irvine*	800288
Kaiser Aluminum	16338	Ultramar (Valero) Refinery*	800026
LA City, Bureau of Street Maintenance	116480	Universal City Studios*	800202
Lubeco	41229		

Note: * indicates facilities notified to prepare either an ATIR or a VRRP.

Air Monitoring and Source Testing Activities to Support the AB 2588 Program
Staff also engages in air toxics monitoring and air toxics source testing at and near many facilities. Based on monitoring efforts of hexavalent chromium in Paramount, SCAQMD found high levels near two facilities: Aerocraft Heat Treating Company and Anaplex Corporation. Both Aerocraft and Anaplex were designated as Potentially High Risk Level Facilities under Rule 1402 in 2016. Additional monitoring in locations approximately one mile to the southeast also found high levels of hexavalent chromium near Lubeco, Inc. As a result, Lubeco, Inc. was designated as a Potentially High Risk Level Facility in September 2017. Emissions monitoring near the facilities revealed sources of hexavalent chromium that SCAQMD was not aware of and were unregulated. As a result, rulemaking was initiated to establish emission reduction requirements for these sources.

In July 2017, staff began special air monitoring in the city of Compton to measure levels of hexavalent chromium near several metal-processing facilities in the community, with an emphasis on chromium plating and anodizing plants due to their close proximity to each other and to sensitive receptors. This effort will determine whether these facilities pose a significant health risk to the community. Staff will continue to identify high-risk facilities, prioritize them based on the degree of risk and take action to immediately reduce emissions.

Rules 1401 and 1420.2 Dispersion Modeling Review
In 2017, staff processed approximately 2,100 Rule 1401 applications for 1,300 facilities. Under Rule 1401, staff reviews new and modified permit applications to ensure that the health risk thresholds are not exceeded. Staff also reviews and verifies air quality and HRA analyses for Hearing Board cases. In 2017, staff reviewed and approved 20 HRAs for permit projects.

Under Rule 1420.2, air dispersion modeling is used to identify the appropriate location for placement of ambient air monitors. In 2017, staff approved four ambient monitoring plans for Rule 1420.2 facilities.

National Air Toxics Assessment
Every three years, beginning in 1996, the U.S. EPA prepares a National Air Toxics Assessment (NATA).[1] Staff coordinates with U.S. EPA staff to ensure that NATA incorporates the best available local emissions data. The current triennial inventory process began in September 2016 for the purpose of reviewing data from the 2014 National Emissions Inventory. Staff initiated review of data from approximately 70 facilities determined to be high risk within the SCAQMD's jurisdiction. Following the investigation, staff made several corrections to emissions, source characteristics,

[1] The U.S. EPA's web portal is at: https://www.epa.gov/national-air-toxics-assessment

process, pollutants, and stack parameters for approximately 20 facilities. This information was provided to U.S. EPA in May 2017.

Rules Adopted or Amended in 2017

During 2017, four toxic rules were adopted or amended: 1) Rule 1430 – Control of Emissions from Metal Grinding Operations at Metal Forging Facilities, adopted in March; 2) Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants, adopted in July and amended in December; 3) Rule 1401 – New Source Review of Toxic Air Contaminants, amended in September; and 4) Rule 1420 – Emissions Standard for Lead, amended in December.

Future Activities

In addition to the routine AB 2588 Program implementation activities, staff plans to:

- Audit quadrennial emissions inventories for 50 facilities;
- Develop proposed Rules 1407.1, 1410, 1435, and 1480[2];
- Develop proposed amended Rules 1403, 1407, and 1469[3];
- Track development of potential Reference Exposure Level (REL) revisions by OEHHA for hexamethylene diisocyanate and toluene; and
- Continue to work with CARB and through the California Air Pollution Control Officers Association (CAPCOA) Toxics and Risk Managers Committee to develop HRA guidelines for the industry-wide category of gasoline dispensing facilities.

Updates to the Facility Prioritization Procedure, the AB 2588 & Rule 1402 Supplemental Guidelines, and the Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program

In June 2016, the Board adopted revisions to the Facility Prioritization Procedure and the AB 2588 and Rule 1402 Supplemental Guidelines in conjunction with amendments to Rule 1402 that incorporated the 2015 Office of Environmental Health Hazard Assessment (OEHHA) Risk Assessment Guidelines update.

In November 2016, the Board adopted amendments to the Facility Prioritization Procedure by adding a more refined screening process that would more accurately identify high priority facilities and improve staff's ability to focus on the highest

[2] PR 1407.1 – Control of Emissions of Arsenic, Cadmium and Nickel from Ferrous Metal Operations
PR 1410 – Hydrogen Fluoride Use at Refineries (was adopted in 1991 but was suspended the following year)
PR 1435 – Control of Emissions from Metal Heat Treating Processes
PR 1480 – Air Toxics Metal Monitoring

[3] PAR 1403 – Asbestos Emissions from Demolition/Renovation Activities
PAR 1407 – Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Operations
PAR 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

priority facilities. Staff is proposing to update the Facility Prioritization Procedure to incorporate the most recent meteorological dataset (Version 9) and adjusting the calculation of the non-cancer acute score. The proposed revised calculation methodology for non-cancer acute is streamlined to account for short-term exposure at the facility fenceline.

In November 2016, the Board adopted amendments to the AB 2588 and Rule 1402 Supplemental Guidelines to clarify language and by adding guidance on different elements of the AB 2588 Program. Staff is proposing to update the AB 2588 and Rule 1402 Supplemental Guidelines and provide more clarity for implementation of the AB 2588 Program and Rule 1402.

In October 2016, the Board adopted amendments to Rule 1402 to include a Voluntary Risk Reduction Program that allows facilities that commit to reducing their health risk 60 percent below the current risk reduction thresholds in Rule 1402 to use a modified public notification approach. Additionally, the "Guidelines for Participating in Rule 1402 Voluntary Risk Reduction Program" was developed which included information for facilities that elect to participate in the Voluntary Risk Reduction Program. Staff is proposing to update the Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program to provide clarity.

Attachments

1. Annual Report on AB 2588 Air Toxics "Hot Spots" Program
2. Facility Prioritization Procedure for the AB 2588 Program
3. AB 2588 and Rule 1402 Supplemental Guidelines
4. Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program
5. Board Meeting Presentation

ATTACHMENT 1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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

September 2018

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

Assistant Deputy Executive Officer
Planning, Rule Development and Area Sources
Susan Nakamura

Planning and Rules Manager
Planning, Rule Development and Area Sources
Jillian Wong, Ph.D.

Authors: Victoria Moaveni, Program Supervisor
Fortune Chen, Senior Air Quality Engineer
Edward Lee, Assistant Air Quality Engineer
Matthew Lee, Assistant Air Quality Engineer

Reviewed by: William Wong, Principal Deputy District Counsel

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EXECUTIVE SUMMARY

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) is a key statewide program implemented by air districts to address health risks from existing permitted facilities. State law requires the South Coast Air Quality Management District (SCAQMD) to prepare an Annual Report of activities. This report fulfills that requirement and also provides a summary of staff activities in relation to other toxic air contaminant programs in calendar year 2017.

In 2017, staff reviewed a variety of work products submitted by 35 different facilities as a requirement of the AB 2588 Program. Staff also continued reviewing reports and proposed risk reduction measures for two facilities in the city of Paramount that have been identified as Potentially High Risk Level Facilities (potential cancer risk greater than one hundred in one million or a total acute or chronic HI greater than five). Through SCAQMD's ambient monitoring efforts in the cities of Paramount and Long Beach, staff designated a third facility, Lubeco Inc., in the city of Long Beach as a Potentially High Risk Level Facility.

In addition to AB 2588 Program activities, SCAQMD staff worked on a variety of other toxic programs in 2017, including completing rule development work on the Rule 1401 guidance document, review of the final version of United States Environmental Protection Agency's (U.S. EPA) National Air Toxics Assessment (NATA) for 2014, source testing, and air monitoring efforts. In addition, staff analyzed changes and potential impacts to permitting and AB 2588 from the Office of Environmental Health Hazard Assessment (OEHHA) regarding new or revised toxic air contaminant health values.

1. INTRODUCTION

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 risk levels and Rule 1402 – Control of Toxic Air Contaminants from Existing Sources, which implements various aspects of SCAQMD's AB 2588 Program. AB 2588 is the Air Toxics "Hot Spots" Information and Assessment Act, Health and Safety (H&S) Code Section 44300 et seq. SCAQMD's air toxic program also includes a series of source specific rules that address toxic air contaminants for specific industries or equipment categories.

This report summarizes SCAQMD's air toxics program activities in 2017, including AB 2588 activities, rule development activities, dispersion modeling support for rules and permits, and other air toxic related programs such as ambient monitoring efforts in Paramount, and source testing and air monitoring efforts in support of the AB 2588 Program. This report also satisfies Section 44363 of the California H&S Code that requires SCAQMD to annually prepare and publish a status and forecast report of all AB 2588 Program activities.

The AB 2588 Program, combined with implementation of Rule 1402, includes requirements for toxic emissions inventories, categorizing and prioritizing facilities, reviewing and approving detailed Air Toxics Inventory Reports (ATIR), Health Risk Assessments (HRA), Risk Reduction Plans (RRP), and providing public notification. Rule 1402 was amended on October 7, 2016 to include a provision to allow facilities to participate in a Voluntary Risk Reduction Program. The Voluntary Risk Reduction Program is an alternative to complying with the traditional AB 2588 and Rule 1402 approach that provides facilities that meet specific criteria, an opportunity to reduce health risks below the Notification Risk Level with a Modified Public Notification approach. Qualifying facilities must submit a Voluntary Risk Reduction Plan (VRRP) for approval. The Voluntary Risk Reduction Program will achieve risk reductions both sooner and beyond what is required in the traditional Rule 1402 process. In addition to the Voluntary Risk Reduction Program, amendments included special requirements for Potentially High Risk Level Facilities. Potentially High Risk Facilities have an estimated cancer risk that exceeds 100 in-one-million which must implement an Early Action Reduction Plan while the facility concurrently prepares their Health Risk Assessment and Risk Reduction Plan.

1.1 Background

There are two broad classes of facilities within the AB 2588 Program: core facilities and facilities in the industry-wide source categories. Industry-wide source facilities are generally small businesses with relatively similar emission profiles (such as gas stations and autobody shops). Facilities that are in industry-wide source categories have fewer requirements under AB 2588 than core facilities and are discussed further in Section 2.4 of this report. Core facilities must regularly report their emissions of toxic air contaminants and do the following:

- ***Emissions Reporting*** – Core facilities in the AB 2588 Program submit an air toxics inventory every four years through the Annual Emissions Reporting (AER) Program.

- ***Prioritization*** - From the reported toxic emissions, SCAQMD staff prioritizes facilities, using a state – required procedure approved by the Governing Board, into three categories:

high, intermediate, and low. High priority facilities are then asked to prepare an ATIR or elect to prepare a VRRP, if eligible.

- ***Health Risk Assessment*** - High priority facilities might need to prepare a HRA, if the ATIR indicates that the facility is still considered a high priority.

- ***Public Notice*** - If the health risk reported in the HRA exceeds the Notification Risk Levels in Rule 1402 (a Maximum Individual Cancer Risk (MICR) of ten in one million, a total acute or chronic Hazard Index (HI) of one or the more stringent of either the National Ambient Air Quality Standard (NAAQS) for lead or ambient concentration limit in an applicable SCAQMD rule), then the facility is required to provide public notice to the affected community.

- ***Risk Reduction*** - Facilities with health risks above the Action Risk Levels in Rule 1402 (a MICR of twenty five in one million, cancer burden of one half, a total acute or chronic HI of three, or the NAAQS for lead) must reduce their risks below those levels.

Figure 1 provides an overview of the AB 2588 Program and the different paths a core facility must follow under Rule 1402. Currently there are 432 core facilities in SCAQM's AB 2588 Program.

SCAQMD staff reviews HRAs to ensure they follow methodologies established by OEHHA and the California Air Resources Board (CARB), as required by H&S Code Section 44360(c). The health risk values presented in this Annual Report that were approved prior to 2015 were calculated using the methodologies available at the time of HRA approval, and have not been recalculated based on more recent guidance.[1] OEHHA's HRA Guidelines were revised and approved in early 2015 and takes into account more recent science that has documented greater risks when children are exposed to cancer causing compounds, in addition to other changes. This change in methodology results in residential cancer risks that are about two to six times higher for a given level of exposure compared to the previous methodology. The health risks in all HRAs finalized by SCAQMD staff in 2015 and later were calculated using the 2015 OEHHA HRA Guidelines.

[1] The potential effect of the 2015 OEHHA HRA Guidelines on SCAQMD's AB 2588 Program is discussed in detail in the staff report to amended Rules 212, 1401, 1401.1, and 1402 found here: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2015/2015-jun1-028.

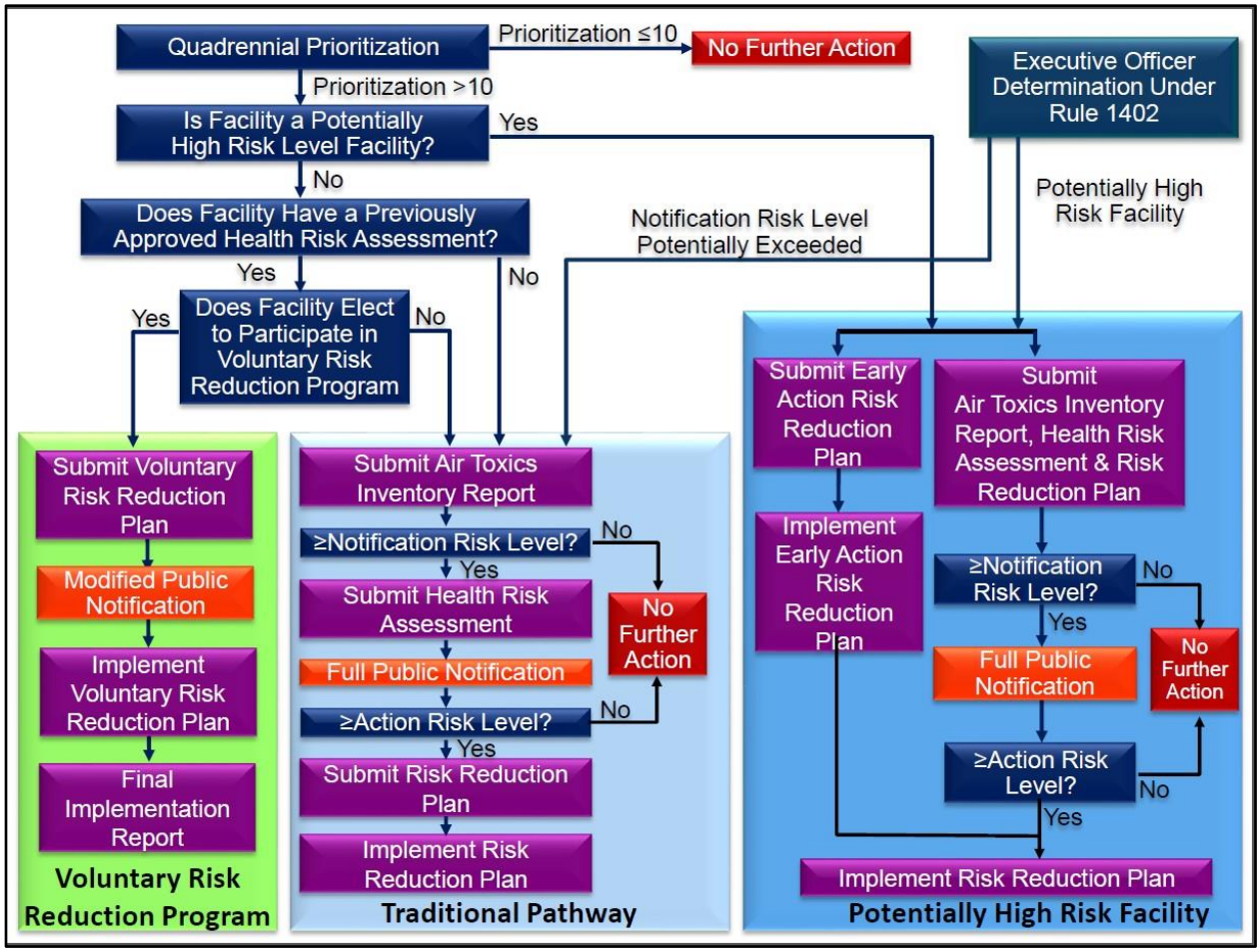

Figure 1 – Overview of the AB 2588 "Hot Spots" Program

From the beginning of the AB 2588 Program in 1987 through the end of 2017, staff has reviewed and approved 339 HRAs from 310 facilities. There are more approved HRAs than facilities as some facilities have prepared more than one HRA. Of these 310 facilities, 27 facilities were required to implement risk reduction measures. 55 were required to perform public notification activities while the remaining facilities were below the public notification threshold. As a result of the AB 2588 Program, about 95 percent of facilities that have been in the Program historically have HRAs demonstrating cancer risks below ten in a million and a hazard index (HI) of less than 1.0 for both non-cancer acute and non-cancer chronic, or their emissions have been low enough to not require an HRA. The approved HRAs illustrated in Figures 2, 3, and 4 are based on the information in Appendix A. Appendix A lists the core facilities and the health risks from their approved HRAs. Table A-1 in Appendix A lists the facilities in order of their cancer risks and Table A-2 in Appendix A is ordered by facility ID. Table A-3 in Appendix A lists facilities which have prepared a RRP for the AB 2588 Program and their corresponding health risks [H&S Code 44363(a) (2) and (3)]. Appendix B shows trends in ambient air toxics in the South Coast Air Basin (Basin). Appendix C contains a list of acronyms and abbreviations used in this report.

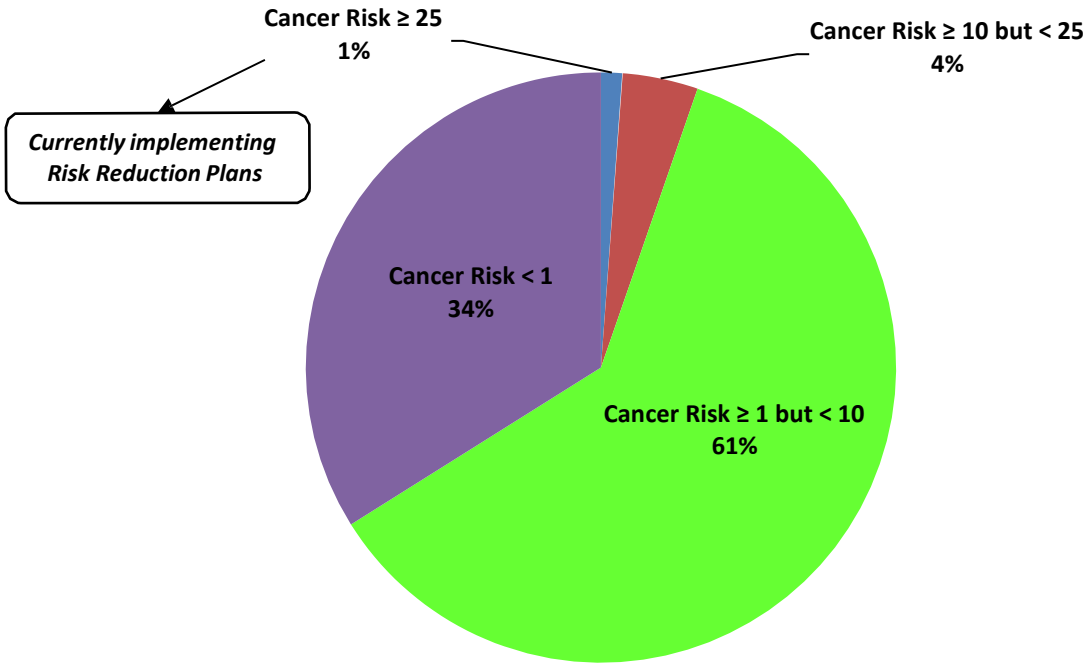

Figure 2 – Distribution of Cancer Risks (Chances in a Million) for AB 2588 Facilities with an Approved HRA

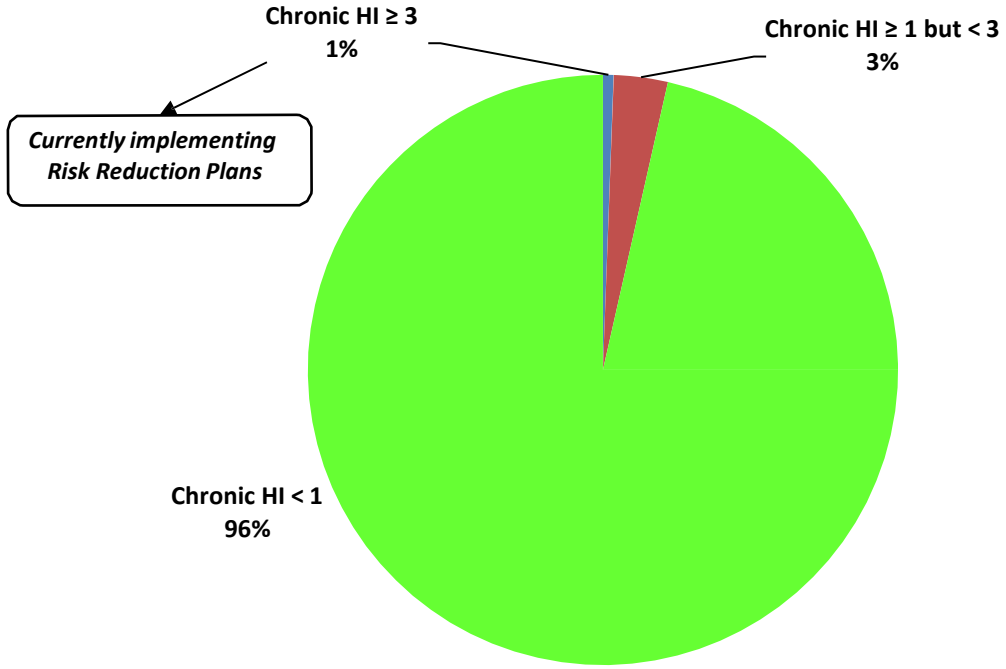

Figure 3 – Distribution of Chronic Hazard Indices for AB 2588 Facilities with an Approved HRA

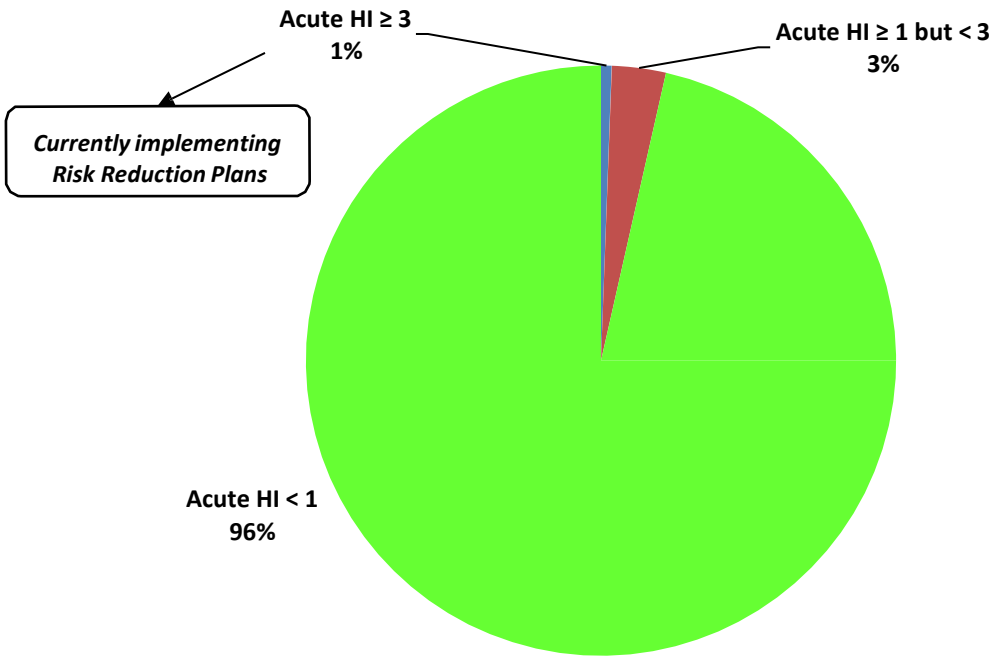

Figure 4 – Distribution of Acute Hazard Indices for AB 2588 Facilities with an Approved HRA

2. 2017 TOXICS ACTIVITIES

This section highlights SCAQMD staff activities in 2017 for various stages of the AB 2588 Program, implementation of Rules 1401 and 1402, air monitoring and source testing projects conducted in conjunction with the AB 2588 Program and Rule 1402, development of industry-wide source category HRAs, source-specific air toxic rule development efforts that address toxic air contaminants for specific industries or equipment categories, Rule 1401 permitting and HRA modeling review, and Rule 1420.2 modeling review.

2.1 Air Toxic Inventory Reports and Health Risk Assessments

Under the AB 2588 Program, facilities are required to report their toxic emissions to SCAQMD quadrennially (i.e., once every four years) through the web-based AER Program in a streamlined reporting process to obtain a preliminary inventory of toxic air contaminants. During the interim years, facilities continue to report toxic emissions through the AER Program for 23 toxic air contaminants. Under the quadrennial reporting process, facilities report emissions of 177 toxic air contaminants along with the distance to the nearest residential and worker receptor to calculate the cancer and non-cancer priority scores for each facility. Every year, criteria and toxic emissions data for the previous calendar year are posted to SCAQMD's FIND web tool.[2] In 2017, 154 facilities were required to report their quadrennial toxic emission inventory updates. Based on emissions inventory submittals, SCAQMD staff calculated priority scores for each facility taking into account potency, toxicity, and quantity of hazardous materials released from the facility; the proximity of the facility to potential receptors, including, but not limited to, hospitals, schools, daycare centers, residences, and worksites; and any other factors that SCAQMD staff determined would indicate the facility may pose a significant risk to receptors. SCAQMD's Prioritization Procedure also includes adjustment factors for exposure period, averaging times, and the treatment of multi-pathway pollutants.[3]

Upon calculation of a priority score for each facility, 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 methods, and relative proportions of toxic air contaminants. In addition, staff conducts further analyses to confirm the distance to sensitive receptors and workers, and reviews emissions trends and facility changes such as new or modified permitted equipment or pollution controls. In cases where the facility has a prior HRA, staff compares the priority score results with the most recent HRA or RRP, if applicable. The additional information obtained through priority score auditing will often negate the need to require an ATIR and HRA. If, however, the priority score remains greater than 10, the facility is asked to prepare a detailed ATIR or, if eligible, a VRRP.

Facilities that prepare an ATIR or a VRRP must submit a detailed inventory of approximately 450 toxic air contaminants, as well as provide stack parameters and locations using the latest CARB Hotspots Analysis and Reporting Program (HARP).[4] The most recent version of HARP

[2] http://www.aqmd.gov/home/tools/public/find
[3] http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588/prioritization
[4] http://www.arb.ca.gov/toxics/harp/harp.htm

incorporates the methodologies from the 2015 OEHHA HRA Guidelines[5] and incorporates U.S. EPA's recommended air quality dispersion model called AERMOD[6] to estimate the concentration of pollutants. Meteorological data for use in HARP and AERMOD can be downloaded from SCAQMD's website.[7]

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

In addition to collecting and reviewing quadrennial emission inventories based on emission calculations, SCAQMD staff regularly engages in air toxics monitoring and air toxics source testing at and near many facilities. In 2017, as part of the Community Air Toxics Initiative, SCAQMD staff conducted investigations in the cities of Paramount and Compton. The investigations focused on the monitored levels of hexavalent chromium in the area, a known carcinogen that even at low concentrations can cause lung and nose cancers in people after long-term exposure.

2.2.1 Paramount

In 2013, SCAQMD received a series of metallic odor complaints from local community members in the City of Paramount and began investigating local sources of emissions, including initiating a local air sampling study. Metal air toxics were the focus of the monitoring, consistent with the community complaints and with the emissions from metal processing facilities in the area. Monitoring results indicated that there were two metals of concern: nickel and hexavalent chromium.

In 2016, as part of the same ongoing investigation, SCAQMD staff deployed several ambient monitors in mostly industrial areas of the City of Paramount in order to identify the local sources of the hexavalent chromium emissions, and the industrial processes that were generating these emissions. This information was critical in developing solutions to reducing these emissions and their impact on the community. Monitoring of metal contaminants in the industrial areas of the City of Paramount found higher levels of nickel, total chromium, and hexavalent chromium in the neighborhoods very close to the industrial areas, but lower levels in the neighborhoods just a few blocks downwind.

SCAQMD staff continued to conduct inspections, surveillance, and complaint investigations in 2017. Although many of the issues found from inspections were not related to hexavalent chromium, over three dozen Notices of Violation were issued to eight facilities and 94 Notices to Comply were issued to 60 facilities. This resulted in changes to operations and new facilities requiring SCAQMD permits. Additionally, in order to help identify the types of operations and specific facilities that contributed the most to the high levels of hexavalent chromium in the air, SCAQMD staff collected and analyzed 148 samples of dust and debris at 18 facilities and tested emissions from 17 pieces of equipment at six facilities. Orders for Abatement were issued to four facilities: Aerocraft (December 2016), Anaplex (January 2017), Carlton Forge Works (July 2017), and Lubeco (August 2017). Carlton Forge Works in particular was issued an Order for Abatement to reduce odors. Air quality inspectors have been in the area on a regular basis to respond to

[5] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk

[6] http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod

[7] http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod

complaints and perform odor surveillance. As a result, the number of odor complaints has fallen and Carlton Forge Works has continued to make changes to their operations to reduce odors. In addition, Aerocraft Heat Treating, Anaplex Corporation, and Lubeco were designated as Potentially High Risk Level Facilities under Rule 1402 due to observed high monitored levels of hexavalent chromium near them.

2.2.2 Compton

In July 2017, SCAQMD began special air monitoring in the city of Compton to measure levels of hexavalent chromium near several metal-processing facilities in the community, with an emphasis on chromium plating and anodizing facilities. Similar to Paramount, Compton has several potential chrome-emitting facilities in close proximity to each other and to sensitive receptors (e.g., hospitals, schools, homes, and senior centers). The purpose of the air monitoring effort was to determine whether these facilities pose a significant health risk to the community.

During 2017, 51 inspections of facilities in Compton were conducted. Of these 51 inspections, 16 Notices of Violation were issued, 52 Notices to Comply were issued, and 56 complaints were investigated. Samples were collected every three days and analyzed at SCAQMD's laboratory with the results available on SCAQMD's website.[8] Although SCAQMD's initial efforts have been focused on metal-processing facilities, there are other potential sources of hexavalent chromium that are being considered, such as cement from cement processing facilities and road construction projects. Updates will continue to be posted to the SCAQMD website.[9]

2.3 Summary of SCAQMD Staff Activities for AB 2588 Facilities in 2017

In 2017, staff addressed facilities in various stages of the AB 2588 process and initiated audit activities on facilities with priority scores greater than 10. Key activities conducted include review of 14 Air Toxics Inventory Reports, three Health Risk Assessments, five Risk Reduction Plans, and 10 Voluntary Risk Reduction Plans. Many of these key activities were for facilities that are in Group I, which are facilities that tend to have more sources and are more complex such as refineries and other industrial facilities. In 2017, facilities that met the eligibility criteria were notified of the option for either submitting a traditional Air Toxics Inventory Report and Health Risk Assessment or a Voluntary Risk Reduction Plans. Of the 13 facilities that were offered the option to prepare either an Air Toxics Inventory Report or Voluntary Risk Reduction Program, six facilities selected the Voluntary Risk Reduction Plan option, four facilities selected to prepare an Air Toxics Inventory Report through the traditional AB 2588 process, and three facilities submitted emissions inventory corrections which resulted in revised priority scores of less than 10. One facility was notified as a Potentially High Risk Level facility. Overall, a total of 76 documents were reviewed in 2017 with some facilities having multiple documents submitted for SCAQMD staff review. Table 1 presents a summary of key activities for facilities participating in the traditional AB 2588 Program and Table 2 presents a summary of key activities for facilities participating in the Rule 1402 Voluntary Risk Reduction Program.

[8] http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/reports-data-assessments

[9] http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities

Table 1 – Actions Taken in 2017 for Facilities in the Traditional AB 2588 Program

Facility Name	ID #	ATIR			HRA			RRP			Status
		R	C	A	R	C	A	R	C	A	
Aerocraft [a]	23752	x	x		x	x		x	x		
All American Asphalt	132954			x			x				
Anadite [b]	8015										Revised Priority Score less than 10
Anaplex [a]	16951	x	x		x	x		x	x		
Boral Roofing	1073	x	x								
Bowman Plating Company	18989									x	
Equilon Enter. LLC, Shell Oil Prod. US [b]	800372										ATIR submittal due in 2018
Fontana Paper Mills	11716	x									
Gerdau/TAMCO	18931										Implementing RRP
Glendale City Water and Power [b]	800327	x									
Griswold Industries	800318	x		x							ATIR and Preliminary HRA shows health risks below Notification Levels
GS II, Inc. [b]	183567	x	x								Initially elected VRRP, but opted out later
Hixson Metal Finishing	11818									x	
Kaiser Aluminum	16338			x							
LA City, Bureau of Street Maintenance	116480										Revised Priority Score less than 10
Lubeco [a]	41229										ATIR, HRA, and RRP submittals due in 2018
Matrix Oil	182970										ATIR submittal due in 2018
MM West Covina [b]	113873	x	x								
Phillips 66 Wilmington Refinery [b]	171107	x	x								
Quemetco	8547							x		x	
So Cal Gas Co./Playa Del Rey Storage Facility	8582	x									
SoCal Holding, LLC	169754										ATIR submittal due in 2018
Triumph Processing	800267	x	x								
UC Irvine [b]	800288	x	x								Revised Priority Score less than 10
Universal City Studios [b]	800202										Revised Priority Score less than 10

Notes:

For ATIRs, HRAs, and RRPs: R=Report Received; C=Comment letter sent to facility; A=Report Approved.

[a] *Classified as Potentially High Risk Level Facility and currently under an Order for Abatement.*

[b] *Indicates facility notified to prepare either an ATIR or a VRRP. Facilities listed in this table elected to prepare an ATIR.*

Table 2 – Actions Taken in 2017 for Facilities in the Voluntary Risk Reduction Program

Facility Name	ID #	VRRP			Status
		R	C	A	
Chevron Products Co. [b]	800030	x			
GS II, Inc. [b]	183567	x			Initially elected VRRP, but opted out later
Hyperion Water Reclamation Plant, City of Los Angeles Bureau of Sanitation [b]	800214	x			
Orange County Sanitation District, Fountain Valley [b]	17301	x			
Orange County Sanitation District, Huntington Beach [b]	29110	x			
Phillips 66 Carson Refinery [b]	171109	x	x		
Tesoro Calciner [b]	174591	x			
Tesoro Los Angeles Refinery [b]	800436	x			
	174655				
	174694				
	174703				
Tesoro Sulfur Recovery Plant [b]	151798	x			
Torrance Refining [b]	181667	x	x		
Ultramar (Valero) Refinery [b]	800026	x			

Notes:
For VRRPs: R=Report Received; C=Comment letter sent to facility; A=Report Approved.
[a] *Classified as Potentially High Risk Level Facility and currently under an Order for Abatement.*
[b] *Indicates facility notified to prepare either an ATIR or a VRRP. Facilities listed in this table elected to prepare a VRRP.*

A description of these activities for each facility in Tables 1 and 2 is listed below.

2.3.1 Aerocraft Heat Treating Company (ID 23752) – Paramount[10]

Aerocraft Heat Treating Company (Aerocraft) operates a facility in the City of Paramount that processes forgings, castings, bar, plate and rough-machined parts. The facility uses various heat treating furnaces, quench tanks, and metal grinding equipment, as well as plasma cutting operations. Based on ambient monitoring conducted near Aerocraft which showed elevated levels of hexavalent chromium, Aerocraft was officially designated as a Potentially High Risk Level Facility on December 14, 2016. As part of this designation, Aerocraft was required to submit an Early Action Risk Reduction Plan by March 14, 2017, an ATIR by May 16, 2017, a HRA and a RRP by June 13, 2017. (Additional details regarding the ambient monitoring in Paramount and near Aerocraft and events that led up to the designation of Aerocraft as a Potentially High Risk Facility are discussed in the 2016 AB2588 Annual Report and on the SCAQMD's website[10]).

The Early Action Risk Reduction Plan was received on March 13, 2017 and after SCAQMD's staff review, a comment letter was sent on April 26, 2017 requesting revisions and resubmittal. Subsequently, on May 4, 2017, a revised Early Action Risk Reduction Plan was received.

[10] Information regarding Aerocraft and compliance-related activities in Paramount can be found at the following link:
http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities

On May 16, 2017, Aerocraft submitted an ATIR, and the HRA and RRP were submitted on June 13, 2017, in accordance with the required deadlines. Conditional approval of the revised Early Action Risk Reduction Plan was granted on May 31, 2017. Staff are currently reviewing all submitted documents.

2.3.2 All American Asphalt (ID 132954) – San Fernando

All American Asphalt operates a recycled asphalt product processing plant in the City of San Fernando. The company is contracted by the Department of Public Works to recycle and manufacture asphalt for repaving of city streets and roads. The operations involve asphalt batching and blending, an asphalt storage tank, storage silos for crumb rubber, baghouses, and an electrostatic precipitator to control particulate emissions.

All American Asphalt was required to prepare and submit an ATIR on September 21, 2011, based on their 2010 quadrennial emissions inventory. The draft ATIR was submitted on March 19, 2012. A source test was requested by SCAQMD staff for the hot mix dryer baghouse, which was conducted from November 12 through November 14, 2013, submitted on December 19, 2013, and approved on March 18, 2014. A final draft of the ATIR was submitted to SCAQMD on December 17, 2013 and a HRA was requested by the SCAQMD on March 6, 2014. A draft HRA was submitted on July 9, 2014. Health risks reported in the draft HRA were mainly generated from arsenic, naphthalene and hexavalent chromium emissions. In the months following the submittal, a site visit was conducted on January 21, 2015 to verify operations reported in the HRA. OEHHA also approved new HRA Guidelines that placed greater emphasis on infant's and children's higher susceptibility to carcinogenic compounds. The HARP software used to estimate risks was updated on March 6, 2015 by the California Air Resources Board. Because these changes happened after the submittal, the health risks results in the HRA were recalculated. Health risks estimated in the draft HRA were less than the AB 2588 and Rule 1402 notification levels. This draft HRA was finalized and approved on February 1, 2017.

2.3.3 Anadite Inc. (ID 8015) – South Gate

Anadite is a metal finishing facility located in the City of South Gate with operations such as cleaning and etching aluminum, titanium, stainless steels, and ferrous alloys, primer and paint application, liquid honing, and sand blasting services. The facility primarily serves the aerospace industry.

On June 30, 2017, SCAQMD staff sent a letter requesting Anadite to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions with hexavalent chromium emissions from a surface preparation tank containing chromic acid and a passivation tank containing nitric acid as the main air toxic contributing to the high priority score.

After a careful review of the facility's 2015 emissions reported to SCAQMD, the facility provided information correcting their reported emissions on July 31, and October 31, 2017. After SCAQMD's staff review and approval of the corrections, the priority score was recalculated and found to be below 10. Subsequently, on December 15, 2017, SCAQMD staff sent a letter informing Anadite of the revised priority score and that no further action was required in response to the original notice.

2.3.4 Anaplex Corporation (ID 16951) - Paramount

Anaplex Corporation (Anaplex) operates a metal processing and finishing company in the City of Paramount. The facility processes parts for commercial and defense aerospace applications. The processes include anodizing and plating process lines which use hexavalent chromium, nickel, and cadmium. Additional details regarding the ambient monitoring in Paramount and near Anaplex and events that led up to the designation of Anaplex as a Potentially High Risk Facility are discussed in the 2016 AB2588 Annual Report and on the SCAQMD's website.[11]

Based on ambient monitoring in December 14, 2016, SCAQMD staff designated Anaplex as a Potentially High Risk Level Facility specifically based on high levels of hexavalent chromium found at monitors adjacent to Anaplex. As part of this designation, Anaplex was required to submit an Early Action Risk Reduction Plan by March 14, 2017, an ATIR by May 16, 2017, a HRA and a RRP by June 13, 2017. Following litigation in Superior Court, the Hearing Board granted a Stipulated Order for Abatement on January 18, 2017.

Anaplex submitted an Early Action Reduction Plan on March 13, 2017. SCAQMD staff provided comments on April 26, 2017 and requested revisions and resubmittal of the Early Action Risk Reduction Plan. Anaplex submitted a revised Early Action Risk Reduction Plan on May 11, 2017 which was conditionally approved on May 31, 2017.

On May 15, 2017, Anaplex submitted an ATIR and a HRA and RRP on June 13, 2017. SCAQMD staff provided written comments regarding all three documents on December 8, 2017, and requested revisions and resubmittal of each document. Staff are currently reviewing all submitted documents.

2.3.5 Boral Roofing, LLC (ID 1073) – Corona

Boral Roofing, LLC (Boral Roofing) is a clay and concrete tile manufacturing plant located in the City of Corona. Boral Roofing has two production lines for manufacturing clay roof tiles. Clay is delivered by trucks and then premixed by a skip loader. The clay is then grounded into a fine powder in a mill, screened, and transported to storage silos. Clay is transferred by belt conveyor to their manufacturing process where it is mixed with water and additives in pug mills. The wet clay mixture is extruded to tile form, then dried and fired in various natural gas kilns.

On March 20, 2017, SCAQMD staff sent a letter requesting Boral Roofing to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2015 annual emissions with hexavalent chromium and arsenic as the main air toxics contributing to the high priority score.

The ATIR was submitted on August 25, 2017. Following comments from SCAQMD staff regarding technical discrepancies, Boral Roofing submitted the revised ATIR on November 16, 2017 which included corrections to calculations for hexavalent chromium that resulted in lower emissions. Staff are currently reviewing all submitted documents.

[11] http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities

2.3.6 Bowman Plating Company, Inc. (ID 18989) – Unincorporated LA County

Bowman Plating Company (Bowman), located near the City of Compton, has been in operation since 1945 and provides metal finishing and non-destructive testing, and processes materials including aluminum, titanium, composites, steel, and stainless steel for aerospace, defense, and related industries. Bowman's previously approved HRA from 2007 showed a maximum cancer risk of 14.2 in a million, mainly due to hexavalent chromium emissions from paint spraying operations. Subsequent annual emission reports submitted by Bowman for calendar years 2011 through 2013 showed increased use of hexavalent chromium-containing spray paints and lower control efficiencies, and consequently the 2007 HRA (using 2006 emissions inventory year) was no longer representative of the facility's current health risks. As a result, staff required Bowman to submit an updated HRA using the 2013 emission inventory.

Bowman submitted an HRA using their 2013 emission inventory on October 24, 2014. This HRA was then updated by SCAQMD staff to incorporate the 2015 OEHHA HRA Guidelines resulting in a maximum residential cancer risk of 110 in a million, and 17 in a million for the maximum exposed worker receptor, both primarily from hexavalent chromium emissions. SCAQMD staff approved the HRA on December 11, 2015, and since the cancer risks exceeded the Action Risk Level specified in Rule 1402, Bowman was required to conduct public notification and to submit a RRP. Notices of the public notification meeting were sent out to 118 people in the area where potential health risks were above the health risk levels established in Rule 1402. SCAQMD staff held a public notification meeting at the Corps Community Center to present the results of the HRA on February 9, 2016.

On June 8, 2016, Bowman submitted a RRP based on their approved HRA. SCAQMD staff sent a comment letter on September 15, 2016 and a revised RRP was submitted by Bowman on October 26, 2016. SCAQMD staff reviewed the proposed risk reduction measures, emission calculations, and modeling analysis which projected a potential maximum residential cancer health risk of 5 in one million, once the revised RRP was fully implemented. However, the modeling analysis submitted with the revised RRP did not properly account for the maximum potential hexavalent chromium emissions from the three spray booths based on their permitted emission limits. Adding these emissions increased the total risk from the facility to approximately 17.02 in one million, which is below the Action Risk Level. The revised RRP was conditionally approved on February 10, 2017, noting that sufficient information was not available on fugitive dust emissions and if information regarding fugitive emissions become known to SCAQMD in the future, that would substantially impact health risks to exposed persons, implementation, or effectiveness of the plan, SCAQMD may require the RRP to be updated and resubmitted pursuant to Rule 1402(k)(1). The RRP was fully implemented on March 30, 2017

2.3.7 Chevron Products Co., El Segundo Refinery (ID 800030) – El Segundo

Chevron El Segundo Refinery (Chevron ES) is a 1,000 acre petroleum oil refinery in the City of El Segundo with a 290,000 barrels of crude oil per day processing capacity. Chevron ES has approximately 20% of the gasoline market share in Southern California and is one of the largest refineries on the West Coast. The main products of the refinery are transportation fuels, such as gasoline, jet fuel, and diesel fuel.

On October 14, 2016, SCAQMD staff sent a letter requesting Chevron ES to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual

emissions with furans, polycyclic aromatic hydrocarbons, arsenic, cadmium, and related compounds as the main air toxics contributing to the high priority score. Chevron elected to participate in the Voluntary Risk Reduction Program and submitted a VRRP on March 27, 2017 which is currently under review.

2.3.8 Equilon Enterprises LLC dba Shell Oil Products US (ID 800372) – Carson

Equilon Enterprises LLC (Equilon) operates a petrochemical product distribution terminal in the City of Carson which is comprised of loading racks, storage tanks, and product pipeline. The products are transported by pipeline, trucks, or rail.

On October 10, 2017, SCAQMD staff sent a letter requesting Equilon to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions with benzene, ethyl benzene, and napthalene emissions as the main air toxics contributing to the high priority score. Equilon elected to prepare an ATIR which is due on March 9, 2018. Staff are currently reviewing all submitted documents.

2.3.9 Fontana Paper Mills Inc. (ID 11716) – Fontana

Fontana Paper Mills Inc. (Fontana Paper Mills) is a manufacturing plant for asphalt roofing material, including shingles and saturated and coated roofing paper underlayments. The facility recycles paper products and manufactures roll stock for shingle backing or underlayments. The emissions from the asphalt mixer, heater and rollcoater are controlled by thermal oxidizer. Other emissions from the saturator process are controlled by a scrubber, followed by a high efficiency air filter. Emissions of polycyclic aromatic hydrocarbons are the main toxic pollutant of concern and can occur when asphalt is heated.

SCAQMD staff noted discrepancies in reported emissions from three asphalt roofing companies and determined that additional investigation was warranted. As a result, on October 14, 2016, SCAQMD staff requested an emissions inventory update from Fontana Paper Mills in order to get a better understanding of actual emissions and corresponding health risks. Because Fontana Paper Mills did not have a previously approved HRA, an ATIR was requested based on its 2014 annual emissions. The ATIR was submitted on March 14, 2017, and the facility proposed source testing of toxic air contaminants at the high efficiency air filter vents. However, since Fontana Paper Mills is currently undergoing modifications in order to be able to manufacture products using polymer asphalt, source testing was postponed until construction for the modified manufacturing line has been completed. Construction should be completed by the end of June 2018.

2.3.10 Gerdau S.A. / TAMCO (ID 18931) – Rancho Cucamonga[12]

Gerdau North America (Gerdau) located in the City of Rancho Cucamonga acquired the TAMCO steel mini mill in October 2010. The facility produces steel reinforcing bars that are commonly used in construction. Ferrous steel scrap is recycled and delivered to the facility by trucks and rail, and then melted in an electric arc furnace to produce steel billets. The billets are reheated in a reheat furnace to form concrete reinforcing bar (rebar). The primary pollutants for this facility are hexavalent chromium, nickel, manganese, mercury, and arsenic.

[12] http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/gerdau

Gerdau was directed to submit an ATIR and HRA based on significantly high levels of cadmium reported in its 2011 annual emissions reporting. The HRA was approved on October 8, 2015 and based on the 2015 OEHAA HRA Guidelines. Several health risks in the approved HRA exceeded levels specified in Rule 1402 and Gerdau was therefore required to notify the public regarding the results of its HRA, and also submit a RRP. Notices of the public notification meeting were sent out to 1,523 people in the area where the health risks were above the levels established in Rule 1402. SCAQMD staff held a public notification meeting was held on November 30, 2015 to explain the impact of Gerdau's emissions on public health and to discuss next steps.

Gerdau submitted its first RRP on April 5, 2016. After review of the RRP and several meetings with facility representatives, SCAQMD staff provided comments on the RRP and on July 1, 2016, Gerdau submitted a revised RRP. However, the revised RRP did not account for hexavalent chromium emissions from ladle heaters, billet reheat furnace, and spray chamber stack. SCAQMD staff added these emissions which resulted in a projected potential maximum residential cancer risk of 8.7 in a million. The cancer burden and acute and chronic HI remain below 1 so after making these revisions, SCAQMD staff conditionally approved Gerdau's RRP on July 5, 2016. The RRP consisted of ten risk reduction measures to be completed by January 5, 2019.

On July 5, 2017, Gerdau submitted a progress report to update SCAQMD on the status of its risk reduction measures. Seven of the ten measures were implemented and the progress of the remaining three measures was reviewed. SCAQMD staff continues to monitor the progress of the RRP and anticipates all risk reduction measures to be implemented within specified timeframes.

2.3.11 Glendale City, Glendale Water & Power (ID 800327) – Glendale

Glendale Water & Power (GWP) is a municipal power plant owned and operated by the City of Glendale. GWP consists of three utility boilers and eight stationary combustion turbines with a combined 238 MW generation capacity. These units combust natural gas which is supplemented by methane gas from a Class III landfill.

On March 1, 2017, SCAQMD staff sent a letter requesting GWP to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions with dioxins and furans, hexavalent chromium, and arsenic as the main air toxics contributing to the high priority score.

GWP elected to prepare an ATIR and submitted it on July 28, 2017. Staff are currently reviewing all submitted documents.

2.3.12 Griswold Industries (ID 800318) – Costa Mesa

Griswold Industries, Inc., (Griswold) also known as Cla-Val Co. is a 20-acre production/foundry complex located in the City of Costa Mesa. Griswold manufactures automatic control valves and electronic products for waterworks, fire protection, aviation ground fueling, and marine and industrial customers. Potential air toxic emission sources include natural gas combustion; furnaces; abrasive blasting; sand handling, mixing, and reclamation; metal grinding; metal cutting; and metal coating. Potential health risks from Griswold are primarily from hexavalent chromium emissions related to foundry operations. On February 10, 2016, SCAQMD staff required Griswold to prepare and submit an ATIR based on its 2014 annual emissions. SCAQMD staff conducted a site visit to verify the emission sources and to identify potential sources of fugitive emissions. Griswold

submitted an ATIR on December 23, 2016. Revisions to the ATIR followed on August 30, 2017 and on September 21, 2017 to correct certain parameters. After reviewing the ATIR and the preliminary HRA information, SCAQMD staff concluded that the health risks were below the Notification Risk Level in Rule 1402. On October 27, 2017, Griswold was notified that no further action was required.

2.3.13 GS II, Inc. (ID 183567) – Wilmington

GS II, Inc. (GS II), located in the City of Wilmington, manufactures asphalt roof shingles. The manufacturing process at the facility includes asphalt storage tanks, asphalt heaters, roll coaters and saturators and are primary emission sources.

As described previously, due to discrepancies in reported emissions from three asphalt roofing companies, on October 28, 2016, SCAQMD staff sent a letter requesting GS II to prepare either an ATIR or a VRRP in order to get a better understanding of actual emissions and corresponding health risk. On November 14, 2016, GS II staff informed SCAQMD staff of their intention to participate in the Voluntary Risk Reduction Program. However, GS II informed SCAQMD staff on November 1, 2017 that the company wanted to opt out of the Voluntary Risk Reduction Program. As a result, on November 1, 2017 SCAQMD staff terminated GS II's participation in the Voluntary Risk Reduction Program and notified GS II that an ATIR and HRA was due within 90 days of the notification letter. Staff are currently reviewing all submitted documents.

2.3.14 Hixson Metal Finishing (ID 11818) - Newport Beach [13]

Hixson Metal Finishing (Hixson) located in the City of Newport Beach, is a metal finishing facility that conducts anodizing, testing, plating, coating, and painting operations on various parts for use in the aerospace and defense industries. Some of the potential onsite sources of emissions include the chrome anodizing line, nickel and cadmium plating, curing and drying ovens, paint spray booths, abrasive blasting equipment, wastewater treatment system and miscellaneous natural gas combustion sources. The major source of concern with Hixson's operation is fugitive dust containing hexavalent chromium. On April 3, 2014, SCAQMD staff required Hixson to prepare and submit a HRA and a RRP, in conjunction with a Stipulated Order for Abatement approved by SCAQMD's Hearing Board that limited Hixson's activities, and required shutdown of certain operations using hexavalent chromium if monitored ambient levels exceeded specified hexavalent chromium levels.

Hixson submitted their HRA to SCAQMD on November 13, 2014. Upon detailed review and use of the 2015 OEHHA HRA Guidelines, SCAQMD staff finalized the submitted HRA on May 8, 2015. The approved HRA found a maximum residential cancer risk of 1,502 per million mainly from hexavalent chromium emissions. The estimated cancer risk was based on emissions occurring before the facility instituted various control measures and today's level of risk is substantially lower. Since the HRA results were above the Significant Risk Level in Rule 1402, Hixson was required to notify the public about the health risk in addition to conducting annual public notification meetings until the Rule 1402 Action Risk Level was achieved pursuant to Rule 1402(p). Notice of the public notification meeting was sent out to over 7,300 people in the area of

[13] http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588/hixson-metal-finishing

impact. SCAQMD staff held a public notification meeting at the Hoag Conference Center on June 18, 2015.

Hixson submitted its first RRP on March 2, 2015. On May 8, 2015, SCAQMD staff rejected Hixson's first RRP and required resubmittal. Hixson subsequently submitted a second RRP on June 5, 2015. On June 26, 2015, SCAQMD staff rejected Hixson's second RRP due to its failure to demonstrate that the proposed controls reduce risks below Rule 1402 thresholds. Hixson resubmitted a revised RRP on July 1, 2015, and SCAQMD staff conditionally approved it on July 24, 2015. The associated permits to construct implementing the RRP were approved on December 11, 2015 and a second public notification meeting was held on February 11, 2016 at the Hoag Conference Center to inform interested parties regarding the key activities surrounding the RRP. In the 2016 Annual Report for the AB 2588 Program, staff incorrectly stated that the RRP was fully implemented as of December 31, 2016. The Order for Abatement expired on December 31, 2016, as Hixson had constructed all the measures contained in the RRP. However, one of the risk reduction measures requires all emissions from Building 2 to be captured and routed through a dry scrubber followed by ULPA filters. The existing chromic acid anodizing tank (Tank 70) is located in Building 2 and currently has a control system that includes an ULPA filtration system. As part of the modifications to Building 2, existing Tank 70 is being replaced with a new chromic acid anodizing tank (also designated Tank 70) vented to the new Building 2 control system, which also includes ULPA filtration. However, there was an issue with the temperature controls for the new Tank 70, which has delayed its operation. Since the existing Tank 70 is already being controlled by an ULPA filtration system, there are no additional emissions expected from the continued operation of existing Tank 70 compared to new Tank 70, as proposed in the RRP. It is anticipated that new Tank 70 will be operational in 2018. Ambient monitoring for hexavalent chromium continues in the vicinity of Hixson.

2.3.15 Hyperion Water Reclamation Plant, City of Los Angeles Bureau of Sanitation (ID 800214) – Playa del Rey

The City of Los Angeles owns and operates the Hyperion Water Reclamation Plant (Hyperion) in the Playa del Rey community. Hyperion is a publically owned wastewater treatment plant with over 275 million gallon capacity with primary and full secondary treatment processes. As part of the treatment process, more than 885,000 pounds of solid and organic materials are removed daily and treated through anaerobic digestion.

On October 28, 2016, SCAQMD staff sent a letter requesting Hyperion to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions with perchloroethylene and arsenic as the main air toxics contributing to the high priority score.

On November 23, 2016, Hyperion elected to participate in the Voluntary Risk Reduction Program and submitted a VRRP on January 24, 2017. Staff are currently reviewing all submitted documents.

2.3.16 Kaiser Aluminum Fabricated Products, LLC (ID 16338) – Los Angeles

Kaiser Aluminum Fabricated Products located in the City of Los Angeles, develops fabricated aluminum products for major suppliers and manufacturers in the aerospace, general automotive, engineering and custom industrial markets. They also manufacture aluminum extrusions, cast logs, billets, and semi-fabricated products. The facility was required to prepare and submit an ATIR

based on its 2010 annual emissions. SCAQMD staff conducted a site visit in October 2014 to verify the sources of emissions identified in the ATIR. After obtaining approval of the source test results, staff recalculated a new priority score below 10 and provided final approval of the ATIR on September 19, 2017.

2.3.17 LA City Bureau of Street Maintenance (ID 116480) – Los Angeles

The Los Angeles City Bureau of Street Maintenance (Bureau) operates an asphalt batch plant on Olympic Boulevard in Los Angeles. The asphalt is used to maintain 6,500 centerline miles of public roadways and 800 centerline miles of alleys within the city. The plant recycles asphalt concrete and consists of crushers, natural gas-fired rotary dryers and storage silos. Particulate emissions are controlled by baghouses and misters.

On May 31, 2017, SCAQMD staff sent a letter requesting its Bureau to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2015 annual emissions with polycyclic aromatic hydrocarbons as the main air toxics contributing to the high priority score. Bureau staff subsequently provided information that the asphalt batch plant was undergoing major renovations and would not operate in any capacity for the majority of 2018 calendar year. The shutdown of the facility also occurred prior to the date SCAQMD staff notified the Bureau to prepare an ATIR. Based on the information, SCAQMD staff notified the Bureau on July 14, 2017 that no further action was needed at this time but that the emissions from the Bureau's facility would be evaluated at the next quadriennial reporting year, which will be after renovations are completed.

2.3.18 Lubeco, Inc. (ID 41229) – Long Beach

Lubeco, Inc. (Lubeco) is a metal finishing company operating in Long Beach near the southern border of the City of Paramount. Lubeco's primary operations involve painting, surface preparation, anodizing, sealing and coating of metals for the aerospace industry. Ancillary operations include abrasive blasting, wastewater treatment, and operation of a natural gas-fired boiler and ovens.

Lubeco utilizes baking and drying ovens, spray booths, tanks for chromic acid anodizing, aqueous solutions, and acid surface preparations. These processes can potentially generate hexavalent chromium emissions.

Beginning in October 2016, through expanded monitoring efforts in the City of Paramount, SCAQMD staff found high concentrations of hexavalent chromium in the vicinity of Lubeco. As a result, Lubeco was selected as a host facility for testing of hexavalent chromium emissions from a heated sodium dichromate seal tank due to elevated ambient monitoring readings in the nearby south Paramount area. On April 27, 2017, SCAQMD staff conducted source tests for hexavalent chromium emissions from a heated sodium dichromate seal tank at Lubeco with the main objective of determining an emission factor that can be used for calculating emissions from heated sodium dichromate seal tanks used in plating operations. The results of the source tests showed the heated sodium dichromate tank to be a source of hexavalent chromium. The second objective of this testing was to identify potential sources of hexavalent chromium emissions as measured by SCAQMD ambient air monitors in the nearby south Paramount area. SCAQMD subsequently filed a petition for Order for Abatement with the Hearing Board. Following the hearings on August 17 and August 23, 2017, the Hearing Board granted SCAQMD permission to install ambient monitors

and a meteorological station on the facility property and permission to conduct additional source tests.

Because of the ambient measurements, SCAQMD staff notified Lubeco on September 8, 2017 that the facility may be designated as a Potentially High Risk Level Facility. Lubeco representatives and SCAQMD staff met on September 22, 2017 to discuss the monitoring results that had led to the notification. On September 28, 2017, Lubeco was officially designated as a Potentially High Risk Level Facility. As part of this designation, Lubeco was required to expeditiously reduce risks and to submit an Early Action Reduction Plan by December 27, 2017, an ATIR by February 27, 2018, a HRA and a RRP by March 27, 2018. The Early Risk Reduction Plan was submitted on December 8, 2017. Staff are currently reviewing all submitted documents.

2.3.19 Matrix Oil Corporation (ID 182970) – La Habra Heights

Matrix Oil Corporation (Matrix) is a private oil and natural gas production company operating an oil production site in La Habra Heights. This site consists of 17 total active crude oil producing wells generating approximately 400 barrels per day of crude oil. This site also produces roughly 400,000 cubic feet of field gas daily. Matrix operates five microturbines to power the site.

On June 30, 2017, SCAQMD staff sent a letter requesting Matrix to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2015 annual emissions with polycyclic aromatic hydrocarbons being the main air toxics contributing to the high priority score. Matrix submitted their ATIR on August 1, 2017. During the review process, SCAQMD staff noticed that an incorrect emission factor for microturbines was used by the facility resulting in lower emissions compared to what was reported. After emission revisions were submitted by the facility, SCAQMD staff recalculated a new priority score below 10. On October 10, 2017, SCAQMD staff sent a letter informing Matrix of the revised priority score and that no further action was required in response to the original notice.

2.3.20 MM West Covina LLC (ID 113873) – West Covina

MM West Covina is a cogeneration facility located on the BKK Landfill in the City of West Covina. Landfill gas from the inactive BKK Landfill, which received Class I and Class III waste, is combusted in the facility's steam generator. The steam powers a 7,100 kW capacity steam turbine to produce electricity.

On January 11, 2017, SCAQMD staff sent a letter requesting MM West Covina to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on 2014 annual emissions with dioxins and hexavalent chromium being the main air toxic contributors to the high priority score.

On February 15, 2017, MM West Covina elected to prepare an ATIR. The ATIR was submitted on June 13, 2017. SCAQMD staff provided comments on August 17, 2017 requiring revisions to the ATIR which was provided on August 29, 2017. SCAQMD staff approved the ATIR on March 27, 2018, and notified the facility to prepare and submit a HRA by June 26, 2018.

2.3.21 Orange County Sanitation District, Fountain Valley (Plant No. 1) (ID 17301) – Fountain Valley

The Orange County Sanitation District (OCSD) is a public agency that provides wastewater collection, treatment, and reclamation services in central and northwest Orange County. Plant No. 1, located in Fountain Valley, is one of the two wastewater treatment plants operated by OCSD. Plant No. 1 treats wastewater from residential, commercial and industrial sources using advanced primary and secondary treatment.

On April 28, 2017, SCAQMD staff sent a letter requesting OCSD Plant No. 1, to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on 2015 annual emissions with formaldehyde being the main air toxic contributor to the high priority score. Formaldehyde emissions were from three cogeneration engines combusting primarily digester and supplemental natural gas. Digester gas is produced at the facility through anaerobic digestion, which is part of the solids processing facilities.

OCSD elected to participate in the Voluntary Risk Reduction Program, and submitted the VRRP on September 25, 2017. The plan focused on installation of oxidation catalysts on the exhaust of the three engines, which serves to reduce formaldehyde emissions and emissions of nitrogen oxides. The oxidation catalyst system was previously planned and fully permitted on February 28, 2017. Staff are currently reviewing all submitted documents.

2.3.22 Orange County Sanitation District, Huntington Beach (Plant No. 2) (ID29110) – Huntington Beach

The Orange County Sanitation District (OCSD) is a public agency that provides wastewater collection, treatment, and reclamation services in central and northwest Orange County. Plant No. 2, located in Huntington Beach, is one of the two wastewater treatment plants operated by OCSD. Plant No. 2 treats wastewater from residential, commercial and industrial sources using advanced primary and secondary treatment.

On April 28, 2017, SCAQMD staff sent a letter requesting OCSD Plant No. 2 to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on 2015 annual emissions with formaldehyde being the main air toxic contributor to the high priority score. Formaldehyde emissions were from three cogeneration engines combusting primarily digester and supplemental natural gas. Digester gas is produced at the facility through anaerobic digestion, which is part of the solids processing facilities.

OCSD elected to participate in the Voluntary Risk Reduction Program, and submitted the VRRP on September 25, 2017. The plan focused on the installation of oxidation catalysts on the exhaust of the three engines, which serves to reduce formaldehyde emissions and emissions of nitrogen oxides. The oxidation catalyst system was previously planned and fully permitted on February 28, 2017. Staff are currently reviewing all submitted documents.

2.3.23 Phillips 66 Company, Los Angeles Refinery (ID 171109) - Carson

The Phillips 66 Company operates two linked facilities, five miles apart, in Carson and Wilmington. The Phillips 66 Carson Refinery (Carson Refinery) was built in 1923 and is situated on approximately 235 acres. The refinery processes mainly heavy, high-sulfur crude oil, which is received by pipeline and at a terminal in the Port of Long Beach. The Carson Refinery produces

intermediate product, which is then sent to the Phillips 66 Wilmington Refinery for further processing to produce petroleum fuels and fuel-grade petroleum coke. These facilities have fluid catalytic cracking, alkylation, hydrocracking, coking and naphtha reforming units.

On March 1, 2017, SCAQMD staff sent a letter requesting Carson Refinery to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on 2015 annual emissions with arsenic and sulfuric acid being the main contributors to the high priority score. These emissions were mainly from crude distillation, hydro-treating, and steam generation processes at the facility.

Carson Refinery elected to participate in the Voluntary Risk Reduction Program, and submitted the VRRP on August 1, 2017. Following review, SCAQMD staff noted several deficiencies. Revisions and clarifications were provided by Carson Refinery staff on September 17, November 7, and November 22, 2017 to address the deficiencies. Staff are currently reviewing all submitted documents.

2.3.24 Phillips 66 Company, Los Angeles Refinery – Wilmington Plant (ID 171107) – Wilmington

The Phillips 66 Company operates two linked facilities, five miles apart, in Carson and Wilmington. The Phillips 66 Wilmington Refinery (Wilmington Refinery) was built in 1919 and is situated on approximately 424 acres. As described previously, this facility receives and processes intermediate product from the Carson facility and produces petroleum fuels as well as fuel-grade petroleum coke. Air toxic emissions are generated from fluid catalytic cracking, steam generation, electricity generation, and sulfuric acid production processes.

On March 1, 2017, SCAQMD staff sent a letter requesting Wilmington Refinery to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions with hexavalent chromium and polycyclic aromatic hydrocarbons being the main air toxic contributors to the high priority score.

Wilmington Refinery elected to prepare an ATIR, and submitted the ATIR on August 1, 2017. Following review, SCAQMD staff found several deficiencies. Revisions were submitted by Wilmington Refinery staff on November 10, and December 15, 2017. Staff are currently reviewing all submitted documents.

2.3.25 Quemetco (ID 8547) – City of Industry [14]

Quemetco operates a battery recycling and lead recovery facility in the City of Industry. At this facility, used batteries are received, fragmented, and the lead-containing materials are recovered and purified. The primary pollutants for this facility are arsenic, lead, benzene, and 1,3-butadiene.

Multiple AB 2588 HRAs have been approved for Quemetco in the past, most recently in 2010. In October and November 2013, SCAQMD staff conducted 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, on December 10, 2013, SCAQMD staff requested that Quemetco prepare and submit an HRA pursuant to Rule 1402. Quemetco submitted

[14] http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588/quemetco

an HRA on May 9, 2014. SCAQMD staff sent a comment letter on September 23, 2014 requiring Quemetco to revise their HRA in several areas including an assessment of potential lead impacts relative to the National Ambient Air Quality Standard, and to address minor comments from the Office of Environmental Health Hazard Assessment (OEHHA). Quemetco provided an updated HRA in January 2015. SCAQMD staff requested that Quemetco prepare a new HRA to include two scenarios: 1) a baseline scenario utilizing the November 2013 SCAQMD source test input into the dispersion model, and 2) dispersion modeling that reconciled any potential differences between onsite fenceline monitoring data that became available in 2014 and source tests also available from 2014. Quemetco provided an updated HRA in May 2015. On September 16, 2015, SCAQMD sent Quemetco a tentative approval of the staff-modified revised HRA. Quemetco commented that the monitoring data collected onsite required revision before incorporating into the HRA. SCAQMD staff evaluated Quemetco's monitoring data in late 2015 and early 2016. Onsite fenceline monitoring data was corrected for pre-existing arsenic on blank filters and the dispersion modeling source parameters were also adjusted.

Additionally, in 2014, SCAQMD staff initiated a technology demonstration pilot study for in-stack continuous emissions monitoring system (CEMS) and fenceline/perimeter ambient air monitoring for multi-metals. Contracts with Cooper Environmental Services, the only manufacturer of these types of continuous monitors, were initiated to implement the study. The pilot study was conducted at Quemetco and Gerdau in 2015. Preliminary findings from 2015 for ambient multi-metal monitor showed favorable results for lead and less quantitative results for other metals, but most results were useful for trend detection. Quemetco purchased the in-stack CEMS.

SCAQMD staff approved the HRA on May 17, 2016 with some revisions. The approved HRA showed that the residential cancer health risk was 16 in one million, the worker chronic HI was 1.28, and the cancer burden was 2.0. These values exceeded the Action Risk Level of Rule 1402 and public notification and a RRP were required. Notice of the public meeting was sent to approximately 8,000 residents and businesses within the public notification area. A public notification meeting was held on June 23, 2016 at La Puente High School.

Quemetco submitted an RRP on November 16, 2016. As part of the RRP, Quemetco proposed using in-stack multi-metals CEMS to ensure that Rule 1402 risk thresholds are not exceeded. Quemetco's RRP was conditionally approved on June 22, 2017. The conditions for approval were all related to operation of the CEMS.

In addition, Quemetco has requested a permit modification to allow a 25% increase in their daily throughput. SCAQMD staff is processing this permit request, and is also preparing an Environmental Impact Report (EIR) as required by the California Environmental Quality Act (CEQA). The EIR will evaluate the potential environmental impacts of this proposed permit modification and will include an analysis of the health risks associated with the throughput increase. There will be multiple opportunities for the public to provide input on the EIR. The Final EIR will include responses to all comments received and must be certified before the permit modification request can be considered for approval.

2.3.26 Southern California Gas Company, Playa del Rey Storage Facility (ID 8582) – Playa del Rey

Southern California Gas Company (SoCal Gas) is a public utilities company that owns and operates a natural gas storage facility in the Playa del Rey community in the City of Los Angeles. Natural gas is compressed and stored in underground reservoirs. There are transmission pipelines for distributing natural gas from the facility. Primary devices at the facility include three natural gas internal combustion engines driving air compressors.

On May 31, 2017, SCAQMD staff sent a letter requesting SoCal Gas to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2015 annual emissions with formaldehyde, 1,3-butadiene and benzene being the main air toxic contributors to the high priority score. On October 31, 2017, the ATIR was submitted. Staff are currently reviewing all submitted documents.

2.3.27 California Resources Corporation / SoCal Holding, LLC (ID 169754) – Huntington Beach

SoCal Holding, LLC (SoCal Holding) is a subsidiary of California Resources Corporation, an oil and natural gas exploration and production company. SoCal Holding leases and operates oil production wells, mainly in Huntington Beach with some wells located offshore on a platform approximately 1.5 miles from shore. Recovered field gas is either sold to AES Huntington Beach, combusted in micro-turbines or flared. The liquid product is stored in tanks linked to truck loading or pipeline.

On October 11, 2017, SCAQMD sent a letter requesting SoCal Holding to prepare an ATIR due to the facility having a priority score greater than 10 based on 2015 annual emissions with polycyclic aromatic hydrocarbons and benzene being the main air toxic contributors to the high priority score. The source for polycyclic aromatic hydrocarbons emissions was a flare located on a leased property northwest of the intersection of Goldenwest Street and Pacific Coast Highway. Benzene emissions were reported as fugitive leaks throughout the facility. Staff are currently reviewing all submitted documents.

2.3.28 Tesoro Refining & Marketing Co., LLC, Calciner (ID 174591) – Wilmington

Tesoro Calciner produces calcined petroleum coke, or raw or "green" petroleum coke heated to high temperatures so that volatile hydrocarbon compounds and excess moisture are heated out of the coke. Equipment in Tesoro Calciner's operations include a rotary kiln, baghouses, conveyor belts, receiver and separator vessels, an afterburner, surge bins, boiler, bucket elevators, loading and unloading stations, shakers, and storage silos.

On April 28, 2017, SCAQMD staff sent a letter requesting Tesoro Calciner to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2016 annual emissions with sulfuric acid, arsenic, manganese, and nickel as the main air toxic contributors to the high priority score. On May 25, 2017, Tesoro Calciner elected to participate in the Voluntary Risk Reduction Program, and subsequently submitted the VRRP on September 21, 2017.

After review of the VRRP, SCAQMD staff found several deficiencies and on January 31, 2018, a letter requesting revision and resubmittal of the VRRP was sent. SCAQMD staff is currently waiting for the necessary revisions to be submitted before continuing the review of the VRRP.

2.3.29 Tesoro Refining & Marketing Co., LLC, Los Angeles Refinery (ID 174655, 800436, 174694, 174703) – Carson and Wilmington

The Tesoro Los Angeles Refinery (Tesoro Refinery) is located along the city border between the cities of Carson and Wilmington in south Los Angeles County. The Tesoro Refinery was originally two adjacent but not contiguous refineries but has been undergoing consolidation through the Los Angeles Refinery Integration and Compliance (LARIC) Project.[15] The Tesoro Refinery will be comprised of approximately 930 acres with a processing capacity of approximately 380,000 barrels per day. In 2017, the Tesoro Corporation underwent a name change to Andeavor.

On December 22, 2016, SCAQMD staff sent a letter requesting Tesoro Refinery to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions with polycyclic aromatic hydrocarbons, hexavalent chromium, arsenic, naphthalene, benzene, and cadmium as the main air toxic contributors to the high priority score.

Tesoro Refinery elected to participate in the Voluntary Risk Reduction Program, and submitted their VRRP on May 23, 2017. After initial review, SCAQMD staff required Tesoro Refinery to make several revisions. Both SCAQMD staff and Tesoro representatives have met several times regarding the revisions and risk reduction measures proposed. SCAQMD staff is currently waiting for the necessary revisions to be submitted before continuing the review of the VRRP.

2.3.30 Tesoro Sulfur Recovery Plant (ID 151798) – Carson

Tesoro Sulfur Recovery Plant is located in Carson east of the Tesoro Los Angeles Refinery. The facility supports petroleum refinery operations by utilizing the Claus process to recover sulfur in the form of hydrogen sulfide from the byproduct gases of refining crude oil. The facility operates boilers, incinerators, condensers, absorbers, storage tanks, sumps, and sulfur pits.

On December 22, 2016, SCAQMD staff sent a letter requesting the Tesoro Sulfur Recovery Plant to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions with arsenic, polycyclic aromatic hydrocarbons, hexavalent chromium, and formaldehyde as the main air toxic contributors to the high priority score.

The Tesoro Sulfur Recovery Plant elected to participate in the Voluntary Risk Reduction Program, and submitted the VRRP on May 23, 2017. After review, on February 15, 2018, SCAQMD staff sent a letter requesting revisions and resubmittal of the VRRP. SCAQMD staff is currently waiting for the necessary revisions to be submitted before continuing review of the VRRP.

2.3.31 Torrance Refining Company LLC (ID 181667) – Torrance

Torrance Refining Company LLC (Torrance Refining) is a subsidiary of PBF Energy, an independent petroleum refiner and supplier of unbranded transportation fuels, heating oils, petrochemical feedstocks, lubricants, and other petroleum products. The Torrance Refinery sits on 750 acres in the City of Torrance and has a 155,000 barrels per day of crude oil processing capacity. The refinery produces various petroleum productions along with coke, and sulfur.

[15] www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2017/tesorolaric/tesoro_feir.pdf

On January 11, 2017, SCAQMD staff sent a letter requesting Torrance Refining to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2015 annual emissions polycyclic aromatic hydrocarbons,, arsenic, benzene, and cadmium being the main air toxic contributors to the high priority score.

Torrance Refining elected to participate in the Voluntary Risk Reduction Program and was to submit the VRRP on August 24, 2017 for the 2015 inventory year. However, due to the fact that an explosion had occurred at the facility's fluid catalytic cracking unit during 2015, the facility had limited operations during that year, and SCAQMD staff decided that 2016 would be more representative of facility's routine operations and, as a result, required Torrance Refining to use 2016 as the inventory year for their VRRP.

The facility submitted the VRRP on August 24, 2017. After review, on October 19, 2017, SCAQMD staff sent a comment letter requesting revisions and resubmittal of the VRRP. The revised VRRP was received on November 2, 2017. However, information regarding risk reduction measures and the implementation schedules required more revisions. Subsequently, on November 28, 2017, Torrance Refining Company submitted additional revised VRRP files, which is currently under review.

2.3.32 Triumph Processing, Inc. (ID 800267) – Lynwood

Triumph Processing, Inc. (Triumph) owns and operates a metal treating and finishing facility in the City of Lynwood. Triumph treats aluminum and titanium parts for the aerospace industry by using anodizing, plating and painting operations.

On May 31, 2017, SCAQMD staff sent a letter requesting Triumph to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2014 annual emissions with methylene phenyl diisocyanates being the main air toxic contributor to the high priority score. Methylene phenyl diisocyantes emissions were due to coating operation in the spray booths.

Triumph elected to prepare an ATIR, which was submitted on October 30, 2017. As part of the ATIR submittal, Triumph staff audited the reported emissions and discovered that they had misreported the quantities of isocyanates and diisocyanates. This information, along with the submitted ATIR, is currently under review.

2.3.33 University of California, Irvine (ID 800288) – Irvine

The University of California, Irvine (UCI) is a public research university located in the City of Irvine. On March 30, 2017, SCAQMD sent a letter requesting UCI to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on 2015 annual emissions with polycyclic aromatic hydrocarbons emissions as the main contributor to the high priority score. Polycyclic aromatic hydrocarbons emissions were mainly from the gas turbine powering the cogeneration unit at the university.

UCI elected to prepare an ATIR which was submitted on August 29, 2017. Following review, SCAQMD staff revised the priority score with updated distances between the cogeneration unit and the nearest receptors. The revised priority score was calculated to be less than 10 and SCAQMD staff notified UCI on September 20, 2017 that no further action was required in response to the original notification.

2.3.34 Ultramar Refining Company (ID 800026) – Wilmington

Ultramar Refining Company (Ultramar) is a subsidiary of Valero Energy Corporation and operates a 135,000 barrel per day crude oil processing capacity petroleum refinery facility in Wilmington.

On March 29, 2017, SCAQMD staff sent a letter requesting Ultramar to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on 2015 annual emissions with polycyclic aromatic hydrocarbons emissions as the main air toxic contributor to the high priority score.

Ultramar elected to participate in the Voluntary Risk Reduction Program and submitted the VRRP on August 25, 2017. After review by SCAQMD staff, items were found to be missing, which included throughput data, emission factors, calculation basis, and certain devices and device descriptions. Ultramar subsequently provided the missing information on September 15 and October 26, 2017. Ultramar provided information on emission factor reference sources on February 26, 2018. SCAQMD staff is currently reviewing the VRRP and accompanying revisions.

2.3.35 Universal City Studios, LLC (ID 800202) – Universal City

Universal City Studios, LLC (Universal) is an amusement park and a motion picture/television studio located in Universal City. The facility uses a number of spray booths to apply coatings for park operations.

On June 30, 2017, SCAQMD staff sent a letter requesting Universal to either prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on 2015 annual emissions with isocyanate and diisocyanate emissions as the main contributor to the high priority score. Universal informed SCAQMD staff that some elements of the 2015 emissions report required corrections and clarifications. Universal provided evidence showing the usage of certain coatings containing isocyanates in spray booths were over-reported and that none of the isocyanates and diisocyanates reported contained toluene diisocyanates. Substantiating information for correction to the emissions report were provided to SCAQMD staff on August 4 and August 24, 2017. SCAQMD staff reviewed and approved the amendments to the emissions report and the resulting priority score was calculated to be below 10. SCAQMD informed Universal on September 29, 2017 that no further action was required based on the original notification request.

2.4 Rule 1401 Permitting and HRA Modeling Projects

Under Rule 1401, any new, relocated, or 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 HI. In 2017, SCAQMD staff processed approximately 2,100 Rule 1401 permit applications for 1,300 facilities. Under Rule 1401, SCAQMD staff reviews new and modified permit applications to ensure that the health risk levels are not exceeded. Staff also provides review and verification of air quality and HRA analyses for Hearing Board cases. In 2017, SCAQMD staff reviewed and approved 20 HRAs for permit applications.

2.5 Rule 1420.2 Modeling Projects

Rule 1420.2 – Emission Standards for Lead from Metal Melting Facilities, was adopted on October 2, 2015 to protect public health by minimizing public exposure to lead emissions and preventing

exceedances of the NAAQS for lead in the Basin. The rule established ambient lead monitoring requirements, stricter ambient lead thresholds, enclosure requirements, and more comprehensive housekeeping provisions for lead-acid battery manufacturers, secondary smelters, scrap recyclers, and an iron and steel mini-mill. Under this rule, air dispersion modeling is used to find the appropriate location for placement of the ambient air monitors. In 2017, SCAQMD staff reviewed dispersion modeling for four facilities under Rule 1420.2, which concluded the compliance determination efforts started in 2016. Table 2 shows the facilities evaluated under this rule.

Table 3 – Rule 1420.2 Facilities with Dispersion Modeling Review

Facility Name	ID #
P. Kay Metal , Inc.	72937
Teledyne Battery Products	173302
Industrial Battery Engineering, Inc.	3277
Senior Aerospace, SSP	105598

2.6 Rules Adopted or Amended in 2017

2.6.1 Adopted Rule 1430 – Control of Emissions from Grinding Operations at Metal Forging Facilities (March 2017)

Rule 1430 was adopted with the objective of reducing toxic emissions, particulate matter emissions, and odors from metal grinding and cutting operations at metal forging facilities. Prior to this rule, these activities were exempt from SCAQMD permitting and were unregulated. Air monitoring and sampling has shown metal particulates, which may contain toxic air contaminants such as nickel and cadmium, are generated by metal grinding and cutting operations. Rule 1430 prohibits metal grinding and cutting operations in the open and includes requirements to vent metal grinding and cutting operations to emission control devices, to meet a specified emission standard for the emission control devices, conduct metal grinding and cutting operations in a building enclosure, and housekeeping measures to further reduce fugitive emissions.

2.6.2 Adopted Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants (July 2017)

Rule 1466 established requirements to minimize fugitive particulate matter emissions from earth-moving activities at sites determined by U.S. EPA, California Department of Toxic Substances Control, State Water Resources Control Board, or Regional Water Quality Control Board to contain soil with arsenic, asbestos, cadmium, hexavalent chromium, lead, mercury, nickel, or polychlorinated biphenyls. The Executive Officer can also identify sites that would be applicable to Rule 1466 based on specified criteria. The rule requires monitoring of ambient PM10 levels, and dust control measures such as fencing and wetting of soil and use of chemical stabilizers. Notification to SCAQMD is required when earth-moving activities are occurring and when PM10 levels are exceeded, along with signage and recordkeeping requirements. The Resolution directed staff to return to the Governing Board no later than February 2018, with an amendment for the

Board's consideration to expand the list of applicable toxic air contaminants to include pesticides, herbicides, other metals, persistent bioaccumulative toxics, and semivolatile organic compounds.

2.6.3 Amended Rule 1401 – New Source Review of Toxic Air Contaminants (September 2017)

In June 2015, Rule 1401 was amended to incorporate the 2015 OEHHA Health Risk Assessment Guidelines (2015 OEHHA HRA Guidelines). The amendments allowed spray booths and retail gasoline dispensing facilities to continue the use of the previous guidelines to allow staff additional time to better understand potential permitting impacts. Based on analysis of SCAQMD permits, implementation of the 2015 OEHHA HRA Guidelines to have minimal impacts to new or modified spray booths or gasoline dispensing facilities. Amended Rule 1401 required that these two source categories begin using SCAQMD's Risk Assessment Procedures (Version 8.1) which incorporate the 2015 OEHHA HRA Guidelines for spray booths and gasoline dispensing facilities, revised emission factors and speciation profiles for gasoline dispensing facilities, and updated meteorological data. The amendments also updated the list of toxic air contaminants to be consistent with OEHHA.

2.6.4 Amended Rule 1420 – Emissions Standard for Lead (December 2017)

The amendments to Rule 1420 further protect public health from exposure to lead from facilities not covered under Rules 1420.1 and 1420.2, and help ensure continued attainment of the NAAQS for lead. The amendments include an initial ambient air lead concentration limit of 0.150 µg/m3 averaged over any consecutive 30 days, which will be lowered to a final limit of 0.100 µg/m3 by 2021 to be consistent with Rules 1420.1 and 1420.2. The rule also establishes requirements for building enclosures, revisions to the point source lead emission limits, periodic source testing, conditional ambient air monitoring, and enhanced housekeeping measures.

2.6.5 Amended Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants (December 2017)

Rule 1466 was adopted on July 7, 2017 to control fugitive particulate matter emissions from soils with toxic air contaminants. During the adoption of Rule 1466, the Governing Board directed staff to expand the list of applicable toxic air contaminants to include pesticides, herbicides, other metals, persistent bioaccumulative toxics, and semi-volatile organic compounds. The amendment also expands the applicability of Rule 1466 to other government designated sites and provides for alternative compliance and clarified certain provisions.

2.7 Toxic Program Impacts with New or Revised Toxic Air Contaminants

Pursuant to Rule 1402, once OEHHA finalizes the identification of a new toxic air contaminant or revises a risk value for an existing toxic air contaminant, SCAQMD staff provides notice to the Governing Board and affected industries annually through the AB2588 Annual Report. This report also includes a preliminary estimate of Rule 1402 program impacts. Rule 1401 includes additional requirements for reporting to the Governing Board on permitting impacts.

OEHHA proposed changes to two Reference Exposure Levels (RELs) in 2017; one for Hexamethylene Diisocyanate (HDI) - CAS#822060, and the other for toluene - CAS#108883[16]. RELs are airborne concentration levels of a chemical that are anticipated to result in adverse non-cancer health effects for specified exposure durations in the general population, including sensitive subpopulations, when exceeded. RELs cover different types of exposure: infrequent 1-hour exposures, repeated 8-hour exposures, and continuous long-term exposure. The proposed HDI and toluene RELs were developed using the most recent *Air Toxics "Hot Spots" Program Technical Support Document for the Derivation of Noncancer Reference Exposure Levels*[17], finalized by OEHHA in 2008. The public review and comment period for both proposed REL changes was from December 1, 2017 to February 14, 2018. SCAQMD staff will evaluate the impact of the REL changes once they are finalized and published by OEHHA.

2.8 National Air Toxics Assessment (NATA)

Every three years, beginning in 1996, U.S. EPA prepares a National Air Toxics Assessment (NATA).[18] The purpose of NATA is to provide census-tract modeled ambient and exposure concentrations and risks by: (1) identification and prioritization of toxic air contaminants of greatest concern and, (2) determination of the relative risk contribution from each of the major source categories (i.e., on-road, off-road, point, and area). The results would allow U.S. EPA, state and local agencies to prioritize pollutants, sources and areas of interest for additional studies. As part of this process, SCAQMD staff coordinates with U.S. EPA and CARB staff to ensure that NATA incorporates the best available local emissions data. The current triennial inventory process began in September 2016 for the purpose of reviewing data from the 2014 National Emissions Inventory. In September 2016, U.S. EPA released preliminary point source data for review, which included over 1,300 facilities within SCAQMD's jurisdiction. In January 2017, U.S. EPA amended the data set to account for updated meteorological data and the unit risk change for ethylene oxide. SCAQMD staff identified approximately 70 facilities as potential sources of elevated risk for further investigation.

Following the investigation, SCAQMD staff made several corrections to emissions, source characteristics, processes, pollutants, and stack parameters for approximately 20 facilities. The corrections were provided to U.S. EPA from April to May, 2017. The second review for data regarding non-point source data began in late June. U.S. EPA's anticipated schedule for review of this information was through the end of 2017, with final results available in Spring of 2018. The results have not been finalized and preliminary information has not been released to the public yet.

[16] https://oehha.ca.gov/air/crnr/public-comment-period-and-workshops-draft-reference-exposure-levels-hexamethylene

[17] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-technical-support-document-derivation

[18] The U.S. EPA's web portal to NATA is at: https://www.epa.gov/national-air-toxics-assessment

3. FUTURE ACTIVITIES

3.1 AB 2588 Activities

In 2018, staff will prioritize approximately 260 facilities, and notify those with high priority scores to prepare ATIRs or VRRPs, if eligible, and HRAs and RRPs, if necessary. There are a substantial number of ATIRs and VRRPs that are expected to be reviewed in 2018. Public notification will also occur for multiple facilities including GS II (ID 57094), Aerocraft Heat Treating Co. (ID 23752), and Anaplex Corporation (ID 16951).

3.2 Model-Monitor Reconciliation

In response to community concerns regarding fugitive emissions and difficulties quantifying those emissions, the SCAQMD Governing Board, at its June 3, 2016 meeting, approved a contract for Protocol Development for Reconciling Air Quality Monitoring Data with Dispersion Modeling Results to provide support in developing a consistent methodology for facilities to use when preparing AB 2588 HRAs. On June 30, 2017, work on this contract was suspended due to a potential conflict of interest issue which was brought to staff's attention. Staff is currently working to resolve this conflict.

3.3 Rulemaking

3.3.1 – Proposed Amended Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities

Amendments to Rule 1403 will include specific requirements when conducting asbestos-emitting demolition/renovation activities at schools, daycare centers, and other establishments that have sensitive populations. Amendments may include other provisions to improve the implementation of the rule. No specific control strategies have been identified. As of May 2018, one working group meeting has been held.

3.3.2 – Proposed Amended Rule 1407 - Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Operations

Amendments to Rule 1407 will establish additional requirements to minimize air toxics from metal melting operations. SCAQMD staff is analyzing sources subject to the proposed amendments and may develop a separate proposed Rule 1407.1 for the largest sources subject to the proposed amendments and expand the applicability to address ferrous metal operations and hexavalent chromium emissions. As of May 2018, four working group meetings have been held. Control strategies under discussion include adopting point source controls and parameter monitoring for air pollution control equipment, as well as building enclosures to minimize or eliminate cross-draft and certain housekeeping measures.

3.3.3 – Proposed Rule 1407.1 – Control of Emissions of Arsenic, Cadmium and Nickel from Ferrous Metal Operations

Proposed Rule 1407.1 will address ferrous metal melting, compared to Proposed Amended Rule 1407 which will address non-ferrous melting. During the rulemaking process, some stakeholders requested to maintain the existing applicability of Rule 1407 and address ferrous metal melting in a separate rule. Proposed Rule 1407.1 will primarily be a data gathering rule with requirements for emissions testing, analyses, and recordkeeping. Emissions testing may include testing for arsenic,

cadmium, hexavalent chromium, lead, and nickel. Analyses may include bag house catch, raw materials, final materials, metal-containing waste, and slag. Recordkeeping requirements may include melt logs, weight of metal-containing waste, and schedules of housekeeping and maintenance. SCAQMD staff will evaluate Rule 1407.1 data for emissions data from ferrous metal-melting operations for future rulemaking.

3.3.4 – Proposed Amended Rule 1410 – Hydrogen Fluoride Use at Refineries

The proposed amendments will establish requirements for use of hydrogen fluoride at refineries. Hydrogen fluoride is a chemical compound used in petroleum alkylation processes to make higher octane gasolines. When contacted with moisture, it converts to hydrofluoric acid, which is highly corrosive and toxic. Six working group discussions were held in 2017. The measures under discussion involve identifying alternative alkylation technologies, methods to transition from hydrogen fluoride to other alkylation technologies, and monitoring methodologies, and mitigation of the effects of any releases. There are currently two refineries within SCAQMD's jurisdiction which would be subject to this rule. Previously, Rule 1410 was adopted in 1991 but suspended the following year due to Los Angeles Superior Court action.

3.3.5 – Proposed Rule 1435 - Control of Emissions from Metal Heat Treating Processes

Proposed Rule 1435 will establish requirements to reduce metal particulate emissions from heat treating processes. SCAQMD staff is currently evaluating metal heat treating processes to determine the significance of hexavalent chromium emissions. No specific control strategies have been identified at this time.

3.3.6– Proposed Amended Rule 1469 - Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations

Proposed Amended Rule 1469 proposes new requirements for hexavalent chromium-containing tanks that are currently not regulated, building enclosures, housekeeping and best management practices, periodic source testing, and parameter monitoring of pollution control equipment. Proposed Amended Rule 1469 includes provisions for a revised chemical fume suppressant certification process that further considers toxicity and exposure, and provisions to encourage the elimination of hexavalent chromium in Rule 1469 processes. Additional proposed amendments are incorporated to align Rule 1469 with U.S. EPA National Emission Standards for Hazardous Air Pollutants for Chromium Electroplating.

3.3.7– Proposed Rule 1480 – Air Toxics Metal Monitoring

Proposed Rule 1480 will establish provisions for when ambient monitoring is required and the toxic air contaminants that will be monitored. Ambient air monitoring measures concentration of specific pollutants in ambient air can identify emission sources that were previously not known and need pollution controls, and can assist in determining effectiveness of existing pollution controls that are currently implemented. The rule is intended to provide a comprehensive approach to all toxic metals monitoring as well as provide current and consistent sampling methodologies across all programs. Threshold levels for the monitored toxic air contaminants and approaches for monitoring will also be addressed. As of May 2018, one working group meeting has been held.

APPENDIX A - HEALTH RISKS FROM FACILITIES WITH AN APPROVED HRA

The tables in Appendix A list the facilities and the health risks identified in their HRAs or RRPs as reviewed and approved by SCAQMD staff. Risks presented in this table were calculated based on guidance that was available from OEHHA at the time of HRA approval. For example, the health risks presented in this appendix for facilities with HRA approval date prior to 2015 do not include the health risk calculation methodologies (2015 OEHHA HRA Guidelines) that account for the differences in children's breathing rates and place greater emphasis on their susceptibility to cancer risk in comparison to adults. The health risks in all HRAs finalized by SCAQMD staff in 2015 were recalculated to reflect the 2015 OEHHA HRA Guidelines.

Appendix A-1 lists the facilities in order of their cancer risks and Appendix A-2 lists the facilities ordered by facility ID. The listed health risks are from an approved HRA, unless an approved RRP has been fully implemented. In those instances, the listed health risks reflect the health risks after the implementation of the RRP. Appendix A-3 lists the status of the facility's RRP and is presented by facility ID. Attention should also be given to the other footnotes in the table denoting facilities with updated HRAs pending approval and facilities with health risks including emergency diesel internal combustion engines. It also provides the current status of each facility as follows:

- A – Active (note that facilities with "Active" status within SCAQMD's database might not be in operation currently)
- I – Inactive
- OB – 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. Facilities that have gone through change of ownership could have different name and facility ID numbers. The following health risk levels are identified in SCAQMD Rule 1402 – Control of Toxic Air Contaminants from Existing Sources:

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

Table A-1

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
11818	A	HIXSON METAL FINISHING	NEWPORT BEACH	0.8	ND	0.04	0.006	2015
124838	OB	EXIDE TECHNOLOGIES	LOS ANGELES	0	ND	0	0	2013
18989	A	BOWMAN PLATING CO INC	COMPTON	5.01	0.00102	0.0141	0.0115	2015
18931	A	GERDAU	RANCHO CUCAMONGA	8.7	0.25	0.49	0.61	2015
171107	A	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	23.2	0.29	0.1	0.7	2013
122822	I	CONSOLIDATED FILM INDUSTRIES	HOLLYWOOD	21.0	ND	0.1	0.4	2000
176967	A	GAS RECOVERY SYSTEMS, INC	IRVINE	20.1	0.18	0.6	0.3	2009
14495	A	VISTA METALS CORP	FONTANA	19.8	0.06	0.0	0.3	2008
165192	A	TRIUMPH AEROSTRUCTURES, LLC (b)	HAWTHORNE	19.7	ND	0.64	0.24	1999
11142	OB	KEYSOR-CENTURY CORP	SAUGUS	17.0	ND	0.5	0.1	2000
8547	A	QUEMETCO INC (c)	INDUSTRY	7.1	0.45	0.09	0.69	2016
22911	A	CARLTON FORGE WORKS	PARAMOUNT	15.4	ND	1.76	1.04	2016
35302	A	OWENS CORNING (c)	COMPTON	14.0	0.02	0.1	0.1	2000
41229	A	LUBECO INC	LONG BEACH	14.0	ND	0.0	0.1	2002
48323	A	SIGMA PLATING CO INC	LA PUENTE	13.8	0.017	0.01	0.74	2001
23907	A	JOHNS MANVILLE CORP	CORONA	13.0	ND	0.4	2.7	1999
18648	OB	CROWN CITY PLATING CO.	EL MONTE	12.0	ND	0.4	0.1	2000
29110	A	ORANGE, COUNTYOF - SANITATION DISTRICT (d)	HUNTINGTON BEACH	10.7	ND	1.8	0.5	2007
800436	A	TESORO REFINING AND MARKETING CO	WILMINGTON	10.7	0.37	0.3	0.4	2013
155828	A	GARRETT AVIATION SVCS. LLC DBA STANDARD	LOS ANGELES	9.3	ND	0.19	0.25	2002
106797	OB	SAINT-GOBAIN CONTAINERS LLC	LOS ANGELES	9.9	ND	0.0	0.1	2000
101380	OB	GENERAL DYNAMICS OTS (DOWNEY) INC	DOWNEY	9.8	ND	0.0	0.1	2000
148925	A	CHERRY AEROSPACE LLC	SANTA ANA	9.7	ND	0.1	0.2	1999
800373	I	CENCO REFINING COMPANY	SANTA FE SPRINGS	9.7	ND	0.3	0.1	2000
800183	A	PARAMOUNT PETR CORP (EIS USE)	PARAMOUNT	9.6	ND	0.0	0.0	2002
800318	A	GRISWOLD INDUSTRIES	COSTA MESA	9.5	0.01	0.1	0.0	2001
15504	A	SCHLOSSER FORGE CO	RANCHO CUCAMONGA	9.5	0.067	1.59	1.11	2002
800149	A	US BORAX INC	WILMINGTON	9.5	ND	0.0	0.0	2000
10510	A	GREGG INDUSTRIES INC	EL MONTE	9.4	ND	0.6	0.6	2008
62897	OB	NORTHROP GRUMMAN CORP, MASD	PICO RIVERA	9.4	ND	1.0	0.5	2000

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
42922	OB	CMC PRINTED BAG INC	WHITTIER	9.0	ND	0.0	0.0	1995
174710	A	TESORO LOGISTICS OP LLC, VINVALE MARKETI	SOUTH GATE	9.0	ND	0.0	0.0	1994
169990	A	SPS TECHNOLOGIES, LLC	GARDENA	8.9	ND	0.1	0.1	1999
800184	A	GOLDEN WEST REF CO	SANTA FE SPRINGS	8.8	ND	0.2	0.1	1997
1744	A	KIRKHILL RUBBER CO	BREA	8.7	0.001	0.2	0.1	2007
175124	A	AEROJET ROCKETDYNE OF DE, INC.	CANOGA PARK	8.7	ND	0.0	0.0	1995
44454	A	STRUCTURAL COMPOSITES IND	POMONA	8.6	0.001	0.0	0.2	2002
107168	I	ADVANCED SPA DESIGNS	LA HABRA	8.6	ND	0.0	0.0	1995
2680	A	LA CO., SANITATION DISTRICT	WHITTIER	8.6	ND	0.0	0.0	1999
15736	A	HENRY CO	HUNTINGTON PARK	8.5	ND	0.0	0.0	2000
800057	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	CARSON	8.5	ND	0.0	0.1	1999
800079	A	PETRO DIAMOND TERMINAL CO	LONG BEACH	8.3	ND	0.0	0.2	1998
125281	OB	MODERN PLATING, ALCO CAD-NICKEL PLATING	LOS ANGELES	8.2	ND	0.1	0.0	1995
21615	OB	PERKINELMER OPTOELECTRONICS SC, INC	AZUSA	8.1	ND	0.2	0.1	1998
110924	A	WESTWAY TERMINAL COMPANY	SAN PEDRO	8.0	ND	0.3	0.5	1997
3609	I	AL'S PLATING CO INC	LOS ANGELES	7.8	ND	0.3	0.2	1999
37603	A	SGL TECHNIC INC, POLYCARBON DIVISION	VALENCIA	7.8	ND	0.0	0.4	1998
800182	A	RIVERSIDE CEMENT CO (c)	RIVERSIDE	7.8	0.11	0.1	0.1	2001
13920	A	ST. JOSPEH HOSPITAL	ORANGE	7.7	0.004	0.8	0.3	2008
800089	A	EXXONMOBIL OIL CORPORATION	TORRANCE	7.7	0.15	0.2	0.5	2013
18294	A	NORTHROP GRUMMAN CORP, AIRCRAFT DIV	EL SEGUNDO	7.6	ND	0.13	0.05	1999
113170	A	SANTA MONICA - UCLA MEDICAL CENTER (b)	SANTA MONICA	7.6	0.14	0.2	0.0	1997
800214	A	LA CITY, SANITATION BUREAU (c)	PLAYA DEL REY	7.6	ND	0.1	0.0	1999
20197	A	LAC/USC MEDICAL CENTER	LOS ANGELES	7.5	ND	0.7	0.4	2007
800032	A	CHEVRON U.S.A. INC (EIS USE)	MONTEBELLO	7.5	0.14	0.0	0.2	1999
800150	A	US GOVT, AF DEPT, MARCH AFB (NSR USE)	RIVERSIDE	7.4	0.02	0.3	0.0	2008
108701	A	SAINT-GOBAIN CONTAINERS LLC	EL MONTE	7.3	ND	0.1	0.1	2000
117560	A	EQUILON ENTER, LLC-SHELL OIL PROD. US	WILMINGTON	7.3	ND	0.0	0.1	1998
174655	A	TESORO REFINING & MARKETING CO, LLC	CARSON	7.3	ND	0.3	0.1	2000
800026	A	ULTRAMAR INC (NSR USE ONLY)	WILMINGTON	7.2	0.18	0.7	0.2	2012
800113	A	ROHR,INC	RIVERSIDE	7.2	0.01	0.9	0.0	2007
800236	A	LA CO. SANITATION DIST	CARSON	7.2	ND	0.2	0.1	2007

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
49387	A	UNIV CAL, RIVERSIDE	RIVERSIDE	7.1	ND	0.0	0.0	1999
27343	OB	CON AGRA INC, GILROY FOODS DBA	SANTA ANA	7.1	ND	0.2	0.1	1995
57094	A	GS ROOFING PRODUCTS CO, INC/CERTAINTEED (c)	WILMINGTON	7.0	ND	0.0	0.0	2000
140499	A	AMERESCO HUNTINGTON BEACH, L.L.C.	HUNTINGTON BEACH	7.0	ND	0.0	0.0	1995
800209	A	BKK CORPORATION, LANDFILL DIVISION GNRL	WEST COVINA	6.9	ND	0.0	0.1	2000
800372	A	EQUILON ENTER. LLC, SHELL OIL PROD. US	CARSON	6.9	ND	0.4	0.1	2001
20280	A	METAL SURFACES INC	BELL GARDENS	6.8	0	0.9	0.3	2011
5723	A	DUCOMMUN AEROSTRUCTURES INC	ORANGE	6.7	ND	0.0	0.1	1999
173913	A	TRIUMPH PROCESSING, EMBEE DIV, INC.	SANTA ANA	6.6	ND	0.21	0.58	2000
17301	A	ORANGE, COUNTY OF - SANITATION DISTRICT	FOUNTAIN VALLEY	6.6	0.001	0.4	0.3	2007
118998	OB	CYTEC FIBERITE INC	CULVER CITY	6.6	ND	0.0	0.2	1997
171109	A	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	6.6	0.11	0.0	0.3	2011
6643	A	TECHNICOLOR INC	NORTH HOLLYWOOD	6.5	ND	0.0	0.1	2007
34764	A	CADDOCK ELECTRONICS INC	RIVERSIDE	6.5	ND	0.0	0.1	2002
168088	A	PCCR USA	LYNWOOD	6.5	ND	0.1	1.6	1995
11726	A	GE ENGINE SERVICES	ONTARIO	6.5	ND	0.1	0.6	1999
2852	A	THE WALT DISNEY COMPANY	BURBANK	6.4	0.03	0.0	0.0	1997
800066	A	HITCO CARBON COMPOSITES INC	GARDENA	6.4	ND	0.3	0.0	1995
16660	A	THE BOEING COMPANY	HUNTINGTON BEACH	6.4	0.02	0.01	0.08	2015
4477	A	SO CAL EDISON CO	AVALON	6.3	0.02	0.0	0.0	2012
1226	A	HYATT DIE CAST & ENGINEERING CORP	CYPRESS	6.2	ND	0.0	0.1	1996
800067	A	BOEING SATELLITE SYSTEMS INC	EL SEGUNDO	6.2	ND	0.0	0.1	2000
146570	A	ROHM AND HAAS CHEMICALS LLC	LA MIRADA	6.2	ND	0.5	0.8	1999
45262	A	LA CO, SANITATION DISTRICT UNIT NO.02	GLENDALE	6.2	ND	0.0	0.1	1998
140961	A	GKN AEROSPACE TRANSPARENCY SYS INC	GARDEN GROVE	6.0	ND	0.0	0.5	1996
800022	A	CALNEV PIPE LINE CO (NSR USE)	BLOOMINGTON	5.9	ND	0.0	0.1	1999
800047	I	FLETCHER OIL & REF CO	CARSON	5.9	ND	0.0	0.0	1998
800198	A	ULTRAMAR INC (NSR USE ONLY)	WILMINGTON	5.9	ND	0.0	0.1	1999
800279	A	SFPP, L.P.	ORANGE	5.9	ND	0.0	0.2	1999
8578	OB	ASSOCIATED CONCRETE PROD. INC	SANTA ANA	5.8	ND	0.1	0.6	1999
136148	A	E/M COATING SERVICES	NORTH HOLLYWOOD	5.8	ND	0.3	0.6	1998
65382	A	SFPP, L.P.	BLOOMINGTON	5.8	ND	0.0	0.0	1996

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
164864	A	ARROWHEAD BRASS & PLUMBING	LOS ANGELES	5.7	ND	0.3	0.0	1995
800288	A	UNIV CAL IRVINE (NSR USE ONLY)	IRVINE	5.6	ND	0.0	0.1	1996
22410	A	PALACE PLATING	LOS ANGELES	5.6	ND	0.73	0.38	2004
38971	A	RICOH ELECTRONICS INC	IRVINE	5.6	ND	0.0	0.4	1995
14146	A	MAC GREGOR YACHT CORP	COSTA MESA	5.5	ND	0.0	0.1	1998
43201	A	SNOW SUMMIT INC	BIG BEAR LAKE	5.5	ND	0.2	0.0	2007
54424	A	L & L CUSTOM SHUTTERS	PLACENTIA	5.5	ND	0.2	0.2	2001
800409	A	NORTHROP GRUMMAN SPACE & MISSION SYSTEMS	REDONDO BEACH	5.5	ND	0.5	0.2	1998
800196	A	AMERICAN AIRLINES INC (EIS USE)	LOS ANGELES	5.4	0.190	0.86	0.08	2002
800171	A	EXXONMOBIL OIL CORPORATION	VERNON	5.3	ND	0.1	0.0	1997
134018	A	INDUSTRIAL CONTAINER SERVICES-CA LLC	MONTEBELLO	5.2	ND	0.6	0.2	2000
109198	A	TORCH OPERATING COMPANY	BREA	5.0	ND	0.0	0.0	2001
103888	A	SARGENT FLETCHER INC	EL MONTE	4.9	ND	0.2	0.0	1999
800037	A	DEMENNO/KERDOON	COMPTON	4.9	0.01	0.01	0.02	2009
11192	A	HI-SHEAR CORPORATION	TORRANCE	4.8	ND	0.0	0.0	2008
800038	A	THE BOEING COMPANY - C17 PROGRAM	LONG BEACH	4.8	ND	0.2	0.1	1999
800264	A	EDGINGTON OIL COMPANY	LONG BEACH	4.8	0.001	0.0	0.0	2002
101977	A	SIGNAL HILL PETROLEUM INC	LONG BEACH	4.7	ND	0.6	1.0	1998
3950	A	CROWN CORK & SEAL CO INC	LA MIRADA	4.6	ND	0.0	0.1	1997
83102	A	LIGHT METALS INC	INDUSTRY	4.5	0.01	0.0	2.7	2002
157451	A	VERNON MACHINE CORP, BENDER US DBA	VERNON	4.4	0.001	1.0	0.0	2002
800041	A	DOW CHEM U.S.A. (NSR USE)	TORRANCE	4.4	ND	0.1	0.0	2000
93346	A	WAYMIRE DRUM CO,INC.,S EL MONTE FACILITY	SOUTH EL MONTE	4.3	ND	0.1	0.2	1997
174591	A	TESORO REFINING & MARKETING CO LLC, CAL (c)	WILMINGTON	4.3	ND	0.1	0.2	1995
177042	A	SOLVAY USA, INC	LONG BEACH	4.3	ND	0.3	0.0	2001
124506	A	BOEING ELECTRON DYNAMIC DEVICES INC	TORRANCE	4.2	ND	0.5	0.1	1995
6459	OB	HONEYWELL INTERNATIONAL INC	VERNON	4.1	ND	0.0	0.0	1999
7533	A	HUGO NEU-PROLER CO	TERMINAL ISLAND	4.1	ND	1.3	0.1	
18439	OB	ACE PLATING CO INC	LOS ANGELES	4.1	ND	0.6	0.2	1998
45489	A	ABBOTT CARDIOVASCULAR SYSTEMS, INC.	TEMECULA	3.8	0.01	1.3	0.0	2002
126060	A	STERIGENICS US, LLC	ONTARIO	3.8	0	0.0	0.0	2007
8820	A	REULAND ELECTRIC CO, H.BRITTON LEES	INDUSTRY	3.7	ND	0.0	0.0	1996

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
9114	I	SOMITEX PRINTS OF CAL INC	INDUSTRY	3.7	ND	0.1	0.0	1996
17325	A	ACE CLEARWATER ENTER.	PARAMOUNT	3.7	ND	0.0	0.0	2002
106838	A	VALLEY-TODECO, INC	SYLMAR	3.7	ND	0.2	0.2	2000
105598	A	SENIOR FLEXONICS INC/STAINLESS STEEL DVN	BURBANK	3.6	ND	1.0	0.5	2001
7427	A	OWENS-BROCKWAY GLASS CONTAINER INC	VERNON	3.6	ND	0.01	0.06	1999
800007	OB	ALLIED SIGNAL INC (NSR USE ONLY)	EL SEGUNDO	3.6	ND	0.0	0.5	2000
126197	A	STERIGENICS US, INC.	LOS ANGELES	3.6	ND	0.0	0.0	1996
127568	A	ENGINEERED POLYMER SOLUTION, VALSPAR	MONTEBELLO	3.5	ND	0.1	0.5	2000
151899	A	VINTAGE PRODUCTION CALIFORNIA LLC	NEWHALL	3.5	ND	0.0	0.2	2000
140811	A	DUCOMMUN AEROSTRUCTURES INC	MONROVIA	3.5	0.01	0.0	0.0	2002
8015	A	ANADITE INC	SOUTH GATE	3.5	ND	0.63	0.78	1998
9163	A	INLAND EMPIRE UTL AGEN, A MUN WATER DIS	ONTARIO	3.4	ND	0.3	0.0	2007
57329	OB	KWIKSET CORP	ANAHEIM	3.4	ND	0.0	0.1	2000
151415	A	LINN WESTERN OPERATING, INC	BREA	3.4	ND	0.0	0.0	1999
800204	OB	SIMPSON PAPER CO	POMONA	3.4	ND	0.0	0.0	1996
153546	A	HUCK INTL INC. DBA ALCOA FASTENING SYS.	CARSON	3.3	ND	0.0	0.0	1999
126191	A	STERIGENICS US, INC.	LOS ANGELES	3.3	ND	0.0	0.0	1996
800063	A	GROVER PROD. CO (EIS USE)	LOS ANGELES	3.3	0.039	0.88	0.07	2001
800189	A	DISNEYLAND RESORT	ANAHEIM	3.3	0.03	0.1	0.1	2009
18396	A	SPRAYLAT CORP	LOS ANGELES	3.2	0	0.7	0.0	2012
6384	A	LA CO., RANCHO LOS AMIGOS MEDICAL CENTER	DOWNEY	3.1	ND	0.0	0.1	1999
113676	A	VICKERS	LOS ANGELES	3.0	ND	0.0	0.0	1995
11435	A	THE PQ CORP	SOUTH GATE	3.0	ND	0.0	0.0	1998
174703	A	TESORO REFINING & MARKETING CO LLC CARSO	CARSON	3.0	ND	0.0	0.0	1994
10005	A	ELECTRONIC CHROME GRINDING CO INC	SANTA FE SPRINGS	3.0	0.01	0.2	0.1	2001
52517	A	REXAM PLC, REXAM BEVERAGE CAN COMPANY	CHATSWORTH	2.9	0.01	0.7	0.1	2009
18452	A	UCLA (REGENTS OF UC) (c)	LOS ANGELES	2.9	ND	0.0	0.1	1999
2613	A	US GOVT, NAVY DEPT,NAVAL WEAPONS STN	SEAL BEACH	2.9	ND	0.1	0.0	2002
116868	A	EQUILON ENT LLC/RIALTO TERMINAL	BLOOMINGTON	2.9	ND	0.0	0.0	1999
800035	A	CONTINENTAL AIRLINES INC (NSR USE ONLY)	LOS ANGELES	2.8	ND	0.0	0.1	1995
48274	A	FENDER MUSICAL INST	CORONA	2.8	ND	0.0	0.4	1997
151798	A	TESORO REFINING AND MARKETING CO	CARSON	2.8	ND	0.1	0.0	1999

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
167981	A	TESORO LOGISTICS OPERATIONS LLC	WILMINGTON	2.8	ND	0.0	0.0	2000
800030	A	CHEVRON PRODUCTS CO.	EL SEGUNDO	2.7	0.28	0.3	0.1	2001
5887	A	NEXGEN PHARMA INC	IRVINE	2.7	ND	0.0	0.0	1997
16642	A	ANHEUSER-BUSCH INC., (LA BREWERY)	VAN NUYS	2.7	ND	0.0	0.1	1999
25440	A	ROBERTSHAW CONTROLS CO, GRAYSON CONTROLS	LONG BEACH	2.7	ND	0.0	1.0	1998
27701	A	CADDOCK ELECTRONIC	RIVERSIDE	2.7	ND	0.0	0.1	2002
46268	A	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	2.7	0.02	0.2	0.0	1995
137517	A	PACIFIC TERMINALS LLC	ETIWANDA	2.7	ND	0.0	0.2	2000
175191	A	FREEPORT-MCMORAN OIL & GAS	LOS ANGELES	2.7	ND	0.0	0.1	1997
35483	A	WARNER BROTHERS STUDIO FACILITIES	BURBANK	2.6	ND	0.1	0.3	1997
134943	A	ALCOA GLOBAL FASTENERS, INC. SOUTH BAY	TORRANCE	2.6	ND	0.6	0.0	2008
37507	A	TROJAN BATTERY COMPANY	SANTA FE SPRINGS	2.6	0.001	1.1	1.3	2012
7949	A	CUSTOM FIBERGLASS MFG CO/CUSTOM HARDTOP	LONG BEACH	2.5	ND	0.0	0.0	1995
65381	A	SFPP, L.P. (NSR USE)	CARSON	2.4	ND	0.0	0.1	1999
79682	A	RAMCAR BATTERIES INC	COMMERCE	2.4	1	0.0	0.2	1998
18508	A	AIR PROD & CHEM INC	LOS ANGELES	2.4	ND	0.1	0.8	1999
800202	A	UNIVERSAL STUDIOS INC (EIS USE)	UNIVERSAL CITY	2.4	ND	0.0	0.0	1996
800387	A	CAL INST OF TECH	PASADENA	2.4	ND	0.1	0.0	2007
172878	A	TESORO LOGISTICS OPERATIONS LLC LONG BEA	LONG BEACH	2.4	ND	0.0	0.0	1999
133405	A	BODYCOTE INC/BODYCOTE THERMAL PROCESSING	LOS ANGELES	2.4	ND	0.0	0.2	1999
800039	I	DOUGLAS PRODUCTS DIVISION	TORRANCE	2.4	ND	0.0	0.0	1996
1208	OB	MICROSEMI CORP	SANTA ANA	2.3	ND	0.0	0.0	2001
90546	OB	SORIN BIOMEDICAL INC	IRVINE	2.3	ND	0.0	0.0	1996
160437	A	SOUTHERN CALIFORNIA EDISON	SAN BERNARDINO	2.3	<0.01	<0.01	<0.01	2013
800056	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	WILMINGTON	2.3	0.01	0.0	0.0	1997
800111	OB	THE BOEING COMPANY	DOWNEY	2.3	ND	0.0	0.1	1996
103659	OB	4MC-BURBANK, INC.	BURBANK	2.2	ND	0.6	0.0	2004
99773	A	CYTEC FIBERITE INC	ANAHEIM	2.2	0.0004	0.0	0.2	2000
9668	A	DELUXE LABORATORIES INC,DELUXE LABORATOR	HOLLYWOOD	2.1	ND	0.0	0.0	2000
40829	A	HAWKER PACIFIC INC	SUN VALLEY	2.1	0.0003	0.0	0.1	2009
142267	A	FS PRECISION TECH LLC	RANCHO DOMINGUEZ	2.0	ND	0.1	0.2	2001
800181	A	CALIFORNIA PORTLAND CEMENT CO (c)	COLTON	2.0	ND	0.0	0.4	1996

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
2605	A	3M PHARMACEUTICALS	NORTHRIDGE	2.0	ND	0.4	0.4	1996
14502	A	VERNON CITY, LIGHT & POWER DEPT	VERNON	2.0	0.0004	0.0	0.0	2007
54627	A	HICKORY SPRINGS OF CAL INC	COMMERCE	2.0	ND	0.0	0.5	1998
800325	A	TIDELANDS OIL PRODUCTION CO	LONG BEACH	1.9	ND	0.1	0.6	1999
10245	A	LA CITY,SANITATION BUREAU,TERMINAL ISLAN	SAN PEDRO	1.8	ND	0.0	0.0	2000
23559	OB	JOHNSON CONTROLS BATTERY GROUP INC	FULLERTON	1.8	ND	0.0	0.1	2001
800003	A	HONEYWELL INTERNATIONAL INC	TORRANCE	1.8	ND	0.0	0.0	1999
8309	A	CAMBRO MANUFACTURING CO	HUNTINGTON BEACH	1.7	ND	0.0	0.1	2000
22467	A	LEFIELL MFG CO	SANTA FE SPRINGS	1.7	ND	0.7	0.2	2000
82512	A	BREA CANON OIL CO	WILMINGTON	1.7	ND	0.0	0.0	1996
132954	A	ALL AMERICAN ASPHALT	SAN FERNANDO	1.6	<0.02	0.4	0.3	2017
119907	A	BERRY PETROLEUM COMPANY	SANTA CLARITA	1.6	ND	0.2	0.7	1999
119920	A	PECHINEY CAST PLATE INC	VERNON	1.6	ND	0.3	0.3	1996
133660	A	HAYDEN INDUSTRIAL PRODUCTS	CORONA	1.6	ND	0.8	0.4	1998
107350	A	NATIONAL O-RINGS	DOWNEY	1.5	ND	0.0	0.0	2001
2638	A	OCCIDENTAL COLLEGE	LOS ANGELES	1.5	ND	0.1	0.0	2007
126536	A	CONSOLIDATED FOUNDRIES - POMONA	POMONA	1.5	ND	0.0	0.0	1999
25070	A	LA CO., SANITATION DISTRICT (c)	WHITTIER	1.5	0.003	0.3	0.1	2009
82513	A	BREA CANON OIL COMPANY INC	HARBOR CITY	1.4	ND	0.0	0.0	1996
800408	A	NORTHROP GRUMMAN SPACE & MISSION SYSTEMS	MANHATTAN BEACH	1.4	ND	0.9	0.1	1998
3968	A	TABC, INC	LONG BEACH	1.4	ND	0.1	0.2	1999
62679	A	KOP-COAT INC	VERNON	1.3	ND	0.0	0.5	1997
126544	A	PAC FOUNDRIES-INDUSTRY	INDUSTRY	1.3	ND	0.6	0.1	1996
161300	A	SAPA EXTRUDER, INC	INDUSTRY	1.3	ND	0.0	0.0	1999
2526	A	CHEVRON PRODUCTS CO	VAN NUYS	1.3	ND	0.0	0.0	1996
22551	A	THUMS LONG BEACH CO	SAN PEDRO	1.2	ND	0.0	0.0	2000
42633	A	LA CO., SANITATION DIST	POMONA	1.2	ND	0.0	0.0	1996
106009	A	VENOCO INC.	BEVERLY HILLS	1.2	ND	0.0	0.0	2005
152054	A	LINN WESTERN OPERATING INC	BREA	1.1	ND	0.0	0.1	1996
42514	A	LA CO.,SANITATION DIST,CALABASAS LNDFILL	AGOURA	1.1	0	0.1	0.0	2010
124806	OB	EXIDE TECHNOLOGIES	INDUSTRY	1.0	ND	0.0	0.0	1999
800127	A	SO CAL GAS CO (EIS USE)	MONTEBELLO	1.0	0	0.0	0.0	2009

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
7730	A	CARPENTER CO	RIVERSIDE	0.96	ND	0.03	1.34	2003
20375	A	PRUDENTIAL OVERALL SUPPLY	RIVERSIDE	1.0	ND	0.0	0.1	1997
6670	A	TRU CUT INC	LOS ANGELES	< 1	ND	0.0	0.0	2002
22808	I	PRICE PFISTER INC	PACOIMA	0.9	ND	0.2	0.1	1996
47056	OB	MYERS CONTAINER CORP, IMACC CORP DIV	HUNTINGTON PARK	0.9	ND	0.2	2.0	2002
5177	A	ITT GILFILLAN UNIT NO.02	VAN NUYS	0.9	ND	0.1	0.2	1998
3134	A	THUMS LONG BEACH CO, UNIT NO.05	SAN PEDRO	0.8	ND	0.0	0.0	1996
18378	A	GRUBER SYS INC	VALENCIA	0.8	ND	0.1	0.1	2004
22556	A	THUMS LONG BEACH CO, UNIT NO.02	SAN PEDRO	0.8	ND	0.0	0.0	1996
111415	A	VAN CAN COMPANY	FONTANA	0.8	ND	0.0	0.1	1996
14544	OB	SANTA FE ENAMELING & METAL FINISHING CO	SANTA FE SPRINGS	0.8	ND	0.0	0.4	1999
120088	A	BREITBURN ENERGY COMPANY, LLC	SANTA FE SPRINGS	0.8	ND	0.0	0.0	1998
118406	A	CARSON COGENERATION COMPANY	CARSON	0.8	ND	0.2	0.0	2007
126964	A	EDWARDS LIFESCIENCES LLC	IRVINE	0.8	ND	0.0	0.0	1995
22373	A	JEFFERSON SMURFIT CORPORATION (U.S.)	LOS ANGELES	0.7	ND	0.0	0.0	1996
24060	A	TOMKINS INDUSTRIES INC-LASCO PRODS GROUP	ANAHEIM	0.7	ND	0.0	0.0	1996
800091	A	MOBIL OIL CORP (NSR USE ONLY)	ANAHEIM	0.7	ND	0.0	0.0	1999
772	A	DEFT INC	IRVINE	0.7	ND	0.0	0.0	1995
24756	A	CRANE CO, HYDRO-AIRE DIV	BURBANK	0.6	ND	0.0	0.1	1997
115394	A	AES ALAMITOS, LLC	LONG BEACH	0.6	ND	0.0	0.0	1999
134931	A	ALCOA GLOBAL FASTENERS, INC.	FULLERTON	0.6	ND	1.90	0.02	1997
800327	A	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	0.6	ND	0.0	0.0	1999
15647	A	CUSTOM ENAMELERS INC	FOUNTAIN VALLEY	0.6	ND	0.1	0.0	2000
3093	A	LA CO., OLIVE VIEW/UCLA MEDICAL CENTER	SYLMAR	0.5	ND	0.0	0.0	1999
21895	A	AC PRODUCTS INC	PLACENTIA	0.5	ND	0.0	0.0	2003
6281	A	US GOVT,MARINE CORPS AIR STATION,EL TORO	SANTA ANA	0.5	ND	0.0	0.0	1996
1634	OB	STEELCASE INC, WESTERN DIV	TUSTIN	0.5	ND	0.0	0.0	1995
39388	A	THUMS LONG BEACH CO, UNIT NO.03	SAN PEDRO	0.5	ND	0.0	0.0	1996
61160	A	GE ENGINE SERVICES	ONTARIO	0.5	ND	0.7	0.01	2003
800267	A	TRIUMPH PROCESSING, INC.	LYNWOOD	0.5	0	0.1	0.4	2012
152501	A	PRECISION SPECIALTY METALS INC	LOS ANGELES	0.5	ND	0.4	0.2	2001
43436	A	TST, INC.	FONTANA	0.4	0.11	0.0	0.4	1997

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
18990	A	LIFE PAINT CO	SANTA FE SPRINGS	0.4	ND	0.0	0.0	2001
12660	I	GOLDSHIELD FIBERGLASS, INC, PLANT #58	FONTANA	0.4	ND	0.0	0.0	1994
44577	A	LONG BEACH CITY, SERRF PROJECT	LONG BEACH	0.4	0	0.0	0.1	2011
115536	A	AES REDONDO BEACH, LLC	REDONDO BEACH	0.4	ND	0.0	0.0	1998
122295	A	FALCON FOAM, A DIV OF ATLAS ROOFING CORP	LOS ANGELES	0.4	ND	0.0	0.0	1999
115663	A	EL SEGUNDO POWER, LLC	EL SEGUNDO	0.3	ND	0.0	0.0	2000
25638	A	BURBANK CITY, PUB SERV DEPT	BURBANK	0.3	ND	0.3	0.0	1996
124805	A	EXIDE TECHNOLOGIES	COMMERCE	0.3	ND	0.0	0.0	2000
112192	OB	CONSOLIDATED DRUM RECONDITIONING CO INC	SOUTH GATE	0.3	ND	0.0	0.0	1997
550	A	LA CO., INTERNAL SERVICE DEPT	LOS ANGELES	0.3	ND	0.0	0.0	2008
800343	A	BOEING SATELLITE SYSTEMS, INC	EL SEGUNDO	0.3	ND	0.0	0.2	1996
24520	A	LA CO, SANITATION DISTRICTS	ROLLING HILLS ESTATE	0.3	ND	0.0	0.0	1998
99119	A	INTERPLASTIC CORP	HAWTHORNE	0.3	ND	0.1	0.3	1999
122300	A	BASF CORPORATION	COLTON	0.3	ND	0.6	0.0	2002
19989	OB	PARKER HANNIFIN AEROSPACE CORP	IRVINE	0.3	ND	0.0	0.0	1999
107149	A	MARKLAND MANUFACTURING INC	SANTA ANA	0.3	ND	0.1	0.1	2007
161142	A	FOAMEX INNOVATIONS, INC.	COMPTON	0.3	0	0.0	0.0	2010
16264	A	INTL COATINGS CO INC	CERRITOS	0.2	ND	0.0	0.0	1999
800074	A	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	0.2	ND	0.0	0.0	2000
48300	A	PRECISION TUBE BENDING	SANTA FE SPRINGS	0.2	ND	0.0	0.0	2002
800168	A	PASADENA CITY, DWP (EIS USE)	PASADENA	0.2	ND	0.7	0.0	1996
800193	A	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	0.2	ND	0.3	0.0	1999
37336	A	COMMERCE REFUSE TO ENERGY FACILITY	COMMERCE	0.1	0	0.0	0.0	2010
42676	A	AES PLACERITA INC	NEWHALL	0.1	ND	0.1	0.0	2003
114801	A	RHODIA INC.	LONG BEACH	0.1	ND	0.0	0.1	2006
115389	A	AES HUNTINGTON BEACH, LLC	HUNTINGTON BEACH	0.1	ND	0.0	0.0	1999
7416	A	PRAXAIR INC	WILMINGTON	0.1	ND	0.0	0.0	2001
1992	A	PRUDENTIAL OVERALL SUPPLY	VAN NUYS	0.1	ND	0.0	0.0	1997
16044	I	SPECIALTY ORGANICS, INC.	IRWINDALE	0.1	ND	0.0	0.2	1997
24812	A	FARMER BROS CO	TORRANCE	0.1	ND	0.0	0.0	1999
25012	A	AMADA MFG AMERICA, INC	LA MIRADA	0.1	ND	0.0	0.0	2002
94872	A	METAL CONTAINER CORP	MIRA LOMA	0.1	ND	0.4	0.4	2002

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
111110	A	BRISTOL FIBERLITE INDUSTRIES, INC	SANTA ANA	0.1	ND	0.0	0.0	1995
24118	A	DEVOE COATINGS CO	RIVERSIDE	0.1	ND	0.3	0.1	1999
156741	A	HARBOR COGENERATION CO	WILMINGTON	0.1	ND	0.0	0.0	2002
20144	OB	CANON BUSINESS MACHINES INC	COSTA MESA	0.0	ND	0.0	0.1	1999
800320	A	AMVAC CHEMICAL CORP	LOS ANGELES	0.0	ND	0.1	0.3	2004
14217	OB	MODERN FAUCET MFG COMPANY	LOS ANGELES	0.0	ND	0.0	0.5	1996
45938	A	E.M.E. INC/ELECTRO MACHINE & ENGINEERING	COMPTON	0.0	ND	0.0	0.0	1999
117785	A	BALL METAL BEVERAGE CONTAINER CORP.	TORRANCE	0.0	ND	0.2	0.9	2001
22229	A	PROCESSES BY MARTIN INC	LYNWOOD	0.0	ND	0.0	0.0	2002
800075	A	LA CITY, DWP SCATTERGOOD GENERATING STA	PLAYA DEL REY	0.0	ND	0.0	0.0	2000
160150	A	ERGON ASPHALT & EMULSIONS, INC.	FONTANA	0.0	ND	0.3	0.0	1999
115586	A	SUNDANCE SPAS, INC	CHINO	0.0	ND	0.0	0.4	1996
51620	A	WHEELABRATOR NORWALK ENERGY CO INC	NORWALK	0.0	ND	0.0	0.0	1996
61743	A	AMERON STEEL FABRICATION DIVISION	FONTANA	0.0	ND	0.2	0.2	2000
55711	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.0	0.0	1996
124016	A	OAKLITE PRODUCTS (BRENT AMERICA, INC./ LEEDER ARDOX)	LA MIRADA	0.0	ND	0.1	0.1	2000
55714	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.0	0.0	1996
119127	A	PRC-DE SOTO INTERNATIONAL	GLENDALE	0.0	ND	0.0	0.0	2000
809	A	GARNER GLASS CO	CLAREMONT	0.0	ND	0.0	0.0	1996
1732	OB	INTL ELECTRONIC RESEARCH CORP	BURBANK	0.0	ND	0.0	0.0	1996
1746	A	UNITED ALLOYS INC	LOS ANGELES	0.0	ND	0.0	0.0	1998
3084	A	CARDINAL INDUSTRIAL FINISHES INC	SOUTH EL MONTE	0.0	ND	0.0	0.0	1996
3100	A	BAXTER HEALTHCARE CORP, I V SYSTEMS	IRVINE	0.0	ND	0.0	0.4	1994
3578	A	PRUDENTIAL OVERALL SUPPLY	CARSON	0.0	ND	0.0	0.0	1995
4616	OB	SUPERIOR IND INTL INC	VAN NUYS	0.0	ND	0.0	0.4	1997
5125	OB	UTILITY TRAILER MFG CO	INDUSTRY	0.0	ND	0.0	0.3	1996
5645	OB	STANDARD NICKEL CHROMIUM PLATING CO INC	LOS ANGELES	0.0	ND	0.0	0.0	1999
6163	A	OHLINE	GARDENA	0.0	ND	0.3	0.7	1996
6315	A	FLO-KEM, INC.	RANCHO DOMINGUEZ	0.0	ND	0.0	0.6	1999
6362	OB	JACUZZI WHIRLPOOL BATH INC	SANTA ANA	0.0	ND	0.0	0.0	1995
7010	A	PRUDENTIAL OVERALL SUPPLY	IRVINE	0.0	ND	0.0	0.0	1995
8560	A	PRUDENTIAL OVERALL SUPPLY CO	COMMERCE	0.0	ND	0.2	0.4	1995

Table A-1 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed in descending order by cancer risk)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
8935	A	TRAIL RITE INC	SANTA ANA	0.0	ND	0.0	0.3	1996
10656	A	NEWPORT LAMINATES	SANTA ANA	0.0	ND	0.0	0.0	1996
12493	A	REMO INC	NORTH HOLLYWOOD	0.0	ND	0.0	0.0	1997
12879	OB	CYTEC ENGINEERED MATERIALS, INC	SAUGUS	0.0	ND	0.0	0.0	1994
14191	I	NIKLOR CHEMICAL COMPANY INC	CARSON	0.0	ND	0.0	0.0	2002
19953	OB	RISTON KELLER INC	IRVINE	0.0	ND	0.0	0.0	1996
21544	A	US GOVT, MARINE CORPS AIR STA @BLD	Tustin	0.0	ND	0.0	0.0	2000
22092	A	WESTERN TUBE & CONDUIT CORP	LONG BEACH	0.0	ND	0.0	0.6	1997
24647	A	J. B. I. INC	COMPTON	0.0	ND	0.0	0.2	1999
40806	A	NEW BASIS	RIVERSIDE	0.0	ND	0.7	0.2	1997
47459	OB	JACUZZI WHIRLPOOL BATH	IRVINE	0.0	ND	0.0	0.0	1995
51849	A	ELIMINATOR CUSTOM BOATS	MIRA LOMA	0.0	ND	0.0	0.0	1995
61209	OB	AKZO NOBEL CHEM INC, FILTROL CORP SUB OF	LOS ANGELES	0.0	ND	0.0	0.0	1996
70021	A	XERXES CORP (A DELAWARE CORP)	ANAHEIM	0.0	ND	0.0	0.0	1996
132343	A	SPECTRUM PAINT & POWDER, INC.	ANAHEIM	0.0	ND	0.2	0.7	1997
144677	A	PRATT & WHITNEY ROCKETDYNE/RUBY ACQ ENT	CANOGA PARK	0.0	ND	0.0	0.0	1996
149241	A	REGAL CULTURED MARBLE	POMONA	0.0	ND	0.0	0.2	1995
160916	A	FOAMEX INNOVATIONS, INC.	ORANGE	0.0	ND	0.4	0.4	1994
800087	A	MENASCO MFG CO (EIS USE)	BURBANK	0.0	ND	0.0	0.0	1997
800273	OB	CHEMOIL REF CORP (NSR USE ONLY)	SIGNAL HILL	0.0	ND	0.0	0.0	2000
800337	OB	CHEVRON U.S.A., INC (NSR USE)	LA HABRA	0.0	ND	0.0	0.0	1996

Notes:

(a) A = Active (note that facilities with "Active" status within SCAQMD's database might not be in operation currently); I = Inactive; OB = 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.

(e) All HRAs with HRA Approval Year dated 2015 and later have used the 2015 OEHHA HRA Guidelines for preparation of their HRA.

(f) ND = Not Determined

Table A-2

Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
550	A	LA CO., INTERNAL SERVICE DEPT	LOS ANGELES	0.3	ND	0.0	0.0	2008
772	A	DEFT INC	IRVINE	0.7	ND	0.0	0.0	1995
809	A	GARNER GLASS CO	CLAREMONT	0.0	ND	0.0	0.0	1996
1208	OB	MICROSEMI CORP	SANTA ANA	2.3	ND	0.0	0.0	2001
1226	A	HYATT DIE CAST & ENGINEERING CORP	CYPRESS	6.2	ND	0.0	0.1	1996
1634	OB	STEELCASE INC, WESTERN DIV	TUSTIN	0.5	ND	0.0	0.0	1995
1732	OB	INTL ELECTRONIC RESEARCH CORP	BURBANK	0.0	ND	0.0	0.0	1996
1744	A	KIRKHILL RUBBER CO	BREA	8.7	0.001	0.2	0.1	2007
1746	A	UNITED ALLOYS INC	LOS ANGELES	0.0	ND	0.0	0.0	1998
1992	A	PRUDENTIAL OVERALL SUPPLY	VAN NUYS	0.1	ND	0.0	0.0	1997
2526	A	CHEVRON PRODUCTS CO	VAN NUYS	1.3	ND	0.0	0.0	1996
2605	A	3M PHARMACEUTICALS	NORTHRIDGE	2.0	ND	0.4	0.4	1996
2613	A	US GOVT, NAVY DEPT,NAVAL WEAPONS STN	SEAL BEACH	2.9	ND	0.1	0.0	2002
2638	A	OCCIDENTAL COLLEGE	LOS ANGELES	1.5	ND	0.1	0.0	2007
2680	A	LA CO., SANITATION DISTRICT	WHITTIER	8.6	ND	0.0	0.0	1999
2852	A	THE WALT DISNEY COMPANY	BURBANK	6.4	0.03	0.0	0.0	1997
3084	A	CARDINAL INDUSTRIAL FINISHES INC	SOUTH EL MONTE	0.0	ND	0.0	0.0	1996
3093	A	LA CO., OLIVE VIEW/UCLA MEDICAL CENTER	SYLMAR	0.5	ND	0.0	0.0	1999
3100	A	BAXTER HEALTHCARE CORP, I V SYSTEMS	IRVINE	0.0	ND	0.0	0.4	1994
3134	A	THUMS LONG BEACH CO, UNIT NO.05	SAN PEDRO	0.8	ND	0.0	0.0	1996
3578	A	PRUDENTIAL OVERALL SUPPLY	CARSON	0.0	ND	0.0	0.0	1995
3609	I	AL'S PLATING CO INC	LOS ANGELES	7.8	ND	0.3	0.2	1999
3950	A	CROWN CORK & SEAL CO INC	LA MIRADA	4.6	ND	0.0	0.1	1997
3968	A	TABC, INC	LONG BEACH	1.4	ND	0.1	0.2	1999
4477	A	SO CAL EDISON CO	AVALON	6.3	0.02	0.0	0.0	2012
4616	OB	SUPERIOR IND INTL INC	VAN NUYS	0.0	ND	0.0	0.4	1997
5125	OB	UTILITY TRAILER MFG CO	INDUSTRY	0.0	ND	0.0	0.3	1996
5177	A	ITT GILFILLAN UNIT NO.02	VAN NUYS	0.9	ND	0.1	0.2	1998
5645	OB	STANDARD NICKEL CHROMIUM PLATING CO INC	LOS ANGELES	0.0	ND	0.0	0.0	1999
5723	A	DUCOMMUN AEROSTRUCTURES INC	ORANGE	6.7	ND	0.0	0.1	1999

Table A-2 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
5887	A	NEXGEN PHARMA INC	IRVINE	2.7	ND	0.0	0.0	1997
6163	A	OHLINE	GARDENA	0.0	ND	0.3	0.7	1996
6281	A	US GOVT,MARINE CORPS AIR STATION,EL TORO	SANTA ANA	0.5	ND	0.0	0.0	1996
6315	A	FLO-KEM, INC.	RANCHO DOMINGUE	0.0	ND	0.0	0.6	1999
6362	OB	JACUZZI WHIRLPOOL BATH INC	SANTA ANA	0.0	ND	0.0	0.0	1995
6384	A	LA CO., RANCHO LOS AMIGOS MEDICAL CENTER	DOWNEY	3.1	ND	0.0	0.1	1999
6459	OB	HONEYWELL INTERNATIONAL INC	VERNON	4.1	ND	0.0	0.0	1999
6643	A	TECHNICOLOR INC	NORTH HOLLYWOO	6.5	ND	0.0	0.1	2007
6670	A	TRU CUT INC	LOS ANGELES	< 1	ND	0.0	0.0	2002
7010	A	PRUDENTIAL OVERALL SUPPLY	IRVINE	0.0	ND	0.0	0.0	1995
7416	A	PRAXAIR INC	WILMINGTON	0.1	ND	0.0	0.0	2001
7427	A	OWENS-BROCKWAY GLASS CONTAINER INC	VERNON	3.6	ND	0.0	0.1	1999
7533	A	HUGO NEU-PROLER CO	TERMINAL ISLAND	4.1	ND	1.3	0.1	2003
7730	A	CARPENTER CO	RIVERSIDE	0.96	ND	0.03	1.34	2003
7949	A	CUSTOM FIBERGLASS MFG CO/CUSTOM HARDTOP	LONG BEACH	2.5	ND	0.0	0.0	1995
8015	A	ANADITE INC	SOUTH GATE	3.5	ND	0.63	0.78	1998
8309	A	CAMBRO MANUFACTURING CO	HUNTINGTO N BEACH	1.7	ND	0.0	0.1	2000
8547	A	QUEMETCO INC (c)	INDUSTRY	7.1	0.45	0.09	0.69	2016
8560	A	PRUDENTIAL OVERALL SUPPLY CO	COMMERCE	0.0	ND	0.2	0.4	1995
8578	OB	ASSOCIATED CONCRETE PROD. INC	SANTA ANA	5.8	ND	0.1	0.6	1999
8820	A	REULAND ELECTRIC CO, H.BRITTON LEES	INDUSTRY	3.7	ND	0.0	0.0	1996
8935	A	TRAIL RITE INC	SANTA ANA	0.0	ND	0.0	0.3	1996
9114	I	SOMITEX PRINTS OF CAL INC	INDUSTRY	3.7	ND	0.1	0.0	1996
9163	A	INLAND EMPIRE UTL AGEN, A MUN WATER DIS	ONTARIO	3.4	ND	0.3	0.0	2007
9668	A	DELUXE LABORATORIES INC,DELUXE LABORATOR	HOLLYWOOD	2.1	ND	0.0	0.0	2000
10005	A	ELECTRONIC CHROME GRINDING CO INC	SANTA FE SPRINGS	3.0	0.01	0.2	0.1	2001
10245	A	LA CITY,SANITATION BUREAU,TERMINAL ISLAN	SAN PEDRO	1.8	ND	0.0	0.0	2000
10510	A	GREGG INDUSTRIES INC	EL MONTE	9.4	ND	0.6	0.6	2008
10656	A	NEWPORT LAMINATES	SANTA ANA	0.0	ND	0.0	0.0	1996
11142	OB	KEYSOR-CENTURY CORP	SAUGUS	17.0	ND	0.5	0.1	2000
11192	A	HI-SHEAR CORPORATION	TORRANCE	4.8	ND	0.0	0.0	2008

Table A-2 (cont'd)

Health Risks from Facilities with an Approved HRA

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11435	A	THE PQ CORP	SOUTH GATE	3.0	ND	0.0	0.0	1998
11726	A	GE ENGINE SERVICES	ONTARIO	6.5	ND	0.1	0.6	1999
11818	A	HIXSON METAL FINISHING	NEWPORT BEACH	0.8	ND	0.04	0.006	2015
12493	A	REMO INC	NORTH HOLLYWOO	0.0	ND	0.0	0.0	1997
12660	I	GOLDSHIELD FIBERGLASS, INC, PLANT #58	FONTANA	0.4	ND	0.0	0.0	1994
12879	OB	CYTEC ENGINEERED MATERIALS, INC	SAUGUS	0.0	ND	0.0	0.0	1994
13920	A	ST. JOSPEH HOSPITAL	ORANGE	7.7	0.004	0.8	0.3	2008
14146	A	MAC GREGOR YACHT CORP	COSTA MESA	5.5	ND	0.0	0.1	1998
14191	I	NIKLOR CHEMICAL COMPANY INC	CARSON	0.0	ND	0.0	0.0	2002
14217	OB	MODERN FAUCET MFG COMPANY	LOS ANGELES	0.0	ND	0.0	0.5	1996
14495	A	VISTA METALS CORP	FONTANA	19.8	0.06	0.0	0.3	2008
14502	A	VERNON CITY, LIGHT & POWER DEPT	VERNON	2.0	0.0004	0.0	0.0	2007
14544	OB	SANTA FE ENAMELING & METAL FINISHING CO	SANTA FE SPRINGS	0.8	ND	0.0	0.4	1999
15504	A	SCHLOSSER FORGE CO	RANCHO CUCAMONGA	9.5	0.067	1.59	1.11	2002
15647	A	CUSTOM ENAMELERS INC	FOUNTAIN VALLEY	0.6	ND	0.1	0.0	2000
15736	A	HENRY CO	HUNTINGTON PARK	8.5	ND	0.0	0.0	2000
16044	I	SPECIALTY ORGANICS, INC.	IRWINDALE	0.1	ND	0.0	0.2	1997
16264	A	INTL COATINGS CO INC	CERRITOS	0.2	ND	0.0	0.0	1999
16642	A	ANHEUSER-BUSCH INC., (LA BREWERY)	VAN NUYS	2.7	ND	0.0	0.1	1999
16660	A	THE BOEING COMPANY	HUNTINGTO N BEACH	6.39	0.02	0.01	0.08	2015
17301	A	ORANGE, COUNTY OF - SANITATION DISTRICT	FOUNTAIN VALLEY	6.6	0.001	0.4	0.3	2007
17325	A	ACE CLEARWATER ENTER.	PARAMOUNT	3.7	ND	0.0	0.0	2002
18294	A	NORTHROP GRUMMAN CORP, AIRCRAFT DIV	EL SEGUNDO	7.6	ND	0.13	0.05	1999
18378	A	GRUBER SYS INC	VALENCIA	0.8	ND	0.1	0.1	2004
18396	A	SPRAYLAT CORP	LOS ANGELES	3.2	0	0.7	0.0	2012
18439	OB	ACE PLATING CO INC	LOS ANGELES	4.1	ND	0.6	0.2	1998
18452	A	UCLA (REGENTS OF UC) (c)	LOS ANGELES	2.9	ND	0.0	0.1	1999
18508	A	AIR PROD & CHEM INC	LOS ANGELES	2.4	ND	0.1	0.8	1999
18648	OB	CROWN CITY PLATING CO.	EL MONTE	12.0	ND	0.4	0.1	2000
18931	A	GERDAU	RANCHO CUCAMONGA	8.7	0.25	0.49	0.61	2015
18989	A	BOWMAN PLATING CO INC	COMPTON	5.01	0.00102	0.0141	0.0115	2015

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18990	A	LIFE PAINT CO	SANTA FE SPRINGS	0.4	ND	0.0	0.0	2001
19953	OB	RISTON KELLER INC	IRVINE	0.0	ND	0.0	0.0	1996
19989	OB	PARKER HANNIFIN AEROSPACE CORP	IRVINE	0.3	ND	0.0	0.0	1999
20144	OB	CANON BUSINESS MACHINES INC	COSTA MESA	0.0	ND	0.0	0.1	1999
20197	A	LAC/USC MEDICAL CENTER	LOS ANGELES	7.5	ND	0.7	0.4	2007
20280	A	METAL SURFACES INC	BELL GARDENS	6.8	0	0.9	0.3	2011
20375	A	PRUDENTIAL OVERALL SUPPLY	RIVERSIDE	1.0	ND	0.0	0.1	1997
21544	A	US GOVT, MARINE CORPS AIR STA @BLD	Tustin	0.0	ND	0.0	0.0	2000
21615	OB	PERKINELMER OPTOELECTRONICS SC, INC	AZUSA	8.1	ND	0.2	0.1	1998
21895	A	AC PRODUCTS INC	PLACENTIA	0.5	ND	0.0	0.0	2003
22092	A	WESTERN TUBE & CONDUIT CORP	LONG BEACH	0.0	ND	0.0	0.6	1997
22229	A	PROCESSES BY MARTIN INC	LYNWOOD	0.0	ND	0.0	0.0	2002
22373	A	JEFFERSON SMURFIT CORPORATION (U.S.)	LOS ANGELES	0.7	ND	0.0	0.0	1996
22410	A	PALACE PLATING	LOS ANGELES	5.6	ND	0.73	0.38	2004
22467	A	LEFIELL MFG CO	SANTA FE SPRINGS	1.7	ND	0.7	0.2	2000
22551	A	THUMS LONG BEACH CO	SAN PEDRO	1.2	ND	0.0	0.0	2000
22556	A	THUMS LONG BEACH CO, UNIT NO.02	SAN PEDRO	0.8	ND	0.0	0.0	1996
22808	I	PRICE PFISTER INC	PACOIMA	0.9	ND	0.2	0.1	1996
22911	A	CARLTON FORGE WORKS	PARAMOUNT	15.4	ND	1.76	1.04	2006
23559	OB	JOHNSON CONTROLS BATTERY GROUP INC	FULLERTON	1.8	ND	0.0	0.1	2001
23907	A	JOHNS MANVILLE CORP	CORONA	13.0	ND	0.4	2.7	1999
24060	A	TOMKINS INDUSTRIES INC-LASCO PRODS GROUP	ANAHEIM	0.7	ND	0.0	0.0	1996
24118	A	DEVOE COATINGS CO	RIVERSIDE	0.1	ND	0.3	0.1	1999
24520	A	LA CO, SANITATION DISTRICTS	ROLLING HILLS ESTATE	0.3	ND	0.0	0.0	1998
24647	A	J. B. I. INC	COMPTON	0.0	ND	0.0	0.2	1999
24756	A	CRANE CO, HYDRO-AIRE DIV	BURBANK	0.6	ND	0.0	0.1	1997
24812	A	FARMER BROS CO	TORRANCE	0.1	ND	0.0	0.0	1999
25012	A	AMADA MFG AMERICA, INC	LA MIRADA	0.1	ND	0.0	0.0	2002
25070	A	LA CO., SANITATION DISTRICT (c)	WHITTIER	1.5	0.003	0.3	0.1	2009
25440	A	ROBERTSHAW CONTROLS CO, GRAYSON CONTROLS	LONG BEACH	2.7	ND	0.0	1.0	1998
25638	A	BURBANK CITY, PUB SERV DEPT	BURBANK	0.3	ND	0.3	0.0	1996
27343	OB	CON AGRA INC, GILROY FOODS DBA	SANTA ANA	7.1	ND	0.2	0.1	1995

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27701	A	CADDOCK ELECTRONIC	RIVERSIDE	2.7	ND	0.0	0.1	2002
29110	A	ORANGE, COUNTYOF - SANITATION DISTRICT (d)	HUNTINGTO N BEACH	10.7	ND	1.8	0.5	2007
34764	A	CADDOCK ELECTRONICS INC	RIVERSIDE	6.5	ND	0.0	0.1	2002
35302	A	OWENS CORNING (c)	COMPTON	14.0	0.02	0.1	0.1	2000
35483	A	WARNER BROTHERS STUDIO FACILITIES	BURBANK	2.6	ND	0.1	0.3	1997
37336	A	COMMERCE REFUSE TO ENERGY FACILITY	COMMERCE	0.1	0	0.0	0.0	2010
37507	A	TROJAN BATTERY COMPANY	SANTA FE SPRINGS	2.6	0.001	1.1	1.3	2012
37603	A	SGL TECHNIC INC, POLYCARBON DIVISION	VALENCIA	7.8	ND	0.0	0.4	1998
38971	A	RICOH ELECTRONICS INC	IRVINE	5.6	ND	0.0	0.4	1995
39388	A	THUMS LONG BEACH CO, UNIT NO.03	SAN PEDRO	0.5	ND	0.0	0.0	1996
40806	A	NEW BASIS	RIVERSIDE	0.0	ND	0.7	0.2	1997
40829	A	HAWKER PACIFIC INC	SUN VALLEY	2.1	0.0003	0.0	0.1	2009
41229	A	LUBECO INC	LONG BEACH	14.0	ND	0.0	0.1	2002
42514	A	LA CO.,SANITATION DIST,CALABASAS LNDFILL	AGOURA	1.1	0	0.1	0.0	2010
42633	A	LA CO., SANITATION DIST	POMONA	1.2	ND	0.0	0.0	1996
42676	A	AES PLACERITA INC	NEWHALL	0.1	ND	0.1	0.0	2003
42922	OB	CMC PRINTED BAG INC	WHITTIER	9.0	ND	0.0	0.0	1995
43201	A	SNOW SUMMIT INC	BIG BEAR LAKE	5.5	ND	0.2	0.0	2007
43436	A	TST, INC.	FONTANA	0.4	0.11	0.0	0.4	1997
44454	A	STRUCTURAL COMPOSITES IND	POMONA	8.6	0.001	0.0	0.2	2002
44577	A	LONG BEACH CITY, SERRF PROJECT	LONG BEACH	0.4	0	0.0	0.1	2011
45262	A	LA CO, SANITATION DISTRICT UNIT NO.02	GLENDALE	6.2	ND	0.0	0.1	1998
45489	A	ABBOTT CARDIOVASCULAR SYSTEMS, INC.	TEMECULA	3.8	0.01	1.3	0.0	2002
45938	A	E.M.E. INC/ELECTRO MACHINE & ENGINEERING	COMPTON	0.0	ND	0.0	0.0	1999
46268	A	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	2.7	0.02	0.2	0.0	1995
47056	OB	MYERS CONTAINER CORP, IMACC CORP DIV	HUNTINGTON PARK	0.9	ND	0.2	2.0	2002
47459	OB	JACUZZI WHIRLPOOL BATH	IRVINE	0.0	ND	0.0	0.0	1995
48274	A	FENDER MUSICAL INST	CORONA	2.8	ND	0.0	0.4	1997
48300	A	PRECISION TUBE BENDING	SANTA FE SPRINGS	0.2	ND	0.0	0.0	2002
48323	A	SIGMA PLATING CO INC	LA PUENTE	13.8	0.017	0.01	0.74	2001
49387	A	UNIV CAL, RIVERSIDE	RIVERSIDE	7.1	ND	0.0	0.0	1999
51620	A	WHEELABRATOR NORWALK ENERGY CO INC	NORWALK	0.0	ND	0.0	0.0	1996

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51849	A	ELIMINATOR CUSTOM BOATS	MIRA LOMA	0.0	ND	0.0	0.0	1995
52517	A	REXAM PLC, REXAM BEVERAGE CAN COMPANY	CHATSWORTH	2.9	0.01	0.7	0.1	2009
54424	A	L & L CUSTOM SHUTTERS	PLACENTIA	5.5	ND	0.2	0.2	2001
54627	A	HICKORY SPRINGS OF CAL INC	COMMERCE	2.0	ND	0.0	0.5	1998
55711	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.0	0.0	1996
55714	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.0	0.0	1996
57094	A	GS ROOFING PRODUCTS CO, INC/CERTAINTEED (c)	WILMINGTON	7.0	ND	0.0	0.0	2000
57329	OB	KWIKSET CORP	ANAHEIM	3.4	ND	0.0	0.1	2000
61160	A	GE ENGINE SERVICES	ONTARIO	0.5	ND	0.7	0.01	2003
61209	OB	AKZO NOBEL CHEM INC, FILTROL CORP SUB OF	LOS ANGELES	0.0	ND	0.0	0.0	1996
61743	A	AMERON STEEL FABRICATION DIVISION	FONTANA	0.0	ND	0.2	0.2	2000
62679	A	KOP-COAT INC	VERNON	1.3	ND	0.0	0.5	1997
62897	OB	NORTHROP GRUMMAN CORP, MASD	PICO RIVERA	9.4	ND	1.0	0.5	2000
65381	A	SFPP, L.P. (NSR USE)	CARSON	2.4	ND	0.0	0.1	1999
65382	A	SFPP, L.P.	BLOOMINGTON	5.8	ND	0.0	0.0	1996
70021	A	XERXES CORP (A DELAWARE CORP)	ANAHEIM	0.0	ND	0.0	0.0	1996
79682	A	RAMCAR BATTERIES INC	COMMERCE	2.4	1	0.0	0.2	1998
82512	A	BREA CANON OIL CO	WILMINGTON	1.7	ND	0.0	0.0	1996
82513	A	BREA CANON OIL COMPANY INC	HARBOR CITY	1.4	ND	0.0	0.0	1996
83102	A	LIGHT METALS INC	INDUSTRY	4.5	0.01	0.0	2.7	2002
90546	OB	SORIN BIOMEDICAL INC	IRVINE	2.3	ND	0.0	0.0	1996
93346	A	WAYMIRE DRUM CO,INC.,S EL MONTE FACILITY	SOUTH EL MONTE	4.3	ND	0.1	0.2	1997
94872	A	METAL CONTAINER CORP	MIRA LOMA	0.1	ND	0.4	0.4	2002
99119	A	INTERPLASTIC CORP	HAWTHORNE	0.3	ND	0.1	0.3	1999
99773	A	CYTEC FIBERITE INC	ANAHEIM	2.2	0.0004	0.0	0.2	2000
101380	OB	GENERAL DYNAMICS OTS (DOWNEY) INC	DOWNEY	9.8	ND	0.0	0.1	2000
101977	A	SIGNAL HILL PETROLEUM INC	LONG BEACH	4.7	ND	0.6	1.0	1998
103659	OB	4MC-BURBANK, INC.	BURBANK	2.2	ND	0.6	0.0	2004
103888	A	SARGENT FLETCHER INC	EL MONTE	4.9	ND	0.2	0.0	1999
105598	A	SENIOR FLEXONICS INC/STAINLESS STEEL DVN	BURBANK	3.6	ND	1.0	0.5	2001
106009	A	VENOCO INC.	BEVERLY HILLS	1.2	ND	0.0	0.0	2005
106797	OB	SAINT-GOBAIN CONTAINERS LLC	LOS ANGELES	9.9	ND	0.0	0.1	2000

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106838	A	VALLEY-TODECO, INC	SYLMAR	3.7	ND	0.2	0.2	2000
107149	A	MARKLAND MANUFACTURING INC	SANTA ANA	0.3	ND	0.1	0.1	2007
107168	I	ADVANCED SPA DESIGNS	LA HABRA	8.6	ND	0.0	0.0	1995
107350	A	NATIONAL O-RINGS	DOWNEY	1.5	ND	0.0	0.0	2001
108701	A	SAINT-GOBAIN CONTAINERS LLC	EL MONTE	7.3	ND	0.1	0.1	2000
109198	A	TORCH OPERATING COMPANY	BREA	5.0	ND	0.0	0.0	2001
110924	A	WESTWAY TERMINAL COMPANY	SAN PEDRO	8.0	ND	0.3	0.5	1997
111110	A	BRISTOL FIBERLITE INDUSTRIES, INC	SANTA ANA	0.1	ND	0.0	0.0	1995
111415	A	VAN CAN COMPANY	FONTANA	0.8	ND	0.0	0.1	1996
112192	OB	CONSOLIDATED DRUM RECONDITIONING CO INC	SOUTH GATE	0.3	ND	0.0	0.0	1997
113170	A	SANTA MONICA - UCLA MEDICAL CENTER (b)	SANTA MONICA	7.6	0.14	0.2	0.0	1997
113676	A	VICKERS	LOS ANGELES	3.0	ND	0.0	0.0	1995
114801	A	RHODIA INC.	LONG BEACH	0.1	ND	0.0	0.1	2006
115389	A	AES HUNTINGTON BEACH, LLC	HUNTINGTO N BEACH	0.1	ND	0.0	0.0	1999
115394	A	AES ALAMITOS, LLC	LONG BEACH	0.6	ND	0.0	0.0	1999
115536	A	AES REDONDO BEACH, LLC	REDONDO BEACH	0.4	ND	0.0	0.0	1998
115586	A	SUNDANCE SPAS, INC	CHINO	0.0	ND	0.0	0.4	1996
115663	A	EL SEGUNDO POWER, LLC	EL SEGUNDO	0.3	ND	0.0	0.0	2000
116868	A	EQUILON ENT LLC/RIALTO TERMINAL	BLOOMINGTON	2.9	ND	0.0	0.0	1999
117560	A	EQUILON ENTER, LLC-SHELL OIL PROD. US	WILMINGTON	7.3	ND	0.0	0.1	1998
117785	A	BALL METAL BEVERAGE CONTAINER CORP.	TORRANCE	0.0	ND	0.2	0.9	2001
118406	A	CARSON COGENERATION COMPANY	CARSON	0.8	ND	0.2	0.0	2007
118998	OB	CYTEC FIBERITE INC	CULVER CITY	6.6	ND	0.0	0.2	1997
119127	A	PRC-DE SOTO INTERNATIONAL	GLENDALE	0.0	ND	0.0	0.0	2000
119907	A	BERRY PETROLEUM COMPANY	SANTA CLARITA	1.6	ND	0.2	0.7	1999
119920	A	PECHINEY CAST PLATE INC	VERNON	1.6	ND	0.3	0.3	1996
120088	A	BREITBURN ENERGY COMPANY, LLC	SANTA FE SPRINGS	0.8	ND	0.0	0.0	1998
122295	A	FALCON FOAM, A DIV OF ATLAS ROOFING CORP	LOS ANGELES	0.4	ND	0.0	0.0	1999
122300	A	BASF CORPORATION	COLTON	0.3	ND	0.6	0.0	2002
122822	I	CONSOLIDATED FILM INDUSTRIES	HOLLYWOOD	21.0	ND	0.1	0.4	2000
124016	A	OAKLITE PRODUCTS (BRENT AMERICA, INC./ LEEDER ARDOX)	LA MIRADA	0.0	ND	0.1	0.1	2000
124506	A	BOEING ELECTRON DYNAMIC DEVICES INC	TORRANCE	4.2	ND	0.5	0.1	1995

Table A-2 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
124805	A	EXIDE TECHNOLOGIES	COMMERCE	0.3	ND	0.0	0.0	2000
124806	OB	EXIDE TECHNOLOGIES	INDUSTRY	1.0	ND	0.0	0.0	1999
124838	OB	EXIDE TECHNOLOGIES	LOS ANGELES	0	ND	0	0	2013
125281	OB	MODERN PLATING, ALCO CAD-NICKEL PLATING	LOS ANGELES	8.2	ND	0.1	0.0	1995
126060	A	STERIGENICS US, LLC	ONTARIO	3.8	0	0.0	0.0	2007
126191	A	STERIGENICS US, INC.	LOS ANGELES	3.3	ND	0.0	0.0	1996
126197	A	STERIGENICS US, INC.	LOS ANGELES	3.6	ND	0.0	0.0	1996
126536	A	CONSOLIDATED FOUNDRIES - POMONA	POMONA	1.5	ND	0.0	0.0	1999
126544	A	PAC FOUNDRIES-INDUSTRY	INDUSTRY	1.3	ND	0.6	0.1	1996
126964	A	EDWARDS LIFESCIENCES LLC	IRVINE	0.8	ND	0.0	0.0	1995
127568	A	ENGINEERED POLYMER SOLUTION, VALSPAR	MONTEBELLO	3.5	ND	0.1	0.5	2000
132343	A	SPECTRUM PAINT & POWDER, INC.	ANAHEIM	0.0	ND	0.2	0.7	1997
132954	A	ALL AMERICAN ASPHALT	SAN FERNANDO	1.6	<0.02	0.4	0.3	2017
133405	A	BODYCOTE INC/BODYCOTE THERMAL PROCESSING	LOS ANGELES	2.4	ND	0.0	0.2	1999
133660	A	HAYDEN INDUSTRIAL PRODUCTS	CORONA	1.6	ND	0.8	0.4	1998
134018	A	INDUSTRIAL CONTAINER SERVICES-CA LLC	MONTEBELLO	5.2	ND	0.6	0.2	2000
134931	A	ALCOA GLOBAL FASTENERS, INC.	FULLERTON	0.6	ND	1.90	0.02	1997
134943	A	ALCOA GLOBAL FASTENERS, INC. SOUTH BAY	TORRANCE	2.6	ND	0.6	0.0	2008
136148	A	E/M COATING SERVICES	NORTH HOLLYWOO	5.8	ND	0.3	0.6	1998
137517	A	PACIFIC TERMINALS LLC	ETIWANDA	2.7	ND	0.0	0.2	2000
140499	A	AMERESCO HUNTINGTON BEACH, L.L.C.	HUNTINGTO N BEACH	7.0	ND	0.0	0.0	1995
140811	A	DUCOMMUN AEROSTRUCTURES INC	MONROVIA	3.5	0.01	0.0	0.0	2002
140961	A	GKN AEROSPACE TRANSPARENCY SYS INC	GARDEN GROVE	6.0	ND	0.0	0.5	1996
142267	A	FS PRECISION TECH LLC	RANCHO DOMINGUE	2.0	ND	0.1	0.2	2001
144677	A	PRATT & WHITNEY ROCKETDYNE/RUBY ACQ ENT	CANOGA PARK	0.0	ND	0.0	0.0	1996
146570	A	ROHM AND HAAS CHEMICALS LLC	LA MIRADA	6.2	ND	0.5	0.8	1999
148925	A	CHERRY AEROSPACE LLC	SANTA ANA	9.7	ND	0.1	0.2	1999
149241	A	REGAL CULTURED MARBLE	POMONA	0.0	ND	0.0	0.2	1995
151415	A	LINN WESTERN OPERATING, INC	BREA	3.4	ND	0.0	0.0	1999
151798	A	TESORO REFINING AND MARKETING CO	CARSON	2.8	ND	0.1	0.0	1999
151899	A	VINTAGE PRODUCTION CALIFORNIA LLC	NEWHALL	3.5	ND	0.0	0.2	2000

Table A-2 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
152054	A	LINN WESTERN OPERATING INC	BREA	1.1	ND	0.0	0.1	1996
152501	A	PRECISION SPECIALTY METALS INC	LOS ANGELES	0.5	ND	0.4	0.2	2001
153546	A	HUCK INTL INC. DBA ALCOA FASTENING SYS.	CARSON	3.3	ND	0.0	0.0	1999
155828	A	GARRETT AVIATION SVCS. LLC DBA STANDARD	LOS ANGELES	9.3	ND	0.19	0.25	2002
156741	A	HARBOR COGENERATION CO	WILMINGTON	0.1	ND	0.0	0.0	2002
157451	A	VERNON MACHINE CORP, BENDER US DBA	VERNON	4.4	0.001	1.0	0.0	2002
160150	A	ERGON ASPHALT & EMULSIONS, INC.	FONTANA	0.0	ND	0.3	0.0	1999
160437	A	SOUTHERN CALIFORNIA EDISON	SAN BERNARDINO	2.3	<0.01	<0.01	<0.01	2013
160916	A	FOAMEX INNOVATIONS, INC.	ORANGE	0.0	ND	0.4	0.4	1994
161142	A	FOAMEX INNOVATIONS, INC.	COMPTON	0.3	0	0.0	0.0	2010
161300	A	SAPA EXTRUDER, INC	INDUSTRY	1.3	ND	0.0	0.0	1999
164864	A	ARROWHEAD BRASS & PLUMBING	LOS ANGELES	5.7	ND	0.3	0.0	1995
165192	A	TRIUMPH AEROSTRUCTURES, LLC (b)	HAWTHORNE	19.7	ND	0.64	0.24	1999
167981	A	TESORO LOGISTICS OPERATIONS LLC	WILMINGTON	2.8	ND	0.0	0.0	2000
168088	A	PCCR USA	LYNWOOD	6.5	ND	0.1	1.6	1995
169990	A	SPS TECHNOLOGIES, LLC	GARDENA	8.9	ND	0.1	0.1	1999
171107	A	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	23.2	0.29	0.1	0.7	2013
171109	A	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	6.6	0.11	0.0	0.3	2011
172878	A	TESORO LOGISTICS OPERATIONS LLC LONG BEA	LONG BEACH	2.4	ND	0.0	0.0	1999
173913	A	TRIUMPH PROCESSING, EMBEE DIV, INC.	SANTA ANA	6.6	ND	0.21	0.58	2000
174591	A	TESORO REFINING & MARKETING CO LLC, CAL (c)	WILMINGTON	4.3	ND	0.1	0.2	1995
174655	A	TESORO REFINING & MARKETING CO, LLC	CARSON	7.3	ND	0.3	0.1	2000
174703	A	TESORO REFINING & MARKETING CO LLC CARSO	CARSON	3.0	ND	0.0	0.0	1994
174710	A	TESORO LOGISTICS OP LLC, VINVALE MARKETI	SOUTH GATE	9.0	ND	0.0	0.0	1994
175124	A	AEROJET ROCKETDYNE OF DE, INC.	CANOGA PARK	8.7	ND	0.0	0.0	1995
175191	A	FREEPORT-MCMORAN OIL & GAS	LOS ANGELES	2.7	ND	0.0	0.1	1997
176967	A	GAS RECOVERY SYSTEMS, INC	IRVINE	20.1	0.18	0.6	0.3	2009
177042	A	SOLVAY USA, INC	LONG BEACH	4.3	ND	0.3	0.0	2001
800003	A	HONEYWELL INTERNATIONAL INC	TORRANCE	1.8	ND	0.0	0.0	1999
800007	OB	ALLIED SIGNAL INC (NSR USE ONLY)	EL SEGUNDO	3.6	ND	0.0	0.5	2000
800022	A	CALNEV PIPE LINE CO (NSR USE)	BLOOMINGTON	5.9	ND	0.0	0.1	1999
800026	A	ULTRAMAR INC (NSR USE ONLY)	WILMINGTON	7.2	0.18	0.7	0.2	2012

Table A-2 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
800030	A	CHEVRON PRODUCTS CO.	EL SEGUNDO	2.7	0.28	0.3	0.1	2001
800032	A	CHEVRON U.S.A. INC (EIS USE)	MONTEBELLO	7.5	0.14	0.0	0.2	1999
800035	A	CONTINENTAL AIRLINES INC (NSR USE ONLY)	LOS ANGELES	2.8	ND	0.0	0.1	1995
800037	A	DEMENNO/KERDOON	COMPTON	4.9	0.01	0.01	0.02	2009
800038	A	THE BOEING COMPANY - C17 PROGRAM	LONG BEACH	4.8	ND	0.2	0.1	1999
800039	I	DOUGLAS PRODUCTS DIVISION	TORRANCE	2.4	ND	0.0	0.0	1996
800041	A	DOW CHEM U.S.A. (NSR USE)	TORRANCE	4.4	ND	0.1	0.0	2000
800047	I	FLETCHER OIL & REF CO	CARSON	5.9	ND	0.0	0.0	1998
800056	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	WILMINGTON	2.3	0.01	0.0	0.0	1997
800057	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	CARSON	8.5	ND	0.0	0.1	1999
800063	A	GROVER PROD. CO (EIS USE)	LOS ANGELES	3.3	0.039	0.88	0.07	2001
800066	A	HITCO CARBON COMPOSITES INC	GARDENA	6.4	ND	0.3	0.0	1995
800067	A	BOEING SATELLITE SYSTEMS INC	EL SEGUNDO	6.2	ND	0.0	0.1	2000
800074	A	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	0.2	ND	0.0	0.0	2000
800075	A	LA CITY, DWP SCATTERGOOD GENERATING STA	PLAYA DEL REY	0.0	ND	0.0	0.0	2000
800079	A	PETRO DIAMOND TERMINAL CO	LONG BEACH	8.3	ND	0.0	0.2	1998
800087	A	MENASCO MFG CO (EIS USE)	BURBANK	0.0	ND	0.0	0.0	1997
800089	A	EXXONMOBIL OIL CORPORATION	TORRANCE	7.7	0.15	0.2	0.5	2013
800091	A	MOBIL OIL CORP (NSR USE ONLY)	ANAHEIM	0.7	ND	0.0	0.0	1999
800111	OB	THE BOEING COMPANY	DOWNEY	2.3	ND	0.0	0.1	1996
800113	A	ROHR,INC	RIVERSIDE	7.2	0.01	0.9	0.0	2007
800127	A	SO CAL GAS CO (EIS USE)	MONTEBELLO	1.0	0	0.0	0.0	2009
800149	A	US BORAX INC	WILMINGTON	9.5	ND	0.0	0.0	2000
800150	A	US GOVT, AF DEPT, MARCH AFB (NSR USE)	RIVERSIDE	7.4	0.02	0.3	0.0	2008
800168	A	PASADENA CITY, DWP (EIS USE)	PASADENA	0.2	ND	0.7	0.0	1996
800171	A	EXXONMOBIL OIL CORPORATION	VERNON	5.3	ND	0.1	0.0	1997
800181	A	CALIFORNIA PORTLAND CEMENT CO (c)	COLTON	2.0	ND	0.0	0.4	1996
800182	A	RIVERSIDE CEMENT CO (c)	RIVERSIDE	7.8	0.11	0.1	0.1	2001
800183	A	PARAMOUNT PETR CORP (EIS USE)	PARAMOUNT	9.6	ND	0.0	0.0	2002
800184	A	GOLDEN WEST REF CO	SANTA FE SPRINGS	8.8	ND	0.2	0.1	1997
800189	A	DISNEYLAND RESORT	ANAHEIM	3.3	0.03	0.1	0.1	2009
800193	A	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	0.2	ND	0.3	0.0	1999

Table A-2 (cont'd)

Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (per million)	Cancer Burden (f)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (e)
800196	A	AMERICAN AIRLINES INC (EIS USE)	LOS ANGELES	5.4	0.190	0.86	0.08	2002
800198	A	ULTRAMAR INC (NSR USE ONLY)	WILMINGTON	5.9	ND	0.0	0.1	1999
800202	A	UNIVERSAL STUDIOS INC (EIS USE)	UNIVERSAL CITY	2.4	ND	0.0	0.0	1996
800204	OB	SIMPSON PAPER CO	POMONA	3.4	ND	0.0	0.0	1996
800209	A	BKK CORPORATION, LANDFILL DIVISION GNRL	WEST COVINA	6.9	ND	0.0	0.1	2000
800214	A	LA CITY, SANITATION BUREAU (c)	PLAYA DEL REY	7.6	ND	0.1	0.0	1999
800236	A	LA CO. SANITATION DIST	CARSON	7.2	ND	0.2	0.1	2007
800264	A	EDGINGTON OIL COMPANY	LONG BEACH	4.8	0.001	0.0	0.0	2002
800267	A	TRIUMPH PROCESSING, INC.	LYNWOOD	0.5	0	0.1	0.4	2012
800273	OB	CHEMOIL REF CORP (NSR USE ONLY)	SIGNAL HILL	0.0	ND	0.0	0.0	2000
800279	A	SFPP, L.P.	ORANGE	5.9	ND	0.0	0.2	1999
800288	A	UNIV CAL IRVINE (NSR USE ONLY)	IRVINE	5.6	ND	0.0	0.1	1996
800318	A	GRISWOLD INDUSTRIES	COSTA MESA	9.5	0.01	0.1	0.0	2001
800320	A	AMVAC CHEMICAL CORP	LOS ANGELES	0.0	ND	0.1	0.3	2004
800325	A	TIDELANDS OIL PRODUCTION CO	LONG BEACH	1.9	ND	0.1	0.6	1999
800327	A	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	0.6	ND	0.0	0.0	1999
800337	OB	CHEVRON U.S.A., INC (NSR USE)	LA HABRA	0.0	ND	0.0	0.0	1996
800343	A	BOEING SATELLITE SYSTEMS, INC	EL SEGUNDO	0.3	ND	0.0	0.2	1996
800372	A	EQUILON ENTER. LLC, SHELL OIL PROD. US	CARSON	6.9	ND	0.4	0.1	2001
800373	I	CENCO REFINING COMPANY	SANTA FE SPRINGS	9.7	ND	0.3	0.1	2000
800387	A	CAL INST OF TECH	PASADENA	2.4	ND	0.1	0.0	2007
800408	A	NORTHROP GRUMMAN SPACE & MISSION SYSTEMS	MANHATTA N BEACH	1.4	ND	0.9	0.1	1998
800409	A	NORTHROP GRUMMAN SPACE & MISSION SYSTEMS	REDONDO BEACH	5.5	ND	0.5	0.2	1998
800436	A	TESORO REFINING AND MARKETING CO	WILMINGTON	10.7	0.37	0.3	0.4	2013

Notes:

a) A = Active (note that facilities with "Active" status within SCAQMD's database might not be in operation currently); I = Inactive; OB = 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.
e) All HRAs with HRA Approval Year dated 2015 and later have used the 2015 OEHHA HRA Guidelines for preparation of their HRA.
f) ND = Not Determined

Table A-3 – Status of Risk Reduction Plans

Facility ID	Facility Name	Submitted	Approved	Implemented	Residual Risk			
					Cancer Risk	Chronic HI	Acute HI	Cancer Burden
7427	Owens-Brockway Glass	Yes	Yes	Yes	3.60	0.01	0.06	0.000
7730	E.R. Carpenter	Yes	Yes	Yes	0.96	0.03	1.34	0.000
8015	Anadite Inc.	Yes	Yes	Yes	3.5	0.63	0.78	N/A
8547	Quemetco	Yes	Yes	Yes	7.1	0.09	0.69	0.45
11818	Hixson Metal Finishing	Yes	Yes	No	0.8	0.04	0.006	N/A
14191	Nicklor Chemical Co. **(a)**	Yes	Yes	Yes	N/A	N/A	N/A	N/A
15504	Schlosser Forge Co.	Yes	Yes	Yes	9.5	1.59	1.11	0.067
16951	Anaplex Corp	Yes	In Progress	In Progress	TBD	TBD	TBD	TBD
18294	Northrop-Grumman	Yes	Yes	Yes	7.6	0.13	0.05	N/A
18931	Gerdau	Yes	Yes	In Progress	8.7	0.49	0.61	0.25
18989	Bowman Plating Co. Inc.	Yes	Yes	In Progress	5.01	0.0141	0.0115	0.00102
22410	Palace Plating **(b)**	Yes	Yes	Yes	5.6	0.73	0.38	N/A
23752	Aerocraft Heat Treating Co Inc	Yes	In Progress	In Progress	TBD	TBD	TBD	TBD
25012	Amanda Manufacturing America, Inc.	Yes	Yes	Yes	<0.1	0.00	0.00	0.000
41229	Lubeco, Inc. **(e)**	Yes	In Progress	In Progress	TBD	TBD	TBD	TBD
45938	E.M.E. Inc.	Yes	Yes	Yes	<0.1	0.00	<0.01	0.000
48323	Sigma Plating Co.	Yes	Yes	Yes	13.8	0.01	0.74	0.017
61160	GE Engine Services	Yes	Yes	Yes	0.50	0.7	0.01	0.000
119127	PRC DeSoto International **(a)**	Yes	Yes	Yes	N/A	N/A	N/A	N/A
124838	Exide Technologies **(d)**	Yes	Yes	*(See Note)*	N/A	N/A	N/A	N/A
134931	Alcoa Global Fasteners, Inc.	Yes	Yes	Yes	0.6	1.90	0.02	0.000
155828	Garrett Aviation Services, LLC	Yes	Yes	Yes	9.3	0.19	0.25	N/A
165192	Triumph Aerostructures, LLC. **(c)**	Yes	Yes	Yes	19.7	0.64	0.24	N/A
173913	Triumph Processing, Embee Div, Inc.	Yes	Yes	Yes	6.6	0.21	0.58	N/A
800037	DeMenno/Kerdoon	Yes	Yes	Yes	4.9	<0.01	0.02	0.01
800063	Grover Products Co.	Yes	Yes	Yes	3.3	0.88	0.07	0.039
800196	American Airlines, Inc.	Yes	Yes	Yes	5.4	0.86	0.08	0.190

Notes:

(a) Facility has left the Basin, resulting risks are zero.

(b) Facility has shut down, resulting risks are zero.

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

(d) Facility undergoing closure and is no longer operating.

(e) Represents previously approved HRA and RRP values. New HRA and RRP review is in progress.

APPENDIX B - TRENDS IN AMBIENT AIR TOXICS IN THE SOUTH COAST AIR BASIN

In addition to SCAQMD's periodic Multiple Air Toxics Exposure Studies (MATES), CARB has maintained a long-term continuous toxics monitoring network since the late 1980's.[19] In this appendix, trends in cancer risks are illustrated for sites in the Basin. Health risk levels for the most recent three-year period (i.e., 2014 to 2016) are also shown for the air toxics which are monitored. CARB's monitoring network does not include DPM, which contributes significantly to cancer risks in the Basin. 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.

Four of the approximately 16 current active sites in CARB's statewide toxics monitoring network are in or near the Basin as shown in Figure B-1. CARB's long-term sites are located in Azusa, Los Angeles, and Riverside-Rubidoux. Simi Valley is included in this analysis since it is just outside the western edge of the Basin and represents conditions at the western end of San Fernando Valley. The measurements consist of 24-hour integrated samples collected once every 12 days. Table B-1 lists the toxic air contaminants that are monitored and the carcinogenic compounds in the table are identified with an asterisk.

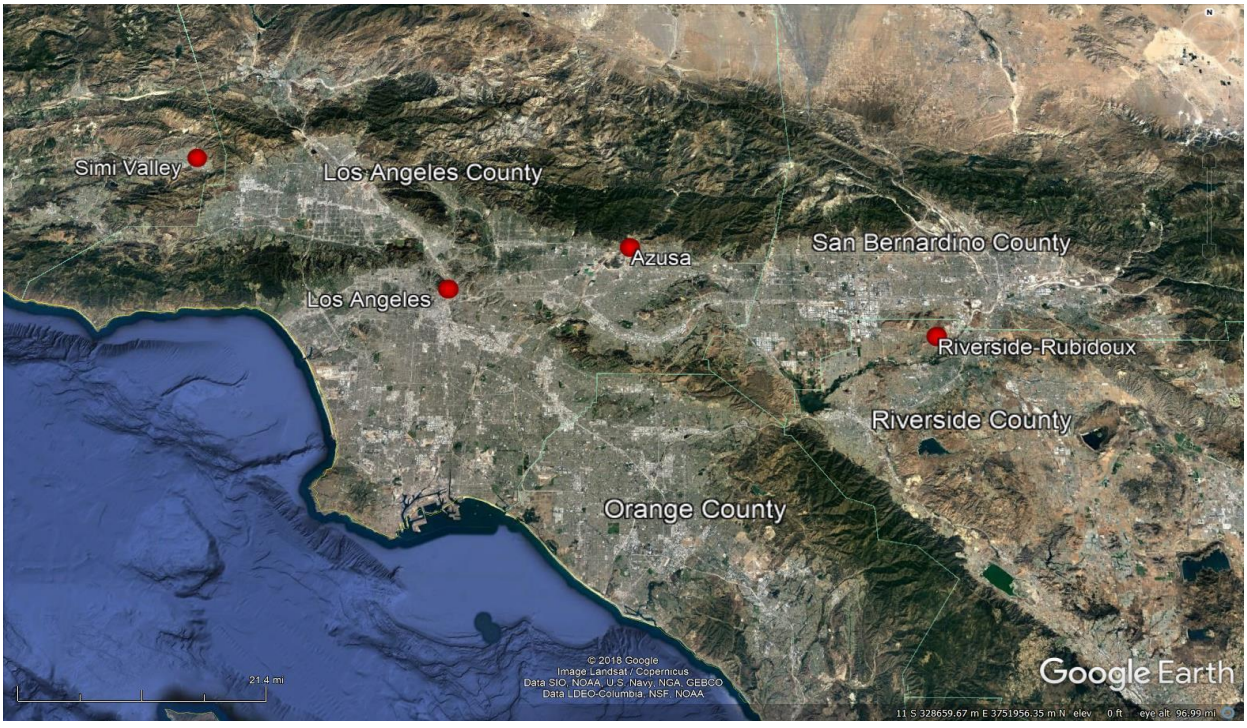

Figure B-1 – CARB toxic monitoring sites in the South Coast Air Basin

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

Table B-1 – Toxic Air Contaminants Monitored

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

The 2015 OEHHA HRA Guidelines[20] incorporates age sensitivity and exposure factors which increase cancer health risk estimates to residential and sensitive receptors by approximately three times, and more than three times in some cases depending on whether the toxic air contaminant has multiple pathways of exposure in addition to the inhalation pathway. Under the 2015 OEHHA HRA Guidelines, even though the toxic pollutant concentrations may not have increased, the estimated cancer risk to a residential receptor will increase.

Figure B-2a presents health risk trends using the 2015 OEHHA HRA Guidelines. Inhalation cancer health risks have decreased significantly at all stations since 1990. Cancer risks have decreased by 44, 81, and 76 percent at Riverside, Los Angeles, and Simi Valley, respectively[21]. Azusa station shows a decrease in cancer risk by 35 percent since 2000.

Note that the Riverside station shows an increase in cancer risk for 2016. This is solely due to higher measured concentrations of methylene chloride for 2016, which were more than 30 times higher than the previous year. The current available readings for 2017 have dropped to a level that is consistent with 2015 and earlier data. Figure B-2c shows the monitored methylene chloride concentrations at the Riverside station from 2000 to 2017, averaged by quarter.

Nevertheless, the 2016 concentrations have not been invalidated and are therefore included in the estimation of inhalation cancer risk in Figure B-2a. The inhalation cancer risk shown is estimated based on a 30-year exposure. Given that 2017 concentrations of methylene chloride have returned to the levels consistent with earlier years, Figure B-2b shows the trends in cancer risk excluding those measured in 2016. Figures B-2a and B-2b are provided below to show the effect of the 2016 Riverside methylene chloride measurements on the inhalation cancer risk.

[20] OEHHA, Air Toxics "Hot Spots" Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, February 2015, adopted March 2015, https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

[21] Some concentrations were not available for certain years. In order to avoid under-representing the total cancer risk from all toxic compounds, values are interpolated between years where possible. If data for a certain toxic compound is unavailable for the latest year, the available data point from the most recent prior year is used in its place.

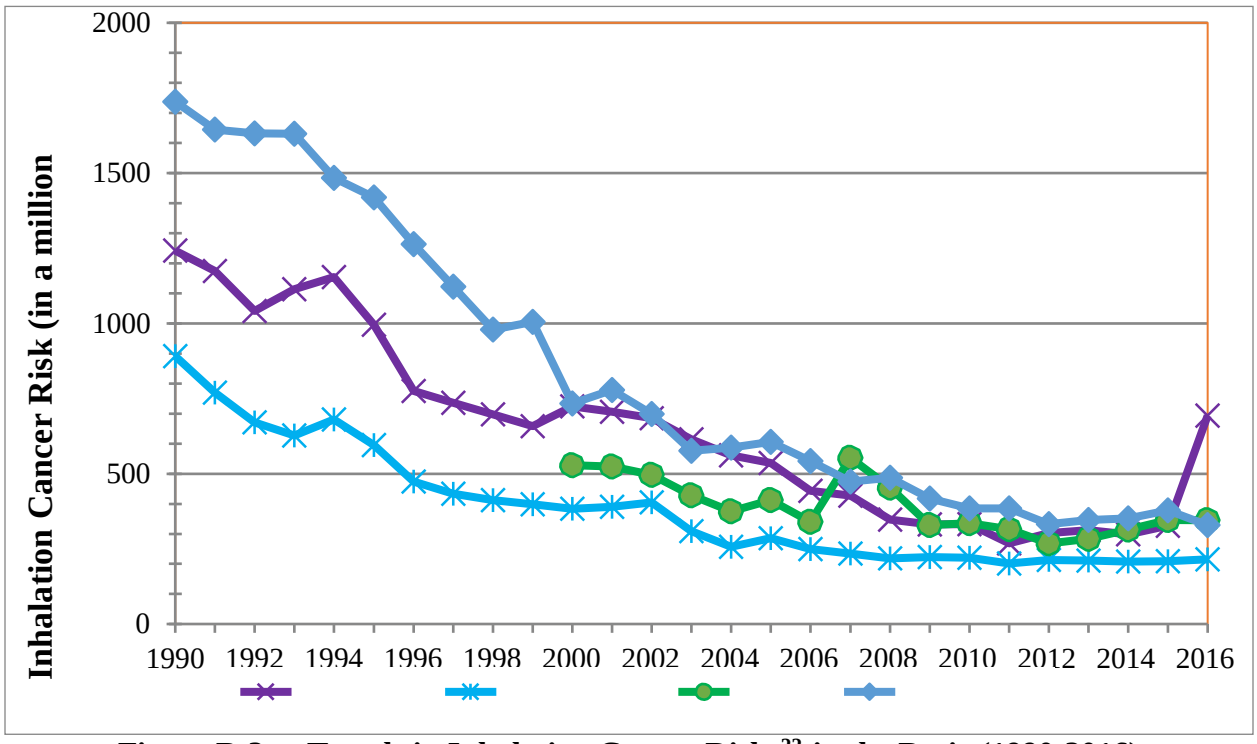

Figure B-2a - Trends in Inhalation Cancer Risks[22] in the Basin (1990-2016)

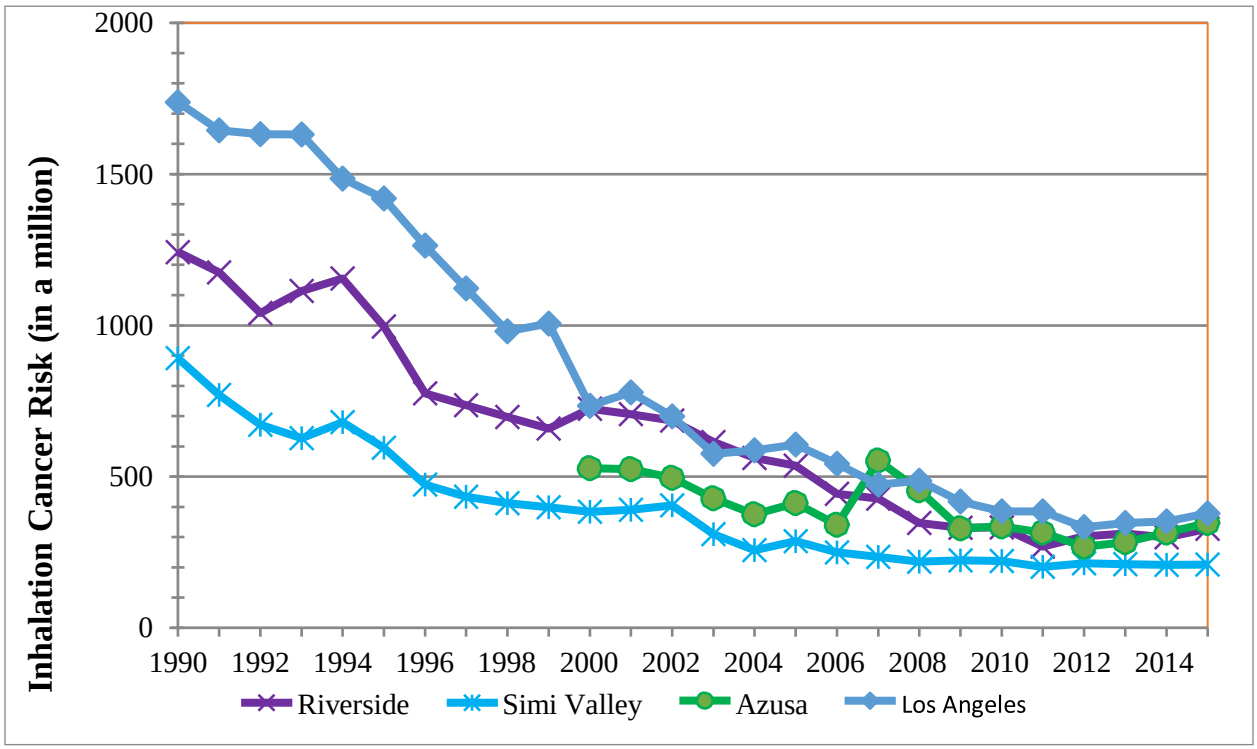

Figure B-2b - Trends in Inhalation Cancer Risks in the Basin (1990-2015)

[22] Calculated with 2015 OEHHA HRA Guidelines, excluding cancer risks from DPM.

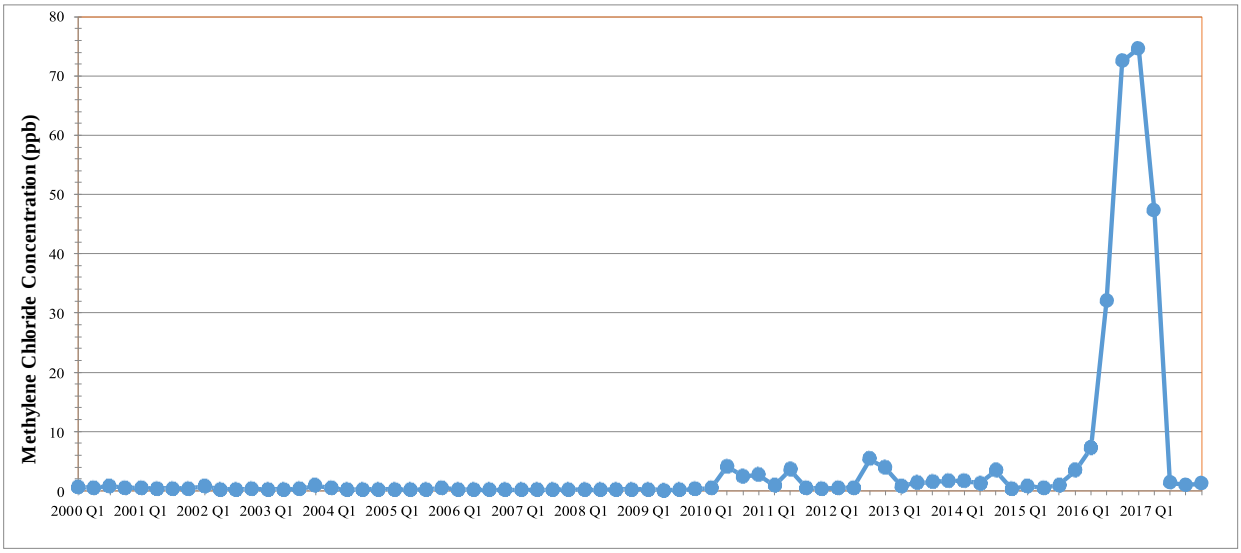

Figure B-2c – Methylene Chloride Monitored Concentrations at Riverside Station, Averaged by Quarter (2000 to 2017)

Azusa station started in 1995 as one of the Photochemical Assessment Monitoring Stations (PAMS) network aimed at determining speciated hydrocarbon ozone precursor compounds in ambient air. On October 17, 2006, U.S. EPA issued final amendments to PAMS monitoring requirements in 40 CFR Code 58. On July 1, 2009, to address these amendments, and with site-specific observations from the PAMS network assessment project, Azusa station was reclassified from Type 3 (maximum ozone concentration site) to Type 2 (maximum ozone precursor emissions impact site or above 8-hour ozone). The proposed change addressed the National PAMS Network Assessment that Azusa has high Volatile Organic Compounds (VOC) and Oxides of Nitrogen (NOX) concentrations, with lower ozone concentrations. The site now more closely resembles a Type 2 ozone precursor site.

The reduction in cancer risk at the Azusa station is primarily from reductions in ambient concentrations of benzene and 1,3-butadiene. Benzene accounts for 50 percent of the cancer risk reduction and 1,3-butadiene accounts for 46 percent of the cancer risk reduction.

The cancer risk reductions shown in Figure B-2a occurred despite significant increases in population and vehicle activity. As shown in Table B-2, the population increased by 38 percent since 1990 and daily vehicle miles traveled (VMT), vehicle population, and daily fuel consumption increased by 43, 54, and 31 percent, respectively.

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

Activity Variable	1990	2017	Percentage Increase
Population	13,083,594	18,098,716	38.3%
Daily Vehicle Miles Traveled (1,000 mile per day)	282,561	403,020	42.6%
Vehicle Population	7,547,354	11,582,730	53.5%
Daily Fuel Consumption (1,000 gal per day)	18,338	24,067	31.2%

Source: http://www.arb.ca.gov/app/emsinv/trends/ems_trends.php.

The relative importance of each of the toxics at the four monitoring stations is illustrated in Figure B-3a below. These ranges do not represent all potential exposures, and some areas near facilities with toxic air contaminant emissions may have higher cancer risks. The range of cancer risks for the four sites analyzed here are shown for the most recently available three-year period (2014 to 2016). As mentioned previously, the inhalation cancer risk estimated for 2016 includes the high measurements for methylene chloride at the Riverside station that are inconsistent with all other readings taken at this station. To better demonstrate the effect of the 2016 Riverside methylene chloride measurements on the inhalation cancer risks, Figure B-3b is provided to show the three-year period before 2016 (2013 to 2015).

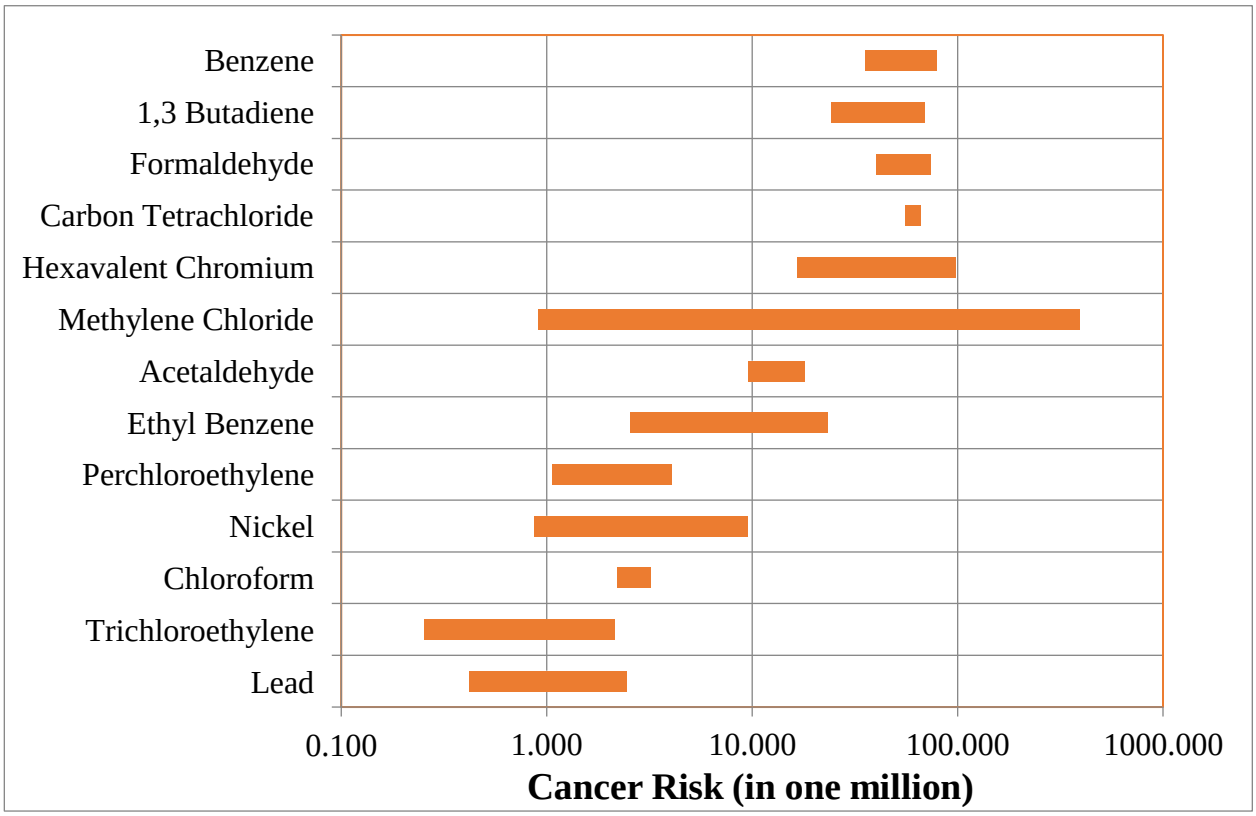

Figure B-3a - Inhalation Cancer Risks in the Basin (2014 to 2016) (excluding DPM)

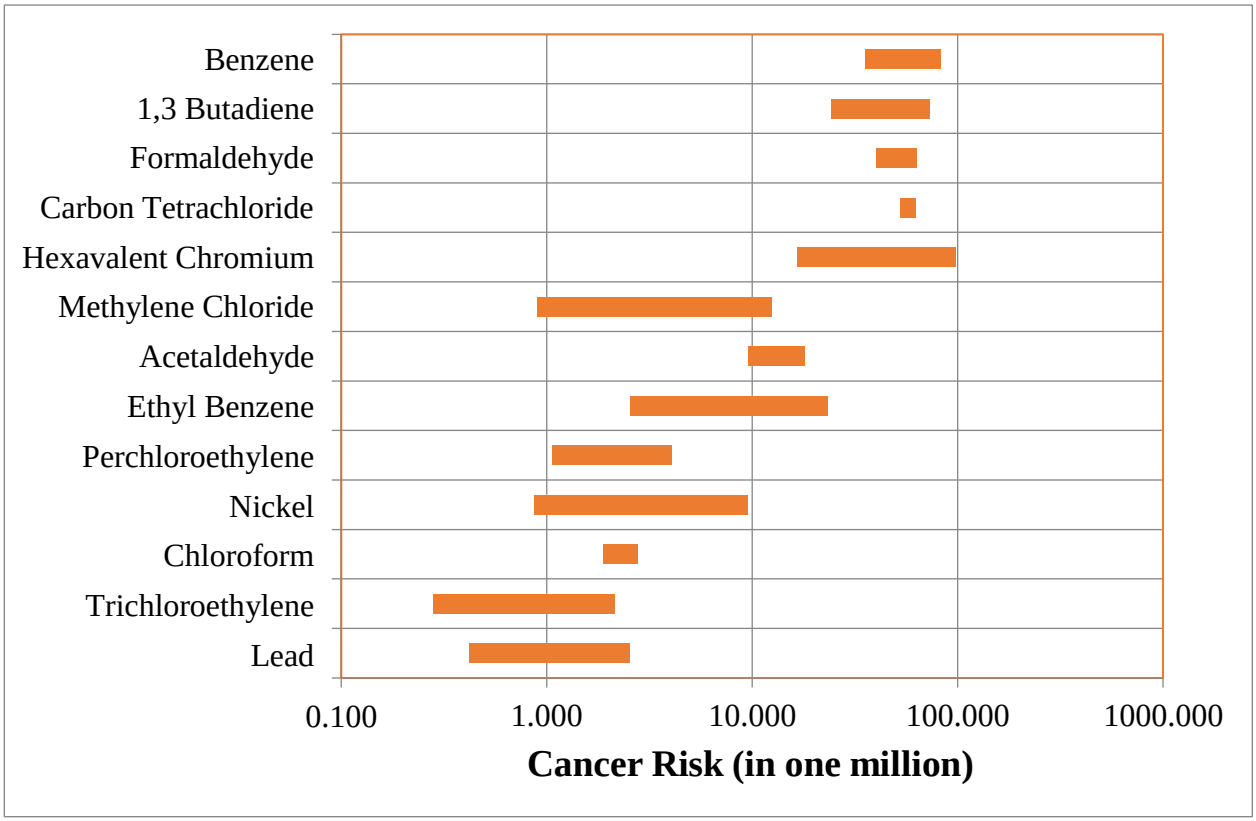

Figure B-3b - Inhalation Cancer Risks in the Basin (2013-2015) (excluding DPM)

Benzene, 1,3-butadiene, formaldehyde, carbon tetrachloride, hexavalent chromium, methylene chloride, acetaldehyde, and ethyl benzene are the largest contributors to the inhalation cancer risks, contributing individually from approximately 0.9 to 396 in a million. The ambient carbon tetrachloride concentrations observed in the Basin are not from a local source of emissions but represent background conditions. Note that there is little variability in cancer risks attributable to carbon tetrachloride as indicated by its short bar in Figure B-3a. In fact, there is little variability statewide in carbon tetrachloride concentrations, with concentrations varying by less than ten percent. Perchloroethylene, chloroform, and nickel each contribute between approximately 0.9 and 9.5 in a million and trichloroethylene and lead contribute on average about two in a million to the inhalation cancer risks.

As demonstrated in the series of MATES conducted by SCAQMD staff, DPM is by far the largest contributor to inhalation cancer risks observed in the Basin. The MATES IV study attributed about 68 percent of the inhalation cancer risks to DPM based on emissions from 2012,[23] compared to 84 percent in MATES III based on emissions in 2005.[24] The total cancer risks shown in Figures B-2 and B-3 therefore represent only about 32 percent of the population weighted inhalation cancer risks found in the MATES IV study.

The range of non-cancer chronic risks for the four sites analyzed here are shown in Figure B-4a for the most recently available three-year period (2014 to 2016). For each toxic air contaminant, the ratio of the observed concentration to the pollutant's chronic REL is shown. Ratios less than one indicate that the observed concentrations are less than OEHHA's defined RELs, and are not anticipated to result in adverse non-cancer health effects in the general population, including sensitive subpopulations. Ratios greater than one indicate the potential for adverse health effects.

Figure B-4b shows the non-cancer chronic risks for the years 2013 to 2015, which excludes the unusually high 2016 Riverside methylene chloride measurements. The range for non-cancer chronic risks for methylene chloride is noticeably smaller in Figure B-4b than in Figure B-4a.

[23] See page ES-2 of the Executive Summary which is available at: http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15

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

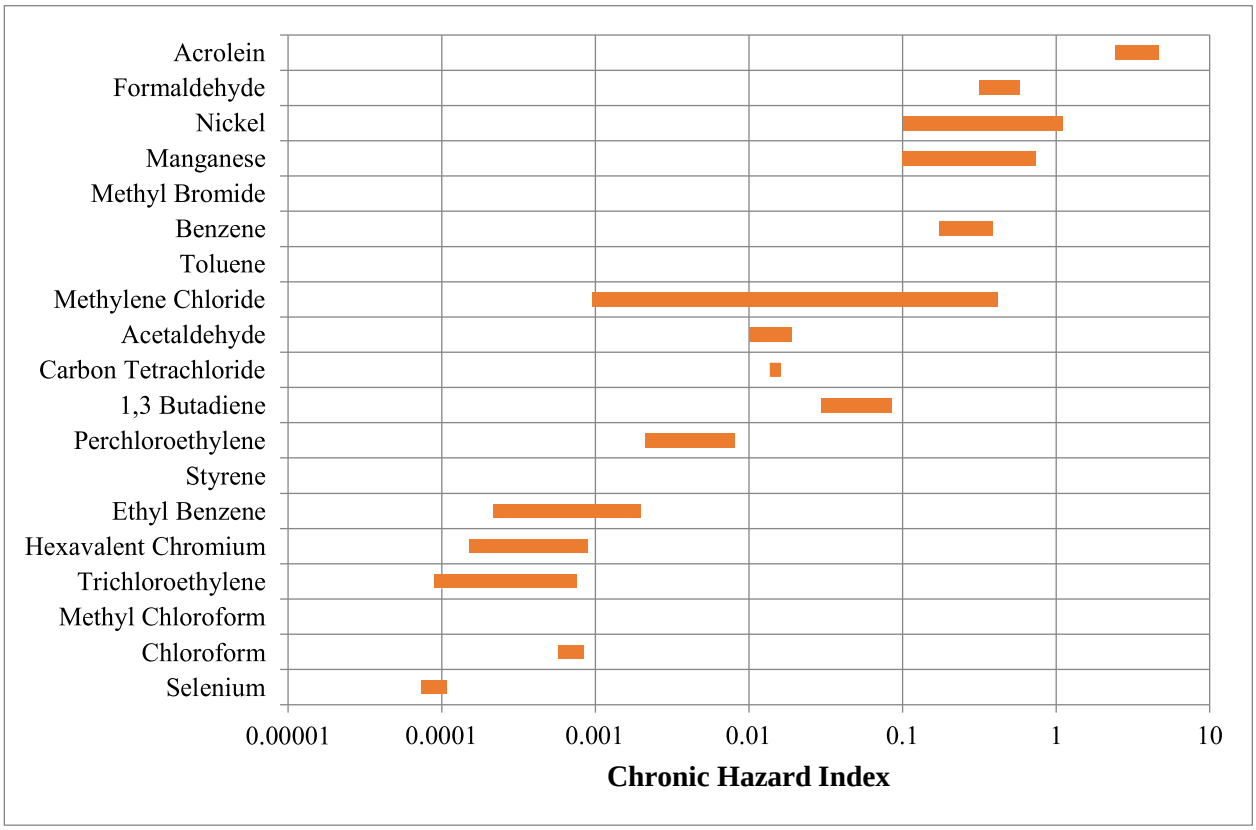

Figure B-4a - Non-cancer Chronic Risks in the Basin (2014-2016)

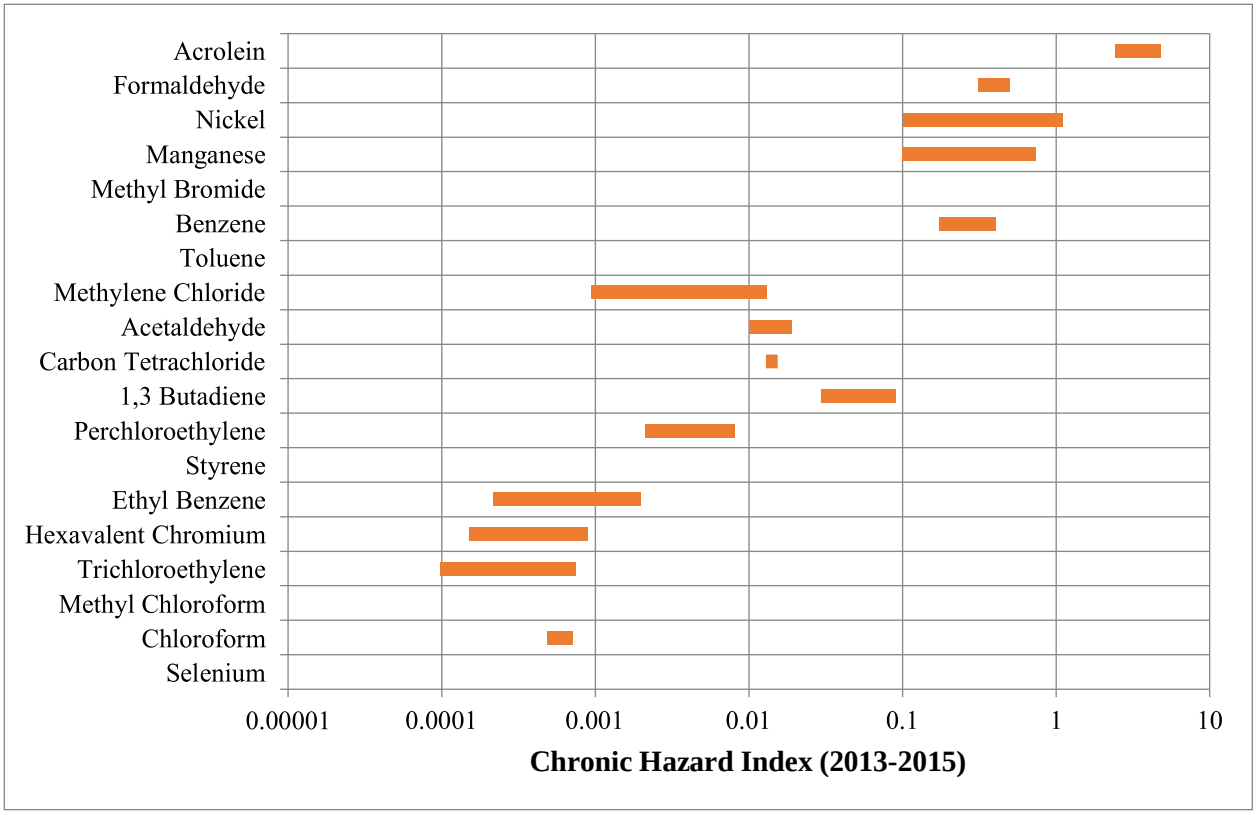

Figure B-4b - Non-cancer Chronic Risks in the Basin (2013-2015)

Note that acrolein, a respiratory irritant, is the only toxic air contaminant in which ambient concentrations are above its REL throughout the state and thus may partially reflect general background conditions. However, it should be noted that acrolein is well known to be difficult to measure with current techniques, and therefore, there is considerable uncertainty and data quality issues associated with these measurements.[25] At best, acrolein monitoring data should be considered as a rough indicator, not accurate enough to be compared to health benchmarks. Acrolein emissions can better be estimated using computer modeling methods.

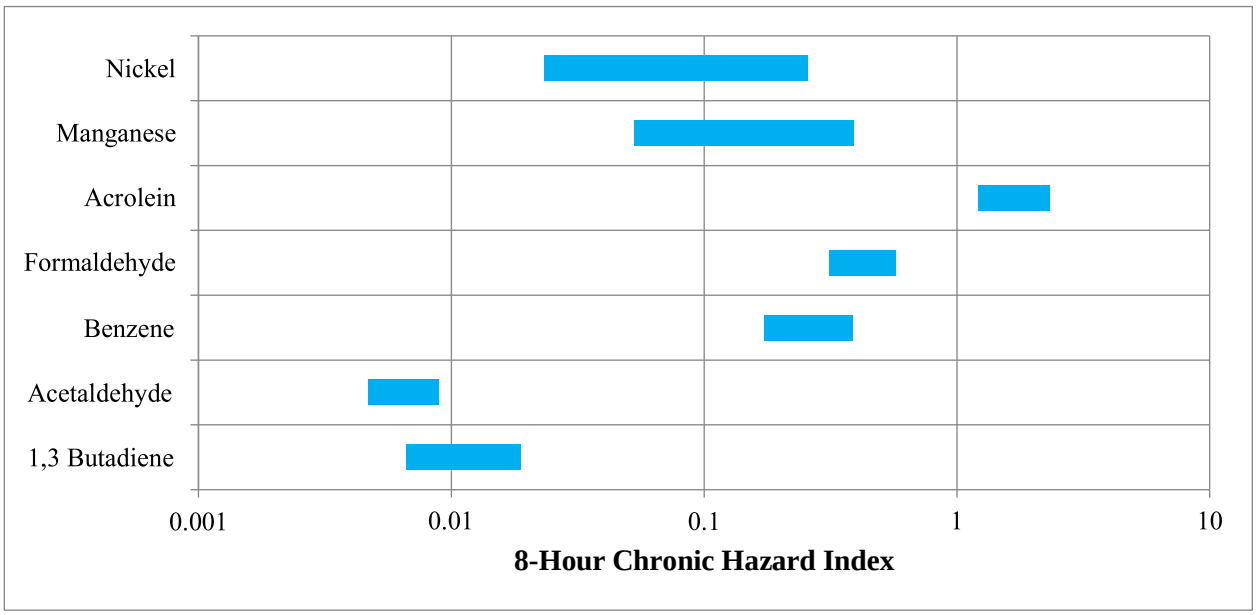

Figure B-5 - Non-cancer 8-Hour Chronic Risks in the Basin 2014 to 2016

The 2015 OEHHA HRA Guidelines includes methodology for estimating an 8-hour chronic HI using 8-hour REL developed for this purpose. The 8-hour RELs were developed only for repeated, chronic daily 8-hour exposures (e.g. a typical worker or resident exposed to a facility that operates equal to or more than 8 hours per day and 5 days per week). The 8-hour chronic HI is based upon the daily average 8-hour exposure only for those chemicals with 8-hour chronic RELs. The range of non-cancer 8-hour chronic health risks for the four sites analyzed here are shown above in Figure B-5 for the most recently available three-year period (2014 to 2016). Methylene chloride does not have an 8-hour REL as defined by OEHHA and does not affect the 8-hour chronic hazard index.

For each toxic air contaminant, the ratio of the observed concentration to the pollutant's chronic REL is shown. Ratios less than one indicate that the observed concentrations are less than

[25] R. Schulte-Ladbeck, et al. "Characterization of chemical interferences in the determination of unsaturated aldehydes using aromatic hydrazine reagents and liquid chromatography." J. Environ. Monit., 2001, 3, 306–310.
Ho, S.S.H., et al. "Unsuitability of using the DNPH-coated solid sorbent cartridge for determination of airborne unsaturated carbonyls." Atmospheric Environment. 2011 45, 261-265.
Herrington, J.S., et al. "Concerns regarding 24-h sampling for formaldehyde, acetaldehyde, and acrolein using 2,4-dinitrophenylhydrazine (DNPH)-coated solid sorbents." Atmospheric Environment 2012, 55, 179-184.
Grosjean, D., "Ambient Levels of Formaldehyde, Acetaldehyde, and Formic Acid in Southern California: Results of a One-Year Base-Line Study," Environmental Science & Technology, Vol 25, 1991, pp. 710–715.

OEHHA's defined RELs, and are not anticipated to result in non-cancer health effects in the general population, including sensitive subpopulations. Ratios greater than one indicate the potential for adverse health effects. As stated above, acrolein is the only toxic air contaminant 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 and thus may partially reflect general background conditions.

APPENDIX C - LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Description
AB 2588	Air Toxics "Hot Spots" Information and Assessment Act
AER	Annual Emissions Reporting
ATIR	Air Toxics Inventory Report
CARB	California Air Resources Board
CCP	Clean Communities Plan
CEMS	Continuous Emissions Monitoring System
CEQA	California Environmental Quality Act
DPM	Diesel Particulate Matter
EIM	Emission Inventory Module
EIR	Environmental Impact Report
H&S	Health and Safety
HARP	Hotspots Analysis and Reporting Program
HI	Hazard Index
HRA	Health Risk Assessment
MATES	Multiple Air Toxics Exposure Study
MICR	Maximum Individual Cancer Risk
NAAQS	National Ambient Air Quality Standard
NATA	National Air Toxics Assessment
OEHHA	Office of Environmental Health Hazard Assessment
PAMS	Photochemical Assessment Monitoring Stations
REL	Reference Exposure Levels
RRP	Risk Reduction Plan
SCAQMD	South Coast Air Quality Management District
U.S. EPA	United States Environmental Protection Agency
VRRP	Voluntary Risk Reduction Plan

ATTACHMENT 2

South Coast Air Quality Management District

Facility Prioritization Procedure
for
the AB 2588 Program

September 2018

Preface

This version of the Prioritization Procedure updates the previous November 2016 version, which was updated to incorporate the California Office of Environmental Health Hazard Assessment *Air Toxics Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments* (2015 OEHHA Guidelines). This is intended to be a "living" document, which staff will update periodically as needed. The major revisions to this document from the previous November 2016 version include:

- Revising the proximity adjustment factors to account for the latest meteorological data (Version 9);
- Simplifying the determination of a facility score for acute hazard index;
- Revising the residential and worker combined exposure factor for calculation of total cancer score to be consistent with the *Risk Assessment Procedures for Rules 1401, 1401.1 and 212;*
- Referencing the table in the *Supplemental Instructions Reporting Procedures for AB 2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory* for de-minimis reporting limits for toxics rather than including it in this document;
- Referencing the table in the *Permit Application Package "N"* for multipathway adjustment factors rather than including it in this document; and
- Clarifying the descriptions of existing calculation methods

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I. INTRODUCTION

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (commonly known as AB 2588) established a statewide program for the inventory of air toxics emissions from individual facilities as well as requirements for risk assessment and public notification of potential health risks. AB 2588 requires the South Coast Air Quality Management District (SCAQMD) to designate high, intermediate, and low priority categories and include each facility within the appropriate category based on its individual priority score. In establishing priorities, SCAQMD is to consider the potency, toxicity, quantity and volume of hazardous materials released from the facility; the proximity of the facility to potential receptors, including, but not limited to, hospitals, schools, daycare centers, worksites and residences; and any other factors that SCAQMD finds and determines may indicate that the facility may pose a significant risk to receptors.

II. FACILITY PRIORITIZATION PROCEDURE

This document describes the facility prioritization procedure utilized by SCAQMD (SCAQMD Procedure), which is consistent with the California Air Pollution Control Officers Association's (CAPCOA) August 2016 Facility Prioritization Guidelines (CAPCOA Guidelines) [1] developed by the Toxics and Risk Managers Committee (TARMAC).

The CAPCOA Guidelines primarily rely on four parameters to prioritize facilities: emissions, toxicity, the proximity to potential receptors, and stack height. While the SCAQMD Procedure is consistent with the CAPCOA Guidelines, several refinements have been made over the history of SCAQMD's AB 2588 Program. In September 1990, SCAQMD refined the original CAPCOA Guidelines to include adjustment factors for receptor proximity, exposure period, and averaging times in addition to the treatment of multipathway pollutants. In August 2004, SCAQMD revised its Procedure to accommodate the use of cancer potency factors (instead of unit risk factors) to allow for daily breathing rate and body weight variations as well as revised multipathway factors for resident and workers. In March 2011, the SCAQMD Procedure was revised to include updated toxicity criteria. In June 2015, the SCAQMD Procedure was updated to incorporate the revised risk calculation methodologies in the 2015 Office of Environmental Health Hazard Assessment (OEHHA) Guidance Manual for Preparation of Health Risk Assessments.

In November 2016, the SCAQMD Procedure was revised to further streamline and refine the prioritization methodology for better characterization of the priority score for each facility before an Air Toxics Inventory Report (ATIR) or a Voluntary Risk Reduction Plan (VRRP) is requested. The 2016 SCAQMD Procedure used the local meteorology from all available SCAQMD meteorological stations (Version 8 meteorological data) for every facility and evaluated risks at the actual closest receptor locations as well as receptors located in the worst case wind direction (e.g., downwind). The current (July 2018) SCAQMD Procedure incorporates the Version 9 meteorological data and simplifies calculation of a facility's non-cancer acute score.

A facility receives scores for four health endpoints: cancer, non-cancer chronic, non-cancer chronic 8-hr, and non-cancer acute. The cancer, non-cancer chronic, non-cancer chronic 8-hr

[1] http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf

health endpoints are evaluated for four receptors for each facility: the absolute closest sensitive receptor and worker receptor, and the closest sensitive receptor and worker receptor in the worst case wind direction. The non-cancer acute health endpoint is evaluated at a single receptor only in the worst case wind direction. Unlike the sensitive and worker receptor, this single receptor can be at the facility fenceline due to a potential for one-hour exposure duration. Every facility therefore receives 13 different scores: three health endpoints (cancer, non-cancer chronic and non-cancer chronic 8 hour) at four receptors, and one non-cancer acute health endpoint at a single receptor. The highest score is used to determine the Priority Score (PS).

Three categories are used in the ranking: high priority, intermediate priority and low priority. Based on the priority score, facilities designated as high priority are required to submit either an ATIR or VRRP under the AB 2588 Program. Facilities ranked with intermediate priority are considered to be District Tracking facilities, which are then required to submit complete an air toxics inventory once every four years. Facilities ranked with low priority are potentially exempt from reporting. Due to the very conservative nature of the screening SCAQMD Procedure used for prioritization, and consistent with CAPCOA's Guidelines, a priority score of 10 may be considered similar to a calculated cancer risk of 100 per million or a HI of 10. The same emissions profile evaluated in a more detailed Health Risk Assessment (HRA) using actual stack parameters and more detailed dispersion modeling will likely result in much lower calculated risks. The following table summarizes thresholds used to prioritize facilities:

Table 1: Prioritization Categories

Priority Score	Category
PS > 10	High Priority
1 < PS ≤ 10	Intermediate Priority
PS ≤ 1	Low Priority

Facilities subject to the AB 2588 Program are required to submit a detailed list of their air toxic emissions every four years (referred to as a quadrennial update). Based on their level of air toxic and criteria pollutant emissions, each year a different group of facilities will report a detailed list of its air toxic emissions. Upon initial prioritization of facilities, SCAQMD staff conducts auditing to confirm the distances reported to sensitive receptors and workers, and that the reported emissions are consistent with expected levels considering trends and facility changes such as new or modified permitted equipment or pollution controls, and comparing the priority score results with the last (HRA) or Risk Reduction Plan (Voluntary or Traditional), if applicable. This additional information obtained through priority score auditing will often negate the need to ask for additional reports such as an ATIR. If, however, the priority score remains high, the facility is asked to prepare an ATIR or a VRRP under the AB 2588 Program.

A. Calculation of Cancer Score

The scores for residential and worker cancer effects are calculated as follows:

$$S_{r,cancer} = \sum \left(\frac{E_c}{CP_c}\right) \times MP_{c,r} \times RP_r \times 677.40 \times 10^{-1}$$

$$S_{w,cancer} = \sum \left(\frac{E_c}{CP_c}\right) \times MP_{c,w} \times RP_w \times 55.86 \times 10^{-1}$$

Where;

$S_{r,\ cancer}$ $S_{w,\ cancer}$	=	Total cancer score (summed for all carcinogens separately, by the residential receptor and worker receptor)
c	=	Specific carcinogen
r	=	Residential receptor
w	=	Worker receptor
E_c	=	Annual emissions of carcinogen, c $\left(\frac{ton}{year}\right)$
CP_c	=	Cancer potency of carcinogen, c $(mg/kg\text{-}day)^{-1}$
$MP_{c,r}$ $MP_{c,w}$	=	Multipathway adjustment factor of carcinogen, c; there are separate multipathway factors for residential receptor and worker receptor for the applicable exposure duration (see Table 3.1 of *Permit Application Package "N"*)
RP_r RP_w	=	Receptor proximity adjustment factor for residential receptor and worker receptor, $\chi/Q \left(\frac{\mu g}{m^3} \Big/ \frac{ton}{year}\right)$
WAF	=	Worker Adjustment Factor (dimensionless)
677.40	=	Residential Combined Exposure Factor that accounts for age-specific breathing rate, age specific factor, exposure duration, exposure frequency, and averaging time from SCAQMD's *Risk Assessment Procedures for Rules 1401, 1401.1 and 212*
55.86	=	Worker Combined Exposure Factor that accounts for age-specific breathing rate, age specific factor, exposure duration, exposure frequency, and averaging time from SCAQMD's *Risk Assessment Procedures for Rules 1401, 1401.1 and 212*
10^{-1}	=	Scalar to adjust priority score to 1-10 scale

Annual Emissions:

Annual emissions of carcinogens are taken from the Toxic Air Contaminants (TAC)/Ozone Depleting Compounds (ODC) Emissions and Fees Summary of the Annual Emission Reporting (AER) Program. Each substance has a degree of accuracy associated with them that is a de-minimis emission level for reporting. As a result, facility-wide air toxic emissions greater than one-half of their corresponding degree of accuracy are inventoried and reported. Conversely, total facility air toxic emissions less than one-half of their corresponding degree of accuracy levels are not considered in the prioritization. The carcinogens and associated degree of accuracy levels are

listed in the *Supplemental Instructions Reporting Procedures for AB 2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory*.[2]

Cancer Potency:

The Cancer Potency (CP) factor is a measure of the cancer potency of a carcinogen. The CP is the estimated probability that a person will contract cancer as a result of a daily inhalation of 1 milligram of the carcinogen per kilogram of body weight continuously over a period of 70 years. The cancer potencies used in this Procedure are published by the Office of Environmental Health Hazard Assessment (OEHHA).[3]

Multipathway Adjustment Factor:

The multipathway (MP_c) adjustment factor is used for carcinogens that may contribute to risk from exposure pathways other than inhalation. These carcinogens deposit on the ground in particulate form and contribute to risk through ingestion of soil or backyard garden vegetables or through other routes. This factor is used to account for additional risks from exposure through non-inhalation pathways. The MP_c adjustment factors for specific carcinogens have been developed by SCAQMD staff by using the Health Risk Assessment Standalone Tool (RAST) developed by the California Air Resources Board (CARB).[4] The MP_c factors also satisfy the requirements of the SCAQMD's *Risk Assessment Procedures for Rules 1401, 1401.1 and 212*.[5] The substances and associated MP_c adjustment factors for worker and residents for longest exposure duration listed in Table 3.1 of *Permit Application Package "N"*[6] or the most current version of the document. For carcinogens that only affect the inhalation pathway, the MP_c adjustment factor is set to one.

Receptor Proximity Adjustment Factor:

There are four Receptor Proximity (RP) adjustment factors calculated for each facility for cancer score. They are calculated based on the distances from the facility to the nearest sensitive (e.g., residential) and worker receptors regardless of wind direction, and the nearest sensitive and worker receptors in the worst case wind direction. The receptors in the worst case wind direction are also evaluated in case the nearest receptors do not experience the highest risk. Receptor locations are off-site, where persons may be exposed to air toxic emissions from the facility. The receptor distance is defined as the closest distance between any major source or group of major sources of air toxic emissions at the facility and the property boundary of any one of the receptor locations. Consistent with the CAPCOA Guidelines, the minimum distance evaluated is 50 meters. The RP adjustment factors for every meteorological station[7] using the Version 9 meteorological data at receptor locations of 50, 75, 100, 200, 300, 500, and 1000 meters are included in Tables 3 and 4 at the end of this guidance. These RP adjustment factors are (χ/Q) values derived from U.S. EPA's AERMOD air dispersion model utilizing a unitary emission rate of one ton per year exiting out of a 0.1 meter diameter stack that is 0.27 meters above a 4.0 meter tall building, with a velocity of 5

[2] http://www.aqmd.gov/docs/default-source/planning/risk-assessment/quadrennial_atir_procedure.pdf
[3] The latest CP values can be obtained at http://www.arb.ca.gov/toxics/healthval/healthval.htm
[4] www.arb.ca.gov/toxics/harp/harp.htm
[5] http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf
[6] www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf
[7] Meteorological station information is available here: www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod

meters per second. Linear interpolation is used to determine the appropriate (χ/Q) for receptor locations located between the distances specified in Tables 3 and 4.

Worker Adjustment Factor:

The modeled annual average air concentration should be adjusted to the air concentration that the worker is actually exposed to if the source does not operate continuously. The Worker Adjustment Factor (WAF) is calculated with the following equation:

$$WAF = \frac{H_r}{H_{source}} \times \frac{D_r}{D_{source}}$$

Where,

H_r	=	Number of hours per day the annual average residential air concentration is based on (always 24 hours)
H_{source}	=	Number of hours the source operates per day
D_r	=	Number of days per week the annual average residential air concentration is based on (always 7 days)
D_{source}	=	Number of days the source operates per week

B. Calculation of Non-Cancer Score

For a toxic substance, non-cancer health effects can occur via acute, non-cancer 8-hour exposure, and/or annual chronic exposure. All of these non-cancer effects are used in the calculation of a facility's priority score. For each substance associated with acute, non-cancer 8-hour and chronic toxicity, SCAQMD staff calculates separate scores using the formulas shown below.

Non-Cancer Chronic Score:

For a facility which emits pollutants with known non-cancer chronic health effects, the scores for non-cancer chronic effects for residential receptor and worker receptor are calculated as follows:

$$S_{r,chronic} = \sum \left(\frac{E_t}{REL_{t,chronic}} \right) \times MP_{t,r} \times RP_r$$

$$S_{w,chronic} = \sum \left(\frac{E_t}{REL_{t,chronic}} \right) \times MP_{t,w} \times RP_w$$

Where;

$S_{r,\ chronic}$ $S_{w,\ chronic}$	=	Total chronic score (summed for all substances with non-cancer chronic effects separately, by the residential receptor and worker receptor)
t	=	Toxic substance
r	=	Residential Receptor
w	=	Worker Receptor
E_t	=	Annual emissions of substance, t (ton/year)
$REL_{t,\ chronic}$	=	Chronic reference exposure level of toxic substance, t ($\mu g/m^3$)

$MP_{t,r}$ $MP_{t,w}$	=	Multipathway adjustment factor of carcinogen, c; there are separate multipathway factors for residential receptor and worker receptor as shown in Table 3.2 of *Permit Application Package "N"*
RP_r RP_w	=	Receptor proximity adjustment factor for residential receptor and for worker receptor, $\chi/Q \left(\frac{\frac{\mu g}{m^3}}{\frac{ton}{year}} \right)$
WAF	=	Worker Adjustment Factor (dimensionless)

Non-Cancer 8-Hour Score:

For a facility which emits pollutants with known non-cancer 8-hour health effects, the scores for non-cancer 8-hour effects for residential receptor and worker receptor are calculated as follows:

$$S_{r,8-hr} = \sum \left(\frac{E_t}{REL_t} \right) \times (WAF) \times RP_r$$

$$S_{w,8-hr} = \sum \left(\frac{E_t}{REL_t} \right) \times (WAF) \times RP_w$$

Where;

$S_{w,\ 8\text{-}hr}$ $S_{r,\ 8\text{-}hr}$	=	Total 8-hour score (summed for all substances with non-cancer 8-hour effects separately, by the residential receptor and worker receptor)
t	=	Toxic substance
r	=	Residential Receptor
w	=	Worker Receptor
E_t	=	Annual emissions of substance, t (ton/year)
$REL_{t,\ 8\text{-}hr}$	=	8-hour reference exposure level of toxic substance, t ($\mu g/m^3$)
RP_r RP_w	=	Receptor proximity adjustment factor for residential receptor and worker receptor, $\chi/Q \left(\frac{\frac{\mu g}{m^3}}{\frac{ton}{year}} \right)$
WAF	=	Worker Adjustment Factor (dimensionless)

Non-Cancer Acute Score:

For a facility which emits pollutants with known non-cancer acute health effects, the score for non-cancer acute effects is calculated as follows:

$$S_{acute} = \sum \left(\frac{E_t}{REL_t} \right) \times RP$$

Where;

S_{acute}	=	Total acute score (summed for all substances with non-cancer acute effects separately, by the residential receptor and worker receptor)
t	=	Toxic substance
E_t	=	Annual emissions of substance, t (tons/year)
REL_t	=	Acute reference exposure level of toxic substance, t ($\mu g/m^3$)

RP = Receptor proximity adjustment factor for hourly concentration, $\chi/Q \left(\frac{\mu g}{m^3} \Big/ \frac{lb}{hr} \right)$

Annual and Maximum Hourly Emissions:

Two different emissions rates are required for calculating the score for non-cancer health effects. The methodology for calculating the non-cancer score for chronic exposure requires annual emissions (tons/year) for each emitted pollutant whereas calculation of the non-cancer score for acute exposure requires maximum hourly emissions (lbs/hr) for each emitted pollutant. Maximum hourly emissions are obtained by dividing the annual emissions (lbs/yr) of the pollutant by the facility's actual operating hours and then multiplied by a maximum hourly emission adjustment factor of 1.25. Annual emissions are taken from the Toxic Air Contaminants (TAC)/Ozone Depleting Compounds (ODC) Emissions and Fees Summary of the AER Program. As specified previously, emissions of specified substances which are below one-half of their corresponding degree of accuracy levels are neglected in the computation.

Reference Exposure Levels:

The Reference Exposure Level (REL) is used as an indicator of all potential adverse non-cancer health effects, and refers to a concentration level ($\mu g/m^3$) or dose (mg/kg-day) below which no adverse health effects are anticipated. The RELs used in this Procedure are published by OEHHA and CARB.[8]

MultiPathway Adjustment Factor:

The MultiPathway (MP_t) adjustment factor is used for substances that may contribute to non-cancer chronic risks from exposure pathways other than inhalation. The MP_t adjustment factors to evaluate the non-cancer chronic health endpoint for selected toxic pollutants can be found in Table 3.2 of *Permit Application Package "N"*[9] or the most recent version of the document. There are separate MP factors for workers and residents. For non-cancer chronic health effects, substances that only affect the inhalation pathway, the MP_t adjustment factor is set to one (1.0). Note that for calculation of non-cancer scores, the MP_t is relevant for the chronic risk endpoint.

Receptor Proximity Adjustment Factor:

The Receptor Proximity (RP) adjustment factor is the same adjustment factor used in the calculation of the facility cancer score discussed previously. The RP adjustment factor for non-cancer acute score is based on a single distance from the facility to the nearest receptor regardless of wind direction. This receptor can be at the facility fenceline to account for the short one-hour exposure duration. To simplify calculation of the non-cancer acute score, the worst case wind direction is used for the single receptor distance.

[8] www.arb.ca.gov/toxics/healthval/healthval.htm
[9] www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf

Worker Adjustment Factor:

The modeled annual average air concentration should be adjusted to the air concentration that the worker is actually exposed to if the source does not operate continuously. This is the same adjustment factor used in the calculation of the facility cancer score discussed previously.

C. Facility Ranking

From the computed scores for cancer and all non-cancer effects, the priority score is the higher of the 13 scores, and serves as the basis for ranking a facility as described in Table 1.

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Azusa	10	7.655	4.130	2.495	0.662	0.305	0.124	0.038
Azusa	20	8.185	4.380	2.644	0.697	0.314	0.125	0.038
Azusa	30	9.407	4.858	2.922	0.755	0.326	0.127	0.039
Azusa	40	11.768	5.819	3.451	0.839	0.344	0.130	0.039
Azusa	50	15.417	7.573	4.449	1.012	0.376	0.134	0.040
Azusa	60	19.640	10.129	6.051	1.362	0.438	0.138	0.042
Azusa	70	22.492	12.152	7.603	1.818	0.531	0.141	0.042
Azusa	80	23.252	12.525	7.756	1.823	0.523	0.140	0.042
Azusa	90	21.273	11.068	6.613	1.499	0.449	0.135	0.041
Azusa	100	17.572	8.821	5.267	1.211	0.403	0.130	0.039
Azusa	110	13.662	7.095	4.287	1.014	0.366	0.126	0.038
Azusa	120	11.066	5.917	3.579	0.882	0.342	0.124	0.038
Azusa	130	9.364	5.210	3.181	0.804	0.327	0.123	0.038
Azusa	140	8.441	4.825	2.970	0.765	0.320	0.122	0.038
Azusa	150	8.057	4.682	2.880	0.754	0.318	0.122	0.038
Azusa	160	8.287	4.711	2.882	0.744	0.315	0.122	0.038
Azusa	170	9.368	5.017	3.051	0.745	0.312	0.122	0.038
Azusa	180	11.449	5.814	3.522	0.796	0.314	0.123	0.038
Azusa	190	13.972	7.367	4.477	1.002	0.345	0.124	0.038
Azusa	200	15.740	8.619	5.377	1.257	0.396	0.124	0.038
Azusa	210	16.469	8.915	5.604	1.343	0.414	0.125	0.038
Azusa	220	15.942	8.355	5.212	1.214	0.394	0.124	0.038
Azusa	230	14.506	7.591	4.634	1.108	0.377	0.124	0.038
Azusa	240	13.186	6.929	4.249	1.038	0.366	0.123	0.038
Azusa	250	12.177	6.451	3.971	0.983	0.357	0.123	0.038
Azusa	260	11.477	6.059	3.696	0.926	0.347	0.123	0.038
Azusa	270	10.745	5.688	3.464	0.878	0.336	0.122	0.038
Azusa	280	10.081	5.306	3.213	0.822	0.329	0.123	0.038
Azusa	290	9.466	4.987	3.023	0.780	0.323	0.123	0.038
Azusa	300	9.034	4.727	2.860	0.755	0.320	0.123	0.038
Azusa	310	8.678	4.518	2.734	0.731	0.316	0.123	0.038
Azusa	320	8.409	4.328	2.614	0.702	0.311	0.122	0.038
Azusa	330	8.144	4.192	2.515	0.679	0.307	0.122	0.038
Azusa	340	7.869	4.102	2.454	0.665	0.305	0.123	0.038

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Azusa	350	7.581	4.048	2.433	0.657	0.303	0.123	0.038
Azusa	360	7.509	4.042	2.435	0.648	0.301	0.123	0.038
Banning	10	1.834	1.222	0.794	0.236	0.114	0.047	0.015
Banning	20	1.908	1.295	0.862	0.258	0.121	0.049	0.015
Banning	30	2.357	1.502	1.021	0.311	0.141	0.054	0.016
Banning	40	3.748	2.120	1.414	0.431	0.192	0.072	0.020
Banning	50	6.731	3.677	2.381	0.697	0.300	0.110	0.030
Banning	60	12.021	6.517	4.184	1.201	0.479	0.170	0.050
Banning	70	18.569	10.388	6.762	1.877	0.696	0.238	0.073
Banning	80	23.911	13.741	8.851	2.448	0.863	0.284	0.090
Banning	90	24.235	14.033	9.124	2.534	0.857	0.284	0.091
Banning	100	19.437	10.881	6.968	1.936	0.700	0.238	0.074
Banning	110	12.291	6.678	4.358	1.259	0.484	0.171	0.051
Banning	120	6.728	3.784	2.515	0.763	0.313	0.112	0.032
Banning	130	3.735	2.316	1.595	0.485	0.205	0.075	0.021
Banning	140	2.488	1.668	1.146	0.345	0.151	0.057	0.017
Banning	150	2.022	1.405	0.943	0.281	0.127	0.050	0.015
Banning	160	1.926	1.306	0.859	0.255	0.118	0.048	0.015
Banning	170	2.045	1.297	0.842	0.248	0.116	0.048	0.015
Banning	180	2.287	1.365	0.885	0.258	0.119	0.049	0.015
Banning	190	2.669	1.531	0.977	0.284	0.128	0.052	0.016
Banning	200	3.136	1.796	1.153	0.334	0.144	0.056	0.017
Banning	210	3.608	2.089	1.359	0.396	0.162	0.061	0.019
Banning	220	3.983	2.286	1.496	0.433	0.175	0.065	0.020
Banning	230	4.178	2.394	1.558	0.447	0.181	0.067	0.021
Banning	240	4.318	2.447	1.596	0.467	0.188	0.068	0.021
Banning	250	4.531	2.516	1.634	0.469	0.191	0.070	0.021
Banning	260	5.129	2.730	1.712	0.491	0.202	0.074	0.022
Banning	270	5.788	3.128	1.940	0.539	0.217	0.080	0.024
Banning	280	6.033	3.351	2.105	0.568	0.226	0.084	0.026
Banning	290	5.481	3.033	1.924	0.531	0.214	0.079	0.024
Banning	300	4.348	2.337	1.439	0.401	0.176	0.068	0.020
Banning	310	3.214	1.688	1.048	0.309	0.143	0.056	0.017
Banning	320	2.526	1.380	0.879	0.264	0.124	0.050	0.015
Banning	330	2.247	1.278	0.809	0.242	0.116	0.047	0.015

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Banning	340	2.122	1.237	0.784	0.235	0.113	0.047	0.014
Banning	350	2.005	1.217	0.775	0.232	0.112	0.046	0.014
Banning	360	1.895	1.206	0.773	0.230	0.112	0.047	0.014
Burbank Arpt.	10	11.332	5.792	3.623	0.913	0.379	0.145	0.043
Burbank Arpt.	20	8.178	4.565	2.856	0.765	0.327	0.124	0.037
Burbank Arpt.	30	6.762	3.898	2.459	0.670	0.289	0.110	0.033
Burbank Arpt.	40	6.150	3.582	2.261	0.620	0.269	0.104	0.032
Burbank Arpt.	50	6.033	3.514	2.211	0.612	0.264	0.102	0.031
Burbank Arpt.	60	6.333	3.633	2.289	0.630	0.267	0.102	0.032
Burbank Arpt.	70	6.963	3.940	2.496	0.678	0.277	0.103	0.032
Burbank Arpt.	80	7.957	4.430	2.794	0.748	0.291	0.105	0.032
Burbank Arpt.	90	9.125	5.059	3.202	0.845	0.306	0.107	0.033
Burbank Arpt.	100	10.303	5.731	3.635	0.953	0.331	0.110	0.034
Burbank Arpt.	110	11.221	6.297	4.045	1.060	0.355	0.112	0.035
Burbank Arpt.	120	11.823	6.658	4.280	1.109	0.366	0.114	0.035
Burbank Arpt.	130	12.050	6.794	4.363	1.135	0.373	0.115	0.036
Burbank Arpt.	140	11.811	6.651	4.324	1.112	0.370	0.115	0.036
Burbank Arpt.	150	11.039	6.275	4.033	1.050	0.353	0.113	0.035
Burbank Arpt.	160	9.847	5.588	3.567	0.910	0.320	0.110	0.034
Burbank Arpt.	170	8.560	4.764	3.040	0.769	0.287	0.106	0.033
Burbank Arpt.	180	7.363	4.076	2.587	0.649	0.262	0.103	0.032
Burbank Arpt.	190	6.464	3.677	2.353	0.618	0.259	0.101	0.031
Burbank Arpt.	200	5.998	3.518	2.241	0.611	0.259	0.100	0.031
Burbank Arpt.	210	5.878	3.433	2.191	0.610	0.259	0.100	0.031
Burbank Arpt.	220	5.903	3.428	2.184	0.608	0.259	0.100	0.031
Burbank Arpt.	230	6.035	3.490	2.219	0.621	0.262	0.100	0.031
Burbank Arpt.	240	6.418	3.660	2.330	0.647	0.268	0.101	0.031
Burbank Arpt.	250	7.044	3.997	2.562	0.706	0.282	0.103	0.032
Burbank Arpt.	260	8.060	4.532	2.893	0.792	0.305	0.108	0.033
Burbank Arpt.	270	9.213	5.167	3.312	0.912	0.336	0.117	0.036
Burbank Arpt.	280	10.508	5.798	3.679	1.018	0.377	0.130	0.040
Burbank Arpt.	290	11.700	6.491	4.147	1.121	0.417	0.145	0.045
Burbank Arpt.	300	12.622	7.119	4.565	1.241	0.459	0.157	0.049
Burbank Arpt.	310	13.120	7.389	4.745	1.283	0.475	0.163	0.051
Burbank Arpt.	320	13.308	7.275	4.658	1.239	0.472	0.164	0.050

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Burbank Arpt.	330	13.495	7.321	4.598	1.222	0.469	0.165	0.049
Burbank Arpt.	340	14.255	7.629	4.760	1.235	0.473	0.169	0.051
Burbank Arpt.	350	14.988	8.101	5.103	1.260	0.469	0.172	0.052
Burbank Arpt.	360	13.944	7.552	4.756	1.141	0.430	0.164	0.050
Central L.A.	10	12.372	6.586	4.039	0.938	0.339	0.123	0.038
Central L.A.	20	12.289	6.467	3.875	0.902	0.340	0.124	0.038
Central L.A.	30	11.924	5.981	3.543	0.826	0.331	0.125	0.038
Central L.A.	40	11.815	5.741	3.364	0.803	0.333	0.127	0.038
Central L.A.	50	12.475	6.033	3.491	0.832	0.342	0.129	0.039
Central L.A.	60	14.213	6.902	3.980	0.915	0.358	0.132	0.040
Central L.A.	70	15.835	8.054	4.797	1.097	0.389	0.134	0.040
Central L.A.	80	16.747	8.791	5.341	1.270	0.418	0.132	0.040
Central L.A.	90	16.248	8.525	5.164	1.241	0.403	0.128	0.039
Central L.A.	100	14.558	7.378	4.365	1.021	0.360	0.123	0.037
Central L.A.	110	12.095	6.124	3.664	0.867	0.331	0.119	0.036
Central L.A.	120	10.308	5.353	3.181	0.780	0.314	0.117	0.036
Central L.A.	130	9.083	4.925	2.961	0.743	0.307	0.116	0.036
Central L.A.	140	8.484	4.732	2.886	0.736	0.307	0.116	0.036
Central L.A.	150	8.314	4.691	2.854	0.733	0.305	0.116	0.036
Central L.A.	160	8.560	4.740	2.852	0.716	0.300	0.116	0.036
Central L.A.	170	9.425	4.964	2.949	0.707	0.296	0.116	0.036
Central L.A.	180	10.993	5.579	3.249	0.716	0.294	0.116	0.036
Central L.A.	190	13.850	6.802	3.965	0.811	0.307	0.117	0.036
Central L.A.	200	16.745	8.774	5.175	1.093	0.348	0.117	0.036
Central L.A.	210	18.447	10.200	6.465	1.563	0.440	0.119	0.036
Central L.A.	220	18.751	10.353	6.663	1.615	0.459	0.119	0.036
Central L.A.	230	17.517	9.238	5.554	1.226	0.378	0.118	0.036
Central L.A.	240	14.952	7.368	4.301	0.924	0.332	0.118	0.036
Central L.A.	250	12.125	6.014	3.509	0.811	0.319	0.118	0.036
Central L.A.	260	10.229	5.170	3.054	0.763	0.312	0.118	0.036
Central L.A.	270	8.895	4.619	2.770	0.714	0.302	0.117	0.036
Central L.A.	280	8.021	4.214	2.514	0.661	0.295	0.117	0.036
Central L.A.	290	7.386	3.938	2.354	0.631	0.290	0.117	0.036
Central L.A.	300	7.112	3.795	2.267	0.620	0.288	0.116	0.036
Central L.A.	310	7.202	3.756	2.243	0.620	0.288	0.116	0.036

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Central L.A.	320	7.512	3.791	2.260	0.620	0.289	0.116	0.036
Central L.A.	330	8.099	3.972	2.318	0.625	0.290	0.117	0.036
Central L.A.	340	9.012	4.434	2.532	0.643	0.293	0.118	0.036
Central L.A.	350	10.412	5.156	3.023	0.698	0.300	0.119	0.037
Central L.A.	360	11.747	6.060	3.650	0.821	0.314	0.121	0.037
Chino Arpt.	10	5.753	3.228	2.054	0.567	0.248	0.098	0.030
Chino Arpt.	20	6.084	3.420	2.177	0.613	0.264	0.102	0.031
Chino Arpt.	30	6.923	3.855	2.468	0.709	0.296	0.111	0.034
Chino Arpt.	40	8.562	4.714	3.032	0.869	0.356	0.129	0.039
Chino Arpt.	50	10.966	6.170	3.972	1.128	0.453	0.161	0.048
Chino Arpt.	60	13.836	7.874	5.116	1.468	0.572	0.200	0.061
Chino Arpt.	70	16.230	9.205	5.999	1.713	0.662	0.231	0.071
Chino Arpt.	80	17.557	9.887	6.322	1.798	0.697	0.244	0.075
Chino Arpt.	90	17.074	9.626	6.221	1.799	0.674	0.237	0.074
Chino Arpt.	100	15.185	8.498	5.459	1.563	0.603	0.214	0.066
Chino Arpt.	110	12.693	7.089	4.625	1.339	0.517	0.181	0.056
Chino Arpt.	120	10.686	6.055	3.937	1.121	0.434	0.151	0.046
Chino Arpt.	130	9.506	5.441	3.523	0.991	0.378	0.130	0.040
Chino Arpt.	140	9.021	5.194	3.386	0.926	0.348	0.119	0.036
Chino Arpt.	150	8.892	5.224	3.395	0.925	0.339	0.115	0.035
Chino Arpt.	160	8.982	5.266	3.412	0.900	0.327	0.113	0.035
Chino Arpt.	170	9.348	5.314	3.445	0.876	0.315	0.114	0.035
Chino Arpt.	180	9.704	5.458	3.528	0.854	0.305	0.115	0.036
Chino Arpt.	190	9.906	5.628	3.654	0.910	0.322	0.115	0.036
Chino Arpt.	200	9.970	5.781	3.753	0.980	0.342	0.116	0.036
Chino Arpt.	210	10.149	5.869	3.831	1.029	0.355	0.116	0.036
Chino Arpt.	220	10.236	5.889	3.859	1.040	0.361	0.117	0.036
Chino Arpt.	230	10.103	5.835	3.794	1.032	0.361	0.117	0.036
Chino Arpt.	240	9.867	5.630	3.653	0.998	0.353	0.115	0.036
Chino Arpt.	250	9.539	5.387	3.483	0.954	0.342	0.113	0.035
Chino Arpt.	260	9.217	5.165	3.307	0.903	0.328	0.111	0.034
Chino Arpt.	270	8.730	4.891	3.134	0.862	0.315	0.108	0.034
Chino Arpt.	280	8.101	4.531	2.886	0.792	0.301	0.106	0.033
Chino Arpt.	290	7.450	4.180	2.680	0.743	0.290	0.104	0.032
Chino Arpt.	300	6.939	3.918	2.507	0.701	0.282	0.102	0.032

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Chino Arpt.	310	6.544	3.687	2.350	0.662	0.272	0.101	0.031
Chino Arpt.	320	6.217	3.486	2.214	0.624	0.263	0.099	0.031
Chino Arpt.	330	5.949	3.341	2.114	0.599	0.255	0.098	0.030
Chino Arpt.	340	5.748	3.245	2.053	0.577	0.248	0.096	0.030
Chino Arpt.	350	5.677	3.175	2.015	0.559	0.243	0.096	0.030
Chino Arpt.	360	5.661	3.167	2.006	0.544	0.239	0.096	0.030
Desert Hot Springs Arpt.	10	4.354	2.431	1.555	0.432	0.190	0.075	0.023
Desert Hot Springs Arpt.	20	3.970	2.302	1.473	0.420	0.184	0.072	0.022
Desert Hot Springs Arpt.	30	3.797	2.206	1.411	0.407	0.179	0.070	0.022
Desert Hot Springs Arpt.	40	3.701	2.148	1.374	0.400	0.178	0.069	0.021
Desert Hot Springs Arpt.	50	3.694	2.173	1.387	0.403	0.179	0.070	0.021
Desert Hot Springs Arpt.	60	3.847	2.273	1.462	0.425	0.185	0.071	0.022
Desert Hot Springs Arpt.	70	4.157	2.456	1.594	0.462	0.196	0.074	0.023
Desert Hot Springs Arpt.	80	4.732	2.747	1.774	0.511	0.213	0.079	0.024
Desert Hot Springs Arpt.	90	5.562	3.187	2.054	0.592	0.238	0.087	0.026
Desert Hot Springs Arpt.	100	6.801	3.840	2.482	0.720	0.284	0.101	0.030
Desert Hot Springs Arpt.	110	8.561	4.809	3.148	0.922	0.361	0.126	0.037
Desert Hot Springs Arpt.	120	11.069	6.268	4.101	1.201	0.471	0.165	0.049
Desert Hot Springs Arpt.	130	14.284	8.182	5.390	1.606	0.624	0.217	0.067
Desert Hot Springs Arpt.	140	17.303	10.020	6.742	1.966	0.764	0.267	0.084
Desert Hot Springs Arpt.	150	18.909	11.211	7.462	2.183	0.831	0.291	0.092
Desert Hot Springs Arpt.	160	18.395	10.804	7.151	2.039	0.772	0.275	0.087
Desert Hot Springs Arpt.	170	16.201	9.106	5.982	1.676	0.629	0.232	0.072
Desert Hot Springs Arpt.	180	12.755	7.020	4.615	1.232	0.472	0.182	0.056
Desert Hot Springs Arpt.	190	9.216	5.194	3.495	0.961	0.376	0.139	0.042
Desert Hot Springs Arpt.	200	6.551	3.969	2.640	0.739	0.295	0.108	0.033
Desert Hot Springs Arpt.	210	5.056	3.080	2.042	0.578	0.237	0.088	0.026
Desert Hot Springs Arpt.	220	4.181	2.533	1.646	0.472	0.201	0.076	0.023
Desert Hot Springs Arpt.	230	3.721	2.244	1.438	0.419	0.183	0.070	0.022
Desert Hot Springs Arpt.	240	3.579	2.112	1.347	0.393	0.174	0.068	0.021
Desert Hot Springs Arpt.	250	3.598	2.083	1.325	0.389	0.173	0.067	0.021
Desert Hot Springs Arpt.	260	3.737	2.120	1.349	0.393	0.174	0.068	0.021
Desert Hot Springs Arpt.	270	3.984	2.227	1.409	0.410	0.179	0.069	0.021
Desert Hot Springs Arpt.	280	4.495	2.461	1.547	0.448	0.195	0.074	0.022
Desert Hot Springs Arpt.	290	5.383	2.886	1.818	0.515	0.221	0.083	0.025

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Desert Hot Springs Arpt.	300	6.685	3.549	2.204	0.614	0.259	0.095	0.028
Desert Hot Springs Arpt.	310	7.973	4.304	2.668	0.724	0.298	0.109	0.032
Desert Hot Springs Arpt.	320	8.619	4.713	2.982	0.798	0.324	0.117	0.034
Desert Hot Springs Arpt.	330	8.325	4.544	2.828	0.765	0.311	0.113	0.033
Desert Hot Springs Arpt.	340	7.280	3.865	2.371	0.641	0.269	0.100	0.029
Desert Hot Springs Arpt.	350	6.004	3.149	1.973	0.543	0.231	0.088	0.026
Desert Hot Springs Arpt.	360	4.988	2.695	1.710	0.466	0.202	0.080	0.024
Fontana	10	7.494	4.115	2.563	0.683	0.303	0.121	0.037
Fontana	20	8.855	4.704	2.898	0.761	0.324	0.125	0.038
Fontana	30	11.533	5.937	3.617	0.926	0.365	0.134	0.040
Fontana	40	15.562	8.126	5.026	1.234	0.437	0.147	0.044
Fontana	50	19.933	10.796	6.792	1.686	0.542	0.162	0.049
Fontana	60	23.176	12.741	8.061	1.992	0.610	0.173	0.053
Fontana	70	23.590	12.904	8.148	1.994	0.611	0.174	0.053
Fontana	80	21.121	11.288	6.985	1.721	0.549	0.165	0.050
Fontana	90	16.789	8.798	5.392	1.345	0.455	0.150	0.045
Fontana	100	12.513	6.522	4.017	1.023	0.384	0.135	0.041
Fontana	110	9.378	5.146	3.230	0.843	0.339	0.125	0.038
Fontana	120	7.859	4.547	2.864	0.768	0.319	0.120	0.037
Fontana	130	7.303	4.358	2.750	0.743	0.311	0.118	0.037
Fontana	140	7.337	4.371	2.759	0.736	0.309	0.117	0.036
Fontana	150	7.708	4.541	2.847	0.760	0.312	0.118	0.037
Fontana	160	8.430	4.828	3.015	0.779	0.314	0.118	0.037
Fontana	170	9.722	5.301	3.320	0.809	0.315	0.120	0.037
Fontana	180	11.633	6.134	3.816	0.870	0.320	0.122	0.038
Fontana	190	13.771	7.425	4.636	1.069	0.359	0.125	0.039
Fontana	200	15.350	8.531	5.395	1.295	0.409	0.129	0.040
Fontana	210	16.031	8.854	5.651	1.391	0.432	0.130	0.040
Fontana	220	15.527	8.445	5.376	1.312	0.422	0.130	0.040
Fontana	230	14.113	7.684	4.829	1.214	0.404	0.127	0.039
Fontana	240	12.529	6.798	4.271	1.086	0.377	0.124	0.038
Fontana	250	11.047	5.960	3.732	0.960	0.352	0.121	0.037
Fontana	260	9.844	5.284	3.276	0.853	0.330	0.119	0.037
Fontana	270	8.866	4.779	2.965	0.791	0.317	0.118	0.037
Fontana	280	8.145	4.399	2.719	0.735	0.308	0.118	0.037

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Fontana	290	7.656	4.132	2.553	0.696	0.301	0.117	0.036
Fontana	300	7.413	3.990	2.459	0.679	0.299	0.117	0.036
Fontana	310	7.299	3.930	2.423	0.674	0.298	0.117	0.036
Fontana	320	7.182	3.887	2.400	0.666	0.296	0.117	0.036
Fontana	330	6.994	3.840	2.364	0.659	0.295	0.117	0.036
Fontana	340	6.790	3.787	2.333	0.647	0.293	0.117	0.036
Fontana	350	6.737	3.769	2.332	0.634	0.289	0.117	0.036
Fontana	360	6.915	3.853	2.395	0.642	0.291	0.118	0.037
Fullerton Arpt.	10	14.907	7.850	4.869	1.151	0.419	0.151	0.046
Fullerton Arpt.	20	14.941	8.065	4.938	1.187	0.438	0.155	0.047
Fullerton Arpt.	30	14.503	7.826	4.858	1.206	0.443	0.155	0.047
Fullerton Arpt.	40	13.643	7.335	4.575	1.140	0.429	0.150	0.045
Fullerton Arpt.	50	12.538	6.744	4.157	1.057	0.405	0.143	0.043
Fullerton Arpt.	60	11.797	6.289	3.880	1.001	0.389	0.138	0.041
Fullerton Arpt.	70	11.901	6.313	3.890	0.982	0.381	0.136	0.041
Fullerton Arpt.	80	13.199	7.004	4.263	1.060	0.391	0.137	0.042
Fullerton Arpt.	90	14.408	7.940	4.970	1.260	0.422	0.138	0.042
Fullerton Arpt.	100	14.712	8.169	5.160	1.332	0.441	0.138	0.043
Fullerton Arpt.	110	13.702	7.465	4.668	1.166	0.405	0.135	0.042
Fullerton Arpt.	120	12.158	6.511	4.005	1.011	0.376	0.132	0.041
Fullerton Arpt.	130	10.988	5.933	3.686	0.949	0.361	0.128	0.039
Fullerton Arpt.	140	10.386	5.682	3.572	0.920	0.353	0.126	0.039
Fullerton Arpt.	150	10.036	5.570	3.488	0.910	0.348	0.124	0.038
Fullerton Arpt.	160	9.763	5.438	3.389	0.863	0.335	0.124	0.038
Fullerton Arpt.	170	9.561	5.283	3.292	0.818	0.323	0.123	0.038
Fullerton Arpt.	180	9.361	5.162	3.212	0.780	0.313	0.123	0.038
Fullerton Arpt.	190	9.236	5.121	3.201	0.792	0.319	0.123	0.038
Fullerton Arpt.	200	9.279	5.205	3.233	0.826	0.329	0.123	0.038
Fullerton Arpt.	210	9.637	5.369	3.360	0.874	0.338	0.124	0.038
Fullerton Arpt.	220	10.341	5.696	3.587	0.922	0.349	0.125	0.039
Fullerton Arpt.	230	11.447	6.264	3.915	0.996	0.364	0.126	0.039
Fullerton Arpt.	240	13.188	7.123	4.435	1.107	0.386	0.128	0.039
Fullerton Arpt.	250	15.160	8.254	5.182	1.275	0.419	0.131	0.040
Fullerton Arpt.	260	16.654	9.246	5.827	1.447	0.451	0.133	0.041
Fullerton Arpt.	270	16.389	9.138	5.809	1.480	0.451	0.133	0.041

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Fullerton Arpt.	280	14.474	7.859	4.870	1.196	0.403	0.132	0.041
Fullerton Arpt.	290	11.838	6.284	3.871	0.964	0.363	0.130	0.040
Fullerton Arpt.	300	9.894	5.359	3.320	0.872	0.349	0.128	0.040
Fullerton Arpt.	310	9.050	5.052	3.162	0.842	0.344	0.128	0.039
Fullerton Arpt.	320	9.009	5.099	3.215	0.853	0.348	0.129	0.040
Fullerton Arpt.	330	9.506	5.418	3.397	0.893	0.356	0.131	0.040
Fullerton Arpt.	340	10.532	5.925	3.686	0.937	0.365	0.135	0.041
Fullerton Arpt.	350	12.203	6.577	4.133	1.008	0.378	0.139	0.043
Fullerton Arpt.	360	13.822	7.360	4.577	1.058	0.387	0.145	0.044
Hawthorne Arpt.	10	6.695	3.721	2.327	0.625	0.278	0.111	0.034
Hawthorne Arpt.	20	7.007	3.947	2.476	0.669	0.289	0.113	0.035
Hawthorne Arpt.	30	7.848	4.366	2.757	0.746	0.308	0.116	0.035
Hawthorne Arpt.	40	9.469	5.138	3.243	0.855	0.338	0.123	0.037
Hawthorne Arpt.	50	11.988	6.463	4.037	1.042	0.390	0.135	0.040
Hawthorne Arpt.	60	14.989	8.157	5.100	1.298	0.461	0.152	0.045
Hawthorne Arpt.	70	17.412	9.442	5.943	1.496	0.514	0.166	0.050
Hawthorne Arpt.	80	19.192	10.158	6.166	1.482	0.514	0.171	0.051
Hawthorne Arpt.	90	19.151	10.265	6.277	1.537	0.504	0.163	0.049
Hawthorne Arpt.	100	17.449	9.515	6.038	1.559	0.499	0.150	0.045
Hawthorne Arpt.	110	14.714	8.137	5.188	1.304	0.429	0.135	0.041
Hawthorne Arpt.	120	12.269	6.718	4.176	1.036	0.367	0.123	0.037
Hawthorne Arpt.	130	10.777	6.047	3.828	0.966	0.345	0.117	0.036
Hawthorne Arpt.	140	10.384	5.979	3.848	0.970	0.341	0.113	0.035
Hawthorne Arpt.	150	10.382	6.063	3.869	0.978	0.339	0.112	0.035
Hawthorne Arpt.	160	10.399	6.018	3.784	0.924	0.322	0.111	0.034
Hawthorne Arpt.	170	10.431	5.857	3.684	0.863	0.305	0.110	0.034
Hawthorne Arpt.	180	10.290	5.696	3.579	0.811	0.291	0.110	0.034
Hawthorne Arpt.	190	10.080	5.592	3.509	0.818	0.298	0.110	0.034
Hawthorne Arpt.	200	9.865	5.546	3.463	0.850	0.310	0.110	0.034
Hawthorne Arpt.	210	9.881	5.492	3.462	0.875	0.317	0.110	0.034
Hawthorne Arpt.	220	9.996	5.532	3.492	0.881	0.320	0.110	0.034
Hawthorne Arpt.	230	10.104	5.625	3.537	0.905	0.325	0.111	0.034
Hawthorne Arpt.	240	10.253	5.658	3.556	0.919	0.330	0.112	0.034
Hawthorne Arpt.	250	10.317	5.623	3.529	0.906	0.329	0.113	0.035
Hawthorne Arpt.	260	10.414	5.599	3.462	0.889	0.328	0.114	0.035

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Hawthorne Arpt.	270	10.229	5.537	3.447	0.898	0.329	0.116	0.036
Hawthorne Arpt.	280	9.829	5.294	3.290	0.861	0.327	0.117	0.036
Hawthorne Arpt.	290	9.225	4.941	3.069	0.800	0.317	0.117	0.036
Hawthorne Arpt.	300	8.654	4.633	2.873	0.766	0.313	0.117	0.036
Hawthorne Arpt.	310	8.207	4.436	2.749	0.741	0.307	0.116	0.036
Hawthorne Arpt.	320	7.859	4.243	2.649	0.716	0.302	0.115	0.035
Hawthorne Arpt.	330	7.481	4.077	2.523	0.691	0.295	0.114	0.035
Hawthorne Arpt.	340	7.093	3.883	2.398	0.654	0.286	0.113	0.035
Hawthorne Arpt.	350	6.802	3.721	2.306	0.622	0.278	0.112	0.035
Hawthorne Arpt.	360	6.651	3.649	2.268	0.608	0.274	0.111	0.034
John Wayne Int'l Arpt.	10	11.525	6.411	4.142	1.132	0.452	0.169	0.051
John Wayne Int'l Arpt.	20	14.281	8.138	5.275	1.439	0.552	0.197	0.060
John Wayne Int'l Arpt.	30	16.806	9.540	6.213	1.722	0.636	0.220	0.067
John Wayne Int'l Arpt.	40	18.225	10.207	6.649	1.810	0.667	0.225	0.068
John Wayne Int'l Arpt.	50	18.231	10.236	6.605	1.811	0.653	0.215	0.065
John Wayne Int'l Arpt.	60	17.285	9.760	6.321	1.722	0.609	0.196	0.059
John Wayne Int'l Arpt.	70	15.501	8.727	5.684	1.566	0.545	0.172	0.052
John Wayne Int'l Arpt.	80	13.046	7.287	4.670	1.275	0.454	0.147	0.044
John Wayne Int'l Arpt.	90	10.337	5.773	3.713	1.026	0.372	0.126	0.038
John Wayne Int'l Arpt.	100	8.135	4.624	2.980	0.830	0.317	0.111	0.034
John Wayne Int'l Arpt.	110	6.707	3.918	2.550	0.717	0.284	0.103	0.031
John Wayne Int'l Arpt.	120	6.000	3.578	2.322	0.659	0.267	0.098	0.030
John Wayne Int'l Arpt.	130	5.746	3.436	2.215	0.624	0.257	0.096	0.030
John Wayne Int'l Arpt.	140	5.747	3.397	2.187	0.614	0.255	0.095	0.030
John Wayne Int'l Arpt.	150	5.826	3.448	2.217	0.622	0.253	0.094	0.029
John Wayne Int'l Arpt.	160	5.984	3.481	2.237	0.617	0.250	0.094	0.029
John Wayne Int'l Arpt.	170	6.380	3.572	2.283	0.601	0.244	0.094	0.029
John Wayne Int'l Arpt.	180	7.017	3.871	2.478	0.625	0.245	0.095	0.029
John Wayne Int'l Arpt.	190	7.824	4.383	2.817	0.722	0.268	0.098	0.030
John Wayne Int'l Arpt.	200	8.397	4.847	3.139	0.830	0.296	0.102	0.032
John Wayne Int'l Arpt.	210	8.555	4.942	3.241	0.891	0.316	0.105	0.033
John Wayne Int'l Arpt.	220	8.254	4.683	3.041	0.828	0.309	0.107	0.033
John Wayne Int'l Arpt.	230	7.711	4.374	2.820	0.787	0.302	0.107	0.033
John Wayne Int'l Arpt.	240	7.328	4.169	2.703	0.767	0.299	0.106	0.033
John Wayne Int'l Arpt.	250	7.183	4.089	2.653	0.751	0.296	0.106	0.033

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
John Wayne Int'l Arpt.	260	7.266	4.123	2.675	0.769	0.301	0.108	0.033
John Wayne Int'l Arpt.	270	7.454	4.208	2.720	0.783	0.307	0.112	0.034
John Wayne Int'l Arpt.	280	7.790	4.403	2.830	0.811	0.324	0.118	0.037
John Wayne Int'l Arpt.	290	8.107	4.674	3.067	0.895	0.350	0.125	0.039
John Wayne Int'l Arpt.	300	8.201	4.791	3.140	0.912	0.360	0.130	0.041
John Wayne Int'l Arpt.	310	8.015	4.673	3.047	0.887	0.357	0.130	0.041
John Wayne Int'l Arpt.	320	7.684	4.487	2.943	0.852	0.349	0.128	0.040
John Wayne Int'l Arpt.	330	7.406	4.428	2.898	0.840	0.344	0.127	0.039
John Wayne Int'l Arpt.	340	7.320	4.434	2.930	0.833	0.341	0.128	0.039
John Wayne Int'l Arpt.	350	7.809	4.562	3.035	0.854	0.349	0.133	0.041
John Wayne Int'l Arpt.	360	9.135	5.101	3.361	0.914	0.375	0.146	0.044
Lake Elsinore	10	13.087	6.683	4.001	0.955	0.393	0.153	0.047
Lake Elsinore	20	12.293	6.385	3.835	0.976	0.405	0.155	0.048
Lake Elsinore	30	12.494	6.498	3.927	1.020	0.419	0.158	0.049
Lake Elsinore	40	13.106	6.925	4.207	1.073	0.436	0.163	0.050
Lake Elsinore	50	13.688	7.373	4.505	1.155	0.454	0.166	0.051
Lake Elsinore	60	13.972	7.539	4.630	1.189	0.461	0.166	0.051
Lake Elsinore	70	13.694	7.261	4.441	1.148	0.452	0.163	0.050
Lake Elsinore	80	12.965	6.747	4.094	1.064	0.429	0.159	0.049
Lake Elsinore	90	12.377	6.459	3.929	1.024	0.415	0.156	0.048
Lake Elsinore	100	12.618	6.605	4.025	1.040	0.417	0.155	0.048
Lake Elsinore	110	13.761	7.255	4.445	1.126	0.433	0.156	0.048
Lake Elsinore	120	15.717	8.400	5.156	1.274	0.460	0.158	0.049
Lake Elsinore	130	18.015	9.791	6.095	1.498	0.499	0.159	0.049
Lake Elsinore	140	19.793	10.852	6.903	1.695	0.539	0.160	0.049
Lake Elsinore	150	20.504	11.290	7.084	1.723	0.535	0.159	0.049
Lake Elsinore	160	20.017	10.910	6.793	1.588	0.499	0.157	0.049
Lake Elsinore	170	18.792	10.040	6.234	1.399	0.453	0.155	0.048
Lake Elsinore	180	16.982	8.964	5.517	1.201	0.413	0.154	0.048
Lake Elsinore	190	14.902	7.925	4.893	1.121	0.413	0.153	0.047
Lake Elsinore	200	13.094	7.092	4.336	1.071	0.412	0.152	0.047
Lake Elsinore	210	11.834	6.383	3.937	1.015	0.405	0.151	0.047
Lake Elsinore	220	10.958	5.901	3.636	0.957	0.397	0.151	0.047
Lake Elsinore	230	10.319	5.572	3.402	0.914	0.389	0.150	0.047
Lake Elsinore	240	9.932	5.339	3.250	0.880	0.383	0.150	0.047

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Lake Elsinore	250	9.643	5.204	3.177	0.866	0.381	0.149	0.047
Lake Elsinore	260	9.579	5.160	3.160	0.866	0.380	0.149	0.047
Lake Elsinore	270	9.687	5.197	3.184	0.871	0.379	0.149	0.046
Lake Elsinore	280	10.126	5.336	3.263	0.882	0.382	0.149	0.047
Lake Elsinore	290	11.168	5.743	3.477	0.913	0.388	0.150	0.047
Lake Elsinore	300	13.279	6.739	4.031	1.002	0.403	0.151	0.047
Lake Elsinore	310	16.405	8.527	5.181	1.247	0.444	0.153	0.048
Lake Elsinore	320	19.375	10.494	6.661	1.627	0.519	0.155	0.048
Lake Elsinore	330	20.844	11.671	7.449	1.850	0.553	0.155	0.048
Lake Elsinore	340	20.200	11.088	6.946	1.659	0.508	0.154	0.048
Lake Elsinore	350	17.924	9.390	5.695	1.270	0.430	0.153	0.048
Lake Elsinore	360	15.143	7.633	4.561	1.016	0.392	0.152	0.047
Long Beach Arpt.	10	10.121	5.456	3.439	0.884	0.363	0.138	0.041
Long Beach Arpt.	20	9.056	4.959	3.080	0.815	0.345	0.131	0.039
Long Beach Arpt.	30	7.841	4.267	2.672	0.731	0.317	0.122	0.036
Long Beach Arpt.	40	6.684	3.742	2.368	0.664	0.293	0.113	0.034
Long Beach Arpt.	50	5.843	3.440	2.184	0.624	0.278	0.109	0.033
Long Beach Arpt.	60	5.507	3.289	2.109	0.613	0.275	0.108	0.033
Long Beach Arpt.	70	5.587	3.320	2.156	0.630	0.281	0.110	0.034
Long Beach Arpt.	80	6.197	3.594	2.336	0.687	0.300	0.115	0.035
Long Beach Arpt.	90	7.578	4.187	2.717	0.808	0.340	0.128	0.038
Long Beach Arpt.	100	10.431	5.478	3.422	0.998	0.415	0.154	0.045
Long Beach Arpt.	110	14.532	7.973	5.053	1.359	0.526	0.189	0.058
Long Beach Arpt.	120	18.118	10.657	7.069	1.956	0.671	0.215	0.069
Long Beach Arpt.	130	19.057	11.334	7.581	2.125	0.701	0.212	0.069
Long Beach Arpt.	140	16.868	9.558	6.227	1.649	0.569	0.183	0.057
Long Beach Arpt.	150	13.190	7.209	4.589	1.257	0.447	0.147	0.044
Long Beach Arpt.	160	9.980	5.532	3.566	0.956	0.351	0.122	0.036
Long Beach Arpt.	170	7.954	4.457	2.882	0.745	0.289	0.109	0.033
Long Beach Arpt.	180	6.732	3.845	2.491	0.638	0.261	0.103	0.032
Long Beach Arpt.	190	6.107	3.618	2.348	0.617	0.257	0.100	0.031
Long Beach Arpt.	200	5.936	3.618	2.338	0.632	0.261	0.099	0.031
Long Beach Arpt.	210	6.157	3.703	2.385	0.657	0.266	0.099	0.031
Long Beach Arpt.	220	6.709	3.897	2.493	0.677	0.271	0.100	0.031
Long Beach Arpt.	230	7.484	4.267	2.719	0.731	0.283	0.102	0.031

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Long Beach Arpt.	240	8.497	4.821	3.078	0.819	0.301	0.104	0.032
Long Beach Arpt.	250	9.445	5.395	3.488	0.931	0.326	0.106	0.033
Long Beach Arpt.	260	10.100	5.724	3.674	0.972	0.334	0.107	0.033
Long Beach Arpt.	270	10.166	5.704	3.638	0.958	0.327	0.108	0.033
Long Beach Arpt.	280	9.877	5.508	3.508	0.933	0.329	0.110	0.034
Long Beach Arpt.	290	9.471	5.349	3.441	0.926	0.334	0.113	0.035
Long Beach Arpt.	300	9.214	5.269	3.411	0.932	0.343	0.117	0.036
Long Beach Arpt.	310	9.129	5.235	3.386	0.930	0.349	0.121	0.037
Long Beach Arpt.	320	9.295	5.250	3.398	0.927	0.358	0.126	0.039
Long Beach Arpt.	330	9.596	5.508	3.545	0.963	0.369	0.131	0.040
Long Beach Arpt.	340	9.947	5.684	3.651	0.988	0.378	0.135	0.042
Long Beach Arpt.	350	10.498	5.645	3.599	0.939	0.370	0.138	0.042
Long Beach Arpt.	360	10.699	5.627	3.514	0.882	0.360	0.140	0.042
Los Angeles Int'l Arpt.	10	4.908	2.920	1.903	0.522	0.223	0.088	0.027
Los Angeles Int'l Arpt.	20	5.095	3.040	1.976	0.557	0.234	0.089	0.028
Los Angeles Int'l Arpt.	30	5.625	3.270	2.146	0.616	0.253	0.094	0.029
Los Angeles Int'l Arpt.	40	6.927	3.848	2.530	0.733	0.299	0.108	0.032
Los Angeles Int'l Arpt.	50	9.539	5.202	3.349	0.964	0.389	0.139	0.040
Los Angeles Int'l Arpt.	60	13.907	7.564	4.816	1.373	0.536	0.188	0.056
Los Angeles Int'l Arpt.	70	18.022	10.315	6.698	1.858	0.694	0.238	0.074
Los Angeles Int'l Arpt.	80	19.132	11.123	7.248	2.023	0.745	0.254	0.080
Los Angeles Int'l Arpt.	90	16.063	8.972	5.667	1.571	0.605	0.219	0.066
Los Angeles Int'l Arpt.	100	11.044	5.695	3.479	1.025	0.437	0.162	0.047
Los Angeles Int'l Arpt.	110	6.917	3.785	2.520	0.772	0.326	0.120	0.035
Los Angeles Int'l Arpt.	120	5.401	3.210	2.143	0.635	0.269	0.100	0.030
Los Angeles Int'l Arpt.	130	5.089	3.065	2.012	0.583	0.248	0.094	0.029
Los Angeles Int'l Arpt.	140	5.091	3.062	2.014	0.584	0.246	0.093	0.029
Los Angeles Int'l Arpt.	150	5.068	3.070	2.000	0.580	0.242	0.092	0.029
Los Angeles Int'l Arpt.	160	4.993	2.990	1.926	0.549	0.235	0.091	0.028
Los Angeles Int'l Arpt.	170	4.974	2.875	1.857	0.526	0.228	0.090	0.028
Los Angeles Int'l Arpt.	180	4.999	2.861	1.858	0.511	0.223	0.090	0.028
Los Angeles Int'l Arpt.	190	5.109	2.976	1.938	0.538	0.230	0.091	0.028
Los Angeles Int'l Arpt.	200	5.400	3.177	2.058	0.580	0.241	0.092	0.028
Los Angeles Int'l Arpt.	210	5.966	3.496	2.273	0.638	0.255	0.095	0.029
Los Angeles Int'l Arpt.	220	6.782	3.953	2.586	0.717	0.275	0.098	0.030

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Los Angeles Int'l Arpt.	230	7.720	4.521	2.956	0.812	0.297	0.101	0.031
Los Angeles Int'l Arpt.	240	8.870	5.101	3.327	0.902	0.319	0.105	0.032
Los Angeles Int'l Arpt.	250	10.140	5.756	3.745	1.006	0.344	0.109	0.034
Los Angeles Int'l Arpt.	260	11.449	6.505	4.196	1.113	0.368	0.114	0.035
Los Angeles Int'l Arpt.	270	11.919	6.843	4.455	1.196	0.380	0.117	0.037
Los Angeles Int'l Arpt.	280	11.193	6.393	4.119	1.093	0.364	0.116	0.036
Los Angeles Int'l Arpt.	290	9.588	5.418	3.513	0.944	0.333	0.111	0.034
Los Angeles Int'l Arpt.	300	7.980	4.532	2.927	0.795	0.299	0.104	0.032
Los Angeles Int'l Arpt.	310	6.799	3.911	2.523	0.697	0.274	0.099	0.030
Los Angeles Int'l Arpt.	320	6.021	3.506	2.283	0.630	0.256	0.095	0.029
Los Angeles Int'l Arpt.	330	5.482	3.238	2.093	0.591	0.244	0.091	0.028
Los Angeles Int'l Arpt.	340	5.079	3.020	1.945	0.538	0.230	0.089	0.027
Los Angeles Int'l Arpt.	350	4.883	2.876	1.857	0.514	0.221	0.087	0.027
Los Angeles Int'l Arpt.	360	4.833	2.862	1.853	0.502	0.216	0.087	0.027
Mission Viejo	10	16.344	8.682	5.353	1.202	0.425	0.152	0.046
Mission Viejo	20	15.525	8.320	5.036	1.183	0.432	0.153	0.047
Mission Viejo	30	14.877	7.915	4.842	1.181	0.436	0.154	0.047
Mission Viejo	40	14.352	7.635	4.698	1.157	0.435	0.153	0.047
Mission Viejo	50	13.879	7.404	4.502	1.123	0.428	0.152	0.046
Mission Viejo	60	13.520	7.108	4.320	1.085	0.419	0.150	0.046
Mission Viejo	70	13.233	6.880	4.183	1.052	0.412	0.149	0.045
Mission Viejo	80	13.276	6.821	4.103	1.037	0.408	0.148	0.045
Mission Viejo	90	13.407	6.912	4.176	1.055	0.407	0.148	0.045
Mission Viejo	100	13.581	7.055	4.274	1.080	0.413	0.149	0.045
Mission Viejo	110	13.499	7.093	4.349	1.102	0.418	0.149	0.045
Mission Viejo	120	13.018	6.905	4.247	1.092	0.417	0.148	0.045
Mission Viejo	130	12.057	6.402	3.948	1.036	0.406	0.146	0.045
Mission Viejo	140	10.756	5.660	3.469	0.915	0.382	0.145	0.044
Mission Viejo	150	9.319	4.912	2.979	0.806	0.360	0.143	0.044
Mission Viejo	160	8.192	4.377	2.666	0.743	0.348	0.141	0.044
Mission Viejo	170	7.556	4.102	2.518	0.714	0.341	0.141	0.044
Mission Viejo	180	7.482	4.074	2.507	0.707	0.339	0.140	0.043
Mission Viejo	190	8.023	4.327	2.645	0.729	0.342	0.140	0.043
Mission Viejo	200	9.348	4.977	3.024	0.792	0.351	0.141	0.044
Mission Viejo	210	11.391	6.120	3.744	0.952	0.377	0.141	0.044

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Mission Viejo	220	13.828	7.585	4.767	1.197	0.423	0.142	0.044
Mission Viejo	230	16.038	8.947	5.666	1.412	0.460	0.142	0.044
Mission Viejo	240	17.703	9.810	6.175	1.514	0.477	0.142	0.044
Mission Viejo	250	18.448	10.159	6.385	1.543	0.482	0.142	0.044
Mission Viejo	260	18.688	10.195	6.345	1.527	0.475	0.142	0.044
Mission Viejo	270	18.312	9.997	6.229	1.507	0.466	0.142	0.044
Mission Viejo	280	17.601	9.602	5.969	1.441	0.460	0.142	0.044
Mission Viejo	290	16.665	9.158	5.726	1.382	0.452	0.142	0.044
Mission Viejo	300	15.929	8.839	5.514	1.342	0.447	0.143	0.044
Mission Viejo	310	15.441	8.625	5.403	1.331	0.447	0.143	0.044
Mission Viejo	320	15.301	8.485	5.332	1.295	0.443	0.144	0.044
Mission Viejo	330	15.420	8.563	5.301	1.279	0.437	0.145	0.045
Mission Viejo	340	15.770	8.721	5.397	1.279	0.436	0.146	0.045
Mission Viejo	350	16.476	8.880	5.510	1.249	0.422	0.148	0.045
Mission Viejo	360	16.747	8.928	5.507	1.191	0.407	0.150	0.046
Ontario Arpt.	10	5.661	3.155	1.999	0.546	0.236	0.092	0.028
Ontario Arpt.	20	6.348	3.566	2.275	0.636	0.268	0.101	0.031
Ontario Arpt.	30	7.466	4.113	2.647	0.763	0.316	0.116	0.035
Ontario Arpt.	40	9.456	5.031	3.236	0.949	0.400	0.145	0.042
Ontario Arpt.	50	12.886	6.924	4.381	1.288	0.546	0.200	0.058
Ontario Arpt.	60	17.544	9.881	6.378	1.854	0.747	0.270	0.083
Ontario Arpt.	70	20.749	12.202	8.120	2.389	0.908	0.315	0.101
Ontario Arpt.	80	19.996	11.599	7.581	2.216	0.850	0.297	0.094
Ontario Arpt.	90	15.632	8.605	5.452	1.596	0.635	0.231	0.069
Ontario Arpt.	100	10.805	5.756	3.667	1.112	0.457	0.164	0.048
Ontario Arpt.	110	7.546	4.256	2.831	0.852	0.345	0.124	0.037
Ontario Arpt.	120	6.142	3.610	2.381	0.696	0.287	0.105	0.032
Ontario Arpt.	130	5.647	3.375	2.211	0.645	0.267	0.098	0.030
Ontario Arpt.	140	5.575	3.359	2.208	0.631	0.260	0.096	0.030
Ontario Arpt.	150	5.634	3.451	2.265	0.650	0.262	0.096	0.030
Ontario Arpt.	160	5.783	3.503	2.292	0.644	0.259	0.097	0.030
Ontario Arpt.	170	6.190	3.581	2.346	0.641	0.257	0.098	0.031
Ontario Arpt.	180	6.807	3.850	2.523	0.661	0.262	0.102	0.032
Ontario Arpt.	190	7.696	4.344	2.831	0.753	0.289	0.108	0.033
Ontario Arpt.	200	8.712	5.046	3.303	0.900	0.330	0.115	0.036

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Ontario Arpt.	210	9.731	5.696	3.760	1.050	0.368	0.122	0.038
Ontario Arpt.	220	10.296	6.001	3.992	1.102	0.383	0.124	0.039
Ontario Arpt.	230	10.130	5.898	3.880	1.081	0.374	0.119	0.037
Ontario Arpt.	240	9.553	5.475	3.573	0.981	0.343	0.110	0.034
Ontario Arpt.	250	8.866	5.031	3.275	0.896	0.315	0.101	0.031
Ontario Arpt.	260	8.244	4.676	3.023	0.829	0.291	0.094	0.029
Ontario Arpt.	270	7.533	4.274	2.758	0.752	0.264	0.088	0.027
Ontario Arpt.	280	6.770	3.837	2.462	0.667	0.246	0.085	0.026
Ontario Arpt.	290	6.075	3.468	2.231	0.615	0.235	0.083	0.026
Ontario Arpt.	300	5.601	3.216	2.061	0.571	0.226	0.081	0.025
Ontario Arpt.	310	5.313	3.054	1.953	0.543	0.220	0.081	0.025
Ontario Arpt.	320	5.156	2.958	1.888	0.525	0.217	0.081	0.025
Ontario Arpt.	330	5.038	2.911	1.850	0.519	0.216	0.081	0.025
Ontario Arpt.	340	4.954	2.861	1.820	0.505	0.213	0.082	0.025
Ontario Arpt.	350	4.995	2.847	1.809	0.495	0.212	0.083	0.026
Ontario Arpt.	360	5.211	2.919	1.853	0.499	0.217	0.087	0.027
Palm Springs Arpt.	10	6.254	3.492	2.215	0.560	0.217	0.081	0.025
Palm Springs Arpt.	20	6.171	3.519	2.220	0.576	0.222	0.081	0.025
Palm Springs Arpt.	30	6.249	3.573	2.280	0.607	0.229	0.081	0.025
Palm Springs Arpt.	40	6.440	3.692	2.377	0.635	0.238	0.083	0.025
Palm Springs Arpt.	50	6.736	3.891	2.501	0.671	0.249	0.085	0.026
Palm Springs Arpt.	60	7.317	4.213	2.715	0.731	0.267	0.090	0.027
Palm Springs Arpt.	70	8.203	4.712	3.068	0.832	0.296	0.097	0.030
Palm Springs Arpt.	80	9.355	5.344	3.470	0.943	0.328	0.106	0.033
Palm Springs Arpt.	90	10.382	5.916	3.849	1.058	0.361	0.117	0.036
Palm Springs Arpt.	100	11.300	6.391	4.155	1.159	0.407	0.133	0.040
Palm Springs Arpt.	110	12.374	6.957	4.595	1.313	0.473	0.157	0.047
Palm Springs Arpt.	120	14.132	7.960	5.187	1.494	0.561	0.191	0.058
Palm Springs Arpt.	130	15.928	9.199	6.030	1.718	0.650	0.226	0.071
Palm Springs Arpt.	140	16.177	9.541	6.378	1.822	0.689	0.240	0.077
Palm Springs Arpt.	150	14.037	8.198	5.370	1.570	0.609	0.217	0.069
Palm Springs Arpt.	160	10.440	5.726	3.643	1.058	0.447	0.171	0.052
Palm Springs Arpt.	170	7.179	3.779	2.404	0.732	0.325	0.126	0.037
Palm Springs Arpt.	180	5.289	2.912	1.907	0.557	0.249	0.098	0.029
Palm Springs Arpt.	190	4.555	2.622	1.706	0.485	0.217	0.085	0.026

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Palm Springs Arpt.	200	4.315	2.512	1.598	0.451	0.204	0.081	0.025
Palm Springs Arpt.	210	4.277	2.461	1.553	0.442	0.200	0.079	0.024
Palm Springs Arpt.	220	4.306	2.438	1.533	0.438	0.198	0.078	0.024
Palm Springs Arpt.	230	4.409	2.457	1.529	0.435	0.198	0.078	0.024
Palm Springs Arpt.	240	4.676	2.553	1.590	0.452	0.203	0.079	0.024
Palm Springs Arpt.	250	5.120	2.768	1.734	0.490	0.215	0.083	0.025
Palm Springs Arpt.	260	5.990	3.123	1.925	0.538	0.231	0.088	0.026
Palm Springs Arpt.	270	7.011	3.656	2.225	0.602	0.251	0.095	0.029
Palm Springs Arpt.	280	7.893	4.169	2.552	0.684	0.276	0.101	0.031
Palm Springs Arpt.	290	8.306	4.418	2.742	0.725	0.287	0.104	0.031
Palm Springs Arpt.	300	8.268	4.383	2.699	0.713	0.284	0.102	0.030
Palm Springs Arpt.	310	7.914	4.212	2.607	0.693	0.273	0.097	0.029
Palm Springs Arpt.	320	7.517	4.021	2.529	0.671	0.263	0.093	0.028
Palm Springs Arpt.	330	7.129	3.921	2.461	0.649	0.250	0.089	0.027
Palm Springs Arpt.	340	6.805	3.797	2.390	0.626	0.240	0.086	0.026
Palm Springs Arpt.	350	6.619	3.646	2.300	0.583	0.224	0.084	0.026
Palm Springs Arpt.	360	6.443	3.525	2.222	0.546	0.213	0.082	0.025
Perris	10	18.023	9.480	5.810	1.266	0.432	0.154	0.048
Perris	20	16.116	8.682	5.305	1.264	0.443	0.152	0.047
Perris	30	14.541	7.842	4.855	1.206	0.434	0.151	0.047
Perris	40	13.078	7.038	4.351	1.090	0.415	0.149	0.046
Perris	50	11.763	6.359	3.879	0.996	0.397	0.147	0.046
Perris	60	10.737	5.818	3.555	0.935	0.386	0.146	0.046
Perris	70	10.065	5.446	3.338	0.896	0.380	0.145	0.045
Perris	80	9.767	5.271	3.223	0.863	0.371	0.145	0.045
Perris	90	9.817	5.298	3.254	0.877	0.373	0.145	0.045
Perris	100	10.304	5.534	3.404	0.914	0.384	0.146	0.046
Perris	110	11.363	6.046	3.722	0.978	0.400	0.150	0.046
Perris	120	13.177	6.962	4.291	1.110	0.435	0.157	0.048
Perris	130	15.772	8.344	5.147	1.315	0.488	0.169	0.052
Perris	140	18.317	9.850	6.226	1.564	0.553	0.183	0.056
Perris	150	19.734	10.893	6.896	1.754	0.592	0.191	0.059
Perris	160	19.512	10.643	6.633	1.631	0.561	0.189	0.058
Perris	170	17.839	9.353	5.754	1.374	0.495	0.180	0.056
Perris	180	15.286	7.858	4.826	1.141	0.440	0.169	0.052

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Perris	190	12.981	6.751	4.170	1.025	0.418	0.161	0.050
Perris	200	11.455	6.143	3.766	0.977	0.406	0.156	0.048
Perris	210	10.769	5.789	3.570	0.952	0.399	0.153	0.047
Perris	220	10.462	5.629	3.465	0.929	0.394	0.151	0.047
Perris	230	10.286	5.537	3.388	0.914	0.390	0.150	0.047
Perris	240	10.240	5.450	3.324	0.897	0.385	0.149	0.046
Perris	250	10.193	5.414	3.295	0.886	0.380	0.147	0.046
Perris	260	10.304	5.449	3.320	0.892	0.379	0.146	0.045
Perris	270	10.540	5.578	3.401	0.907	0.377	0.145	0.045
Perris	280	10.991	5.789	3.520	0.928	0.381	0.144	0.045
Perris	290	11.682	6.142	3.731	0.962	0.387	0.145	0.045
Perris	300	12.851	6.762	4.097	1.030	0.399	0.145	0.045
Perris	310	14.635	7.724	4.716	1.160	0.423	0.147	0.046
Perris	320	16.797	8.941	5.570	1.351	0.461	0.149	0.046
Perris	330	18.971	10.289	6.394	1.538	0.493	0.152	0.047
Perris	340	20.523	11.222	6.954	1.609	0.498	0.155	0.048
Perris	350	20.930	11.256	6.993	1.539	0.473	0.156	0.049
Perris	360	19.950	10.481	6.392	1.327	0.428	0.155	0.048
Pico Rivera	10	16.929	8.880	5.436	1.181	0.395	0.137	0.041
Pico Rivera	20	17.595	9.295	5.643	1.273	0.422	0.139	0.042
Pico Rivera	30	18.144	9.434	5.766	1.330	0.436	0.141	0.042
Pico Rivera	40	18.117	9.517	5.883	1.370	0.449	0.141	0.042
Pico Rivera	50	17.029	9.184	5.700	1.391	0.454	0.140	0.042
Pico Rivera	60	15.126	8.110	5.002	1.216	0.418	0.136	0.041
Pico Rivera	70	12.677	6.570	3.975	0.964	0.366	0.131	0.040
Pico Rivera	80	10.282	5.219	3.120	0.798	0.332	0.126	0.038
Pico Rivera	90	8.471	4.422	2.691	0.720	0.314	0.123	0.038
Pico Rivera	100	7.563	4.065	2.495	0.684	0.306	0.121	0.037
Pico Rivera	110	7.226	3.932	2.428	0.673	0.304	0.121	0.037
Pico Rivera	120	7.142	3.890	2.391	0.667	0.302	0.120	0.037
Pico Rivera	130	7.072	3.860	2.369	0.660	0.301	0.120	0.037
Pico Rivera	140	6.953	3.820	2.351	0.657	0.300	0.120	0.037
Pico Rivera	150	6.756	3.745	2.313	0.656	0.300	0.120	0.037
Pico Rivera	160	6.548	3.616	2.239	0.634	0.295	0.120	0.037
Pico Rivera	170	6.519	3.506	2.164	0.611	0.291	0.120	0.037

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Pico Rivera	180	7.006	3.634	2.209	0.608	0.290	0.120	0.037
Pico Rivera	190	8.728	4.335	2.558	0.649	0.295	0.120	0.037
Pico Rivera	200	11.448	5.848	3.480	0.819	0.320	0.121	0.037
Pico Rivera	210	14.162	7.685	4.779	1.179	0.383	0.122	0.038
Pico Rivera	220	15.947	8.883	5.714	1.422	0.433	0.123	0.038
Pico Rivera	230	16.099	8.862	5.585	1.369	0.422	0.123	0.038
Pico Rivera	240	14.811	7.846	4.824	1.140	0.380	0.123	0.038
Pico Rivera	250	12.878	6.700	4.073	0.965	0.351	0.122	0.038
Pico Rivera	260	11.368	5.960	3.613	0.891	0.338	0.122	0.037
Pico Rivera	270	10.409	5.574	3.421	0.867	0.333	0.121	0.037
Pico Rivera	280	9.948	5.388	3.302	0.839	0.328	0.121	0.037
Pico Rivera	290	9.702	5.331	3.273	0.829	0.328	0.121	0.037
Pico Rivera	300	9.735	5.388	3.295	0.839	0.331	0.121	0.037
Pico Rivera	310	10.082	5.550	3.389	0.856	0.335	0.122	0.038
Pico Rivera	320	10.670	5.833	3.590	0.887	0.342	0.123	0.038
Pico Rivera	330	11.457	6.305	3.864	0.949	0.353	0.125	0.038
Pico Rivera	340	12.499	6.854	4.190	0.993	0.361	0.127	0.039
Pico Rivera	350	14.128	7.450	4.570	1.018	0.361	0.130	0.039
Pico Rivera	360	15.780	8.178	4.987	1.049	0.361	0.133	0.040
Redlands	10	7.976	4.634	2.840	0.782	0.363	0.149	0.046
Redlands	20	8.472	4.687	2.849	0.790	0.366	0.149	0.046
Redlands	30	8.843	4.768	2.910	0.809	0.370	0.149	0.046
Redlands	40	9.152	4.914	3.016	0.834	0.376	0.150	0.047
Redlands	50	9.820	5.187	3.181	0.871	0.386	0.151	0.047
Redlands	60	11.354	5.762	3.490	0.935	0.403	0.156	0.048
Redlands	70	14.066	6.998	4.178	1.063	0.435	0.163	0.050
Redlands	80	18.074	9.144	5.454	1.324	0.487	0.171	0.052
Redlands	90	21.113	11.126	6.852	1.707	0.554	0.176	0.054
Redlands	100	21.850	11.587	7.136	1.758	0.569	0.176	0.054
Redlands	110	20.042	10.349	6.345	1.544	0.523	0.170	0.052
Redlands	120	17.069	8.689	5.252	1.291	0.473	0.163	0.050
Redlands	130	14.290	7.287	4.428	1.126	0.437	0.157	0.048
Redlands	140	12.179	6.236	3.799	0.988	0.406	0.153	0.047
Redlands	150	10.623	5.498	3.325	0.889	0.385	0.151	0.047
Redlands	160	9.590	5.010	3.029	0.824	0.372	0.149	0.046

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Redlands	170	8.979	4.715	2.852	0.783	0.363	0.149	0.046
Redlands	180	8.671	4.554	2.761	0.763	0.359	0.148	0.046
Redlands	190	8.438	4.512	2.738	0.765	0.361	0.148	0.046
Redlands	200	8.006	4.528	2.761	0.778	0.365	0.149	0.046
Redlands	210	7.755	4.601	2.839	0.800	0.370	0.150	0.047
Redlands	220	7.971	4.740	2.968	0.831	0.377	0.151	0.047
Redlands	230	8.689	4.960	3.114	0.858	0.382	0.151	0.047
Redlands	240	10.588	5.523	3.363	0.900	0.388	0.151	0.047
Redlands	250	14.273	7.128	4.099	0.974	0.399	0.151	0.047
Redlands	260	21.578	10.549	6.059	1.201	0.421	0.150	0.047
Redlands	270	30.712	16.466	9.941	2.068	0.535	0.150	0.047
Redlands	280	37.628	21.938	14.366	3.603	0.847	0.152	0.047
Redlands	290	38.370	22.653	15.102	3.889	0.916	0.152	0.046
Redlands	300	32.611	18.028	11.205	2.437	0.615	0.150	0.046
Redlands	310	23.669	11.888	6.922	1.364	0.440	0.149	0.046
Redlands	320	16.063	7.825	4.516	1.010	0.398	0.149	0.046
Redlands	330	11.431	5.885	3.529	0.911	0.385	0.149	0.046
Redlands	340	9.169	5.099	3.161	0.849	0.374	0.149	0.046
Redlands	350	8.239	4.790	2.985	0.806	0.366	0.149	0.046
Redlands	360	7.933	4.665	2.878	0.779	0.361	0.149	0.046
Riverside Arpt.	10	6.357	3.639	2.288	0.613	0.264	0.105	0.033
Riverside Arpt.	20	6.310	3.706	2.336	0.638	0.272	0.105	0.033
Riverside Arpt.	30	6.442	3.819	2.427	0.668	0.280	0.107	0.033
Riverside Arpt.	40	6.745	3.984	2.559	0.705	0.293	0.109	0.034
Riverside Arpt.	50	7.413	4.314	2.781	0.760	0.311	0.115	0.035
Riverside Arpt.	60	9.199	5.012	3.206	0.887	0.359	0.129	0.038
Riverside Arpt.	70	13.463	6.819	4.219	1.126	0.446	0.159	0.046
Riverside Arpt.	80	20.625	11.038	6.721	1.654	0.589	0.200	0.061
Riverside Arpt.	90	25.743	14.771	9.612	2.578	0.786	0.229	0.073
Riverside Arpt.	100	25.145	14.315	9.200	2.349	0.739	0.222	0.070
Riverside Arpt.	110	19.505	10.310	6.423	1.630	0.565	0.185	0.055
Riverside Arpt.	120	13.201	6.887	4.304	1.147	0.428	0.145	0.042
Riverside Arpt.	130	9.196	5.061	3.246	0.883	0.342	0.120	0.035
Riverside Arpt.	140	7.145	4.113	2.648	0.724	0.295	0.109	0.033
Riverside Arpt.	150	6.054	3.619	2.314	0.644	0.276	0.106	0.033

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Riverside Arpt.	160	5.536	3.373	2.156	0.606	0.267	0.106	0.033
Riverside Arpt.	170	5.448	3.289	2.100	0.588	0.265	0.107	0.033
Riverside Arpt.	180	5.739	3.364	2.153	0.597	0.271	0.110	0.034
Riverside Arpt.	190	6.370	3.648	2.325	0.648	0.289	0.115	0.035
Riverside Arpt.	200	7.372	4.109	2.612	0.736	0.319	0.124	0.038
Riverside Arpt.	210	8.992	4.917	3.106	0.874	0.362	0.136	0.041
Riverside Arpt.	220	11.154	6.197	3.979	1.088	0.421	0.151	0.047
Riverside Arpt.	230	13.274	7.585	4.930	1.355	0.487	0.163	0.051
Riverside Arpt.	240	14.706	8.420	5.477	1.485	0.513	0.166	0.053
Riverside Arpt.	250	14.894	8.404	5.440	1.467	0.502	0.159	0.050
Riverside Arpt.	260	14.126	7.830	4.991	1.330	0.454	0.145	0.045
Riverside Arpt.	270	12.798	7.053	4.497	1.194	0.403	0.131	0.040
Riverside Arpt.	280	11.479	6.350	4.050	1.069	0.370	0.121	0.037
Riverside Arpt.	290	10.340	5.802	3.740	0.989	0.346	0.114	0.035
Riverside Arpt.	300	9.542	5.415	3.477	0.921	0.331	0.111	0.034
Riverside Arpt.	310	8.966	5.105	3.269	0.865	0.317	0.109	0.034
Riverside Arpt.	320	8.471	4.818	3.091	0.818	0.308	0.108	0.033
Riverside Arpt.	330	7.946	4.528	2.884	0.780	0.299	0.106	0.033
Riverside Arpt.	340	7.424	4.186	2.644	0.704	0.282	0.105	0.033
Riverside Arpt.	350	6.983	3.859	2.426	0.640	0.268	0.105	0.033
Riverside Arpt.	360	6.615	3.672	2.299	0.603	0.260	0.105	0.032
Santa Monica Arpt.	10	9.279	5.039	3.170	0.803	0.326	0.124	0.038
Santa Monica Arpt.	20	10.948	5.830	3.622	0.927	0.365	0.133	0.040
Santa Monica Arpt.	30	13.763	7.058	4.334	1.106	0.417	0.147	0.043
Santa Monica Arpt.	40	16.856	8.913	5.505	1.349	0.486	0.165	0.049
Santa Monica Arpt.	50	18.698	10.346	6.544	1.662	0.563	0.178	0.053
Santa Monica Arpt.	60	18.443	10.217	6.470	1.639	0.556	0.177	0.053
Santa Monica Arpt.	70	16.029	8.563	5.282	1.312	0.474	0.160	0.047
Santa Monica Arpt.	80	12.608	6.506	3.989	1.047	0.399	0.139	0.041
Santa Monica Arpt.	90	9.678	5.214	3.277	0.877	0.344	0.125	0.038
Santa Monica Arpt.	100	8.248	4.610	2.923	0.786	0.318	0.119	0.036
Santa Monica Arpt.	110	7.741	4.435	2.828	0.765	0.312	0.116	0.036
Santa Monica Arpt.	120	7.727	4.477	2.842	0.769	0.311	0.116	0.036
Santa Monica Arpt.	130	7.864	4.586	2.901	0.785	0.314	0.116	0.036
Santa Monica Arpt.	140	8.083	4.689	2.987	0.797	0.318	0.117	0.036

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Santa Monica Arpt.	150	8.335	4.838	3.056	0.813	0.322	0.118	0.037
Santa Monica Arpt.	160	8.677	5.009	3.160	0.819	0.322	0.120	0.037
Santa Monica Arpt.	170	9.256	5.228	3.338	0.835	0.321	0.121	0.038
Santa Monica Arpt.	180	9.909	5.461	3.470	0.829	0.315	0.122	0.038
Santa Monica Arpt.	190	10.848	5.850	3.679	0.878	0.327	0.122	0.038
Santa Monica Arpt.	200	12.075	6.672	4.183	1.015	0.354	0.122	0.038
Santa Monica Arpt.	210	13.681	7.639	4.869	1.220	0.393	0.123	0.038
Santa Monica Arpt.	220	14.854	8.372	5.416	1.347	0.419	0.123	0.038
Santa Monica Arpt.	230	14.984	8.444	5.420	1.367	0.426	0.124	0.038
Santa Monica Arpt.	240	14.156	7.850	4.977	1.238	0.401	0.123	0.038
Santa Monica Arpt.	250	12.754	6.925	4.346	1.085	0.374	0.122	0.038
Santa Monica Arpt.	260	11.407	6.134	3.811	0.967	0.351	0.121	0.037
Santa Monica Arpt.	270	10.262	5.602	3.497	0.909	0.337	0.120	0.037
Santa Monica Arpt.	280	9.397	5.202	3.273	0.863	0.331	0.119	0.037
Santa Monica Arpt.	290	8.629	4.843	3.063	0.818	0.323	0.119	0.037
Santa Monica Arpt.	300	8.066	4.530	2.834	0.763	0.314	0.118	0.036
Santa Monica Arpt.	310	7.653	4.314	2.693	0.731	0.308	0.118	0.036
Santa Monica Arpt.	320	7.402	4.184	2.630	0.721	0.307	0.117	0.036
Santa Monica Arpt.	330	7.233	4.141	2.592	0.709	0.303	0.117	0.036
Santa Monica Arpt.	340	7.270	4.158	2.594	0.698	0.301	0.117	0.036
Santa Monica Arpt.	350	7.614	4.295	2.707	0.708	0.300	0.118	0.036
Santa Monica Arpt.	360	8.227	4.559	2.889	0.731	0.304	0.120	0.037
Upland	10	7.802	4.149	2.507	0.687	0.323	0.132	0.041
Upland	20	8.204	4.377	2.650	0.718	0.332	0.134	0.041
Upland	30	9.156	4.805	2.921	0.778	0.347	0.137	0.042
Upland	40	10.985	5.637	3.430	0.879	0.372	0.142	0.043
Upland	50	13.809	7.049	4.257	1.054	0.413	0.149	0.045
Upland	60	17.733	9.053	5.449	1.301	0.464	0.157	0.047
Upland	70	21.393	11.297	6.925	1.611	0.520	0.162	0.049
Upland	80	23.496	12.789	7.924	1.888	0.566	0.160	0.048
Upland	90	22.593	12.344	7.701	1.889	0.550	0.153	0.046
Upland	100	19.098	10.221	6.250	1.485	0.469	0.144	0.043
Upland	110	14.548	7.879	4.882	1.174	0.409	0.137	0.041
Upland	120	11.568	6.503	4.051	1.008	0.376	0.132	0.040
Upland	130	10.809	6.097	3.792	0.950	0.362	0.130	0.040

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Upland	140	12.523	6.761	4.165	0.982	0.366	0.129	0.040
Upland	150	16.613	9.007	5.450	1.194	0.392	0.129	0.040
Upland	160	21.627	12.273	7.657	1.665	0.460	0.129	0.040
Upland	170	24.921	14.374	9.376	2.076	0.503	0.129	0.040
Upland	180	24.141	13.366	8.431	1.672	0.414	0.129	0.040
Upland	190	19.586	10.080	6.220	1.215	0.378	0.129	0.040
Upland	200	14.389	7.660	4.586	1.044	0.370	0.129	0.040
Upland	210	11.447	6.079	3.736	0.926	0.355	0.129	0.040
Upland	220	9.718	5.267	3.241	0.833	0.342	0.129	0.040
Upland	230	8.818	4.806	2.929	0.783	0.335	0.129	0.040
Upland	240	8.379	4.496	2.731	0.743	0.329	0.129	0.040
Upland	250	8.153	4.276	2.594	0.719	0.325	0.129	0.040
Upland	260	8.073	4.135	2.494	0.698	0.322	0.129	0.040
Upland	270	7.991	4.043	2.427	0.683	0.318	0.129	0.040
Upland	280	7.945	3.995	2.396	0.675	0.318	0.129	0.040
Upland	290	7.956	3.994	2.399	0.676	0.318	0.130	0.040
Upland	300	7.980	4.007	2.407	0.681	0.320	0.130	0.040
Upland	310	7.984	4.007	2.405	0.679	0.320	0.130	0.040
Upland	320	7.951	3.982	2.390	0.675	0.319	0.130	0.040
Upland	330	7.875	3.966	2.372	0.670	0.318	0.130	0.040
Upland	340	7.777	3.961	2.365	0.666	0.317	0.130	0.040
Upland	350	7.699	3.978	2.384	0.665	0.317	0.131	0.040
Upland	360	7.676	4.031	2.426	0.669	0.318	0.131	0.041
USC/Downtown L.A.	10	8.044	4.490	2.745	0.716	0.319	0.128	0.039
USC/Downtown L.A.	20	8.748	4.883	2.979	0.768	0.329	0.128	0.040
USC/Downtown L.A.	30	10.150	5.600	3.449	0.875	0.349	0.130	0.040
USC/Downtown L.A.	40	12.335	6.696	4.172	1.030	0.382	0.132	0.040
USC/Downtown L.A.	50	15.352	8.188	5.073	1.230	0.422	0.137	0.041
USC/Downtown L.A.	60	19.864	10.224	6.209	1.437	0.465	0.143	0.043
USC/Downtown L.A.	70	24.785	13.090	8.009	1.778	0.524	0.149	0.045
USC/Downtown L.A.	80	28.548	15.697	9.827	2.300	0.623	0.153	0.046
USC/Downtown L.A.	90	28.601	15.843	10.033	2.435	0.635	0.151	0.045
USC/Downtown L.A.	100	24.758	13.189	8.038	1.839	0.525	0.144	0.043
USC/Downtown L.A.	110	18.513	9.666	5.925	1.372	0.442	0.137	0.041
USC/Downtown L.A.	120	13.661	7.415	4.579	1.119	0.394	0.132	0.040

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
USC/Downtown L.A.	130	10.902	6.259	3.948	1.000	0.371	0.129	0.040
USC/Downtown L.A.	140	9.581	5.668	3.614	0.939	0.361	0.128	0.040
USC/Downtown L.A.	150	9.017	5.315	3.339	0.874	0.347	0.128	0.040
USC/Downtown L.A.	160	8.915	5.111	3.167	0.814	0.335	0.128	0.039
USC/Downtown L.A.	170	9.400	5.156	3.193	0.798	0.328	0.128	0.039
USC/Downtown L.A.	180	10.331	5.508	3.413	0.820	0.326	0.127	0.039
USC/Downtown L.A.	190	11.199	6.069	3.775	0.912	0.343	0.127	0.039
USC/Downtown L.A.	200	11.548	6.385	3.991	1.000	0.364	0.128	0.039
USC/Downtown L.A.	210	11.419	6.236	3.920	1.009	0.368	0.128	0.039
USC/Downtown L.A.	220	10.860	5.799	3.625	0.926	0.355	0.127	0.039
USC/Downtown L.A.	230	10.167	5.390	3.322	0.868	0.347	0.128	0.039
USC/Downtown L.A.	240	9.851	5.197	3.201	0.844	0.343	0.128	0.039
USC/Downtown L.A.	250	10.020	5.275	3.249	0.858	0.347	0.129	0.040
USC/Downtown L.A.	260	10.764	5.631	3.439	0.893	0.353	0.129	0.040
USC/Downtown L.A.	270	11.494	6.104	3.755	0.970	0.363	0.130	0.040
USC/Downtown L.A.	280	11.879	6.341	3.929	1.026	0.377	0.131	0.040
USC/Downtown L.A.	290	11.678	6.188	3.844	0.994	0.372	0.130	0.040
USC/Downtown L.A.	300	11.096	5.803	3.550	0.920	0.359	0.130	0.040
USC/Downtown L.A.	310	10.406	5.435	3.325	0.870	0.351	0.130	0.040
USC/Downtown L.A.	320	9.778	5.126	3.162	0.837	0.346	0.129	0.040
USC/Downtown L.A.	330	9.187	4.887	2.993	0.801	0.338	0.129	0.040
USC/Downtown L.A.	340	8.666	4.666	2.851	0.759	0.329	0.129	0.040
USC/Downtown L.A.	350	8.226	4.483	2.747	0.729	0.322	0.128	0.040
USC/Downtown L.A.	360	7.931	4.394	2.689	0.704	0.316	0.128	0.039
Van Nuys Arpt.	10	7.308	4.096	2.608	0.693	0.294	0.114	0.035
Van Nuys Arpt.	20	6.654	3.889	2.465	0.668	0.281	0.108	0.033
Van Nuys Arpt.	30	6.514	3.829	2.442	0.669	0.277	0.104	0.032
Van Nuys Arpt.	40	6.590	3.870	2.482	0.681	0.278	0.103	0.032
Van Nuys Arpt.	50	6.857	3.995	2.552	0.700	0.282	0.104	0.032
Van Nuys Arpt.	60	7.522	4.280	2.725	0.739	0.292	0.106	0.032
Van Nuys Arpt.	70	8.714	4.912	3.132	0.834	0.313	0.110	0.034
Van Nuys Arpt.	80	10.486	5.904	3.761	0.989	0.347	0.114	0.035
Van Nuys Arpt.	90	12.121	6.862	4.405	1.157	0.375	0.118	0.037
Van Nuys Arpt.	100	13.086	7.385	4.725	1.224	0.393	0.120	0.037
Van Nuys Arpt.	110	13.199	7.453	4.815	1.249	0.399	0.120	0.037

Table 2: Annual Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{ton/yr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Van Nuys Arpt.	120	12.821	7.276	4.695	1.214	0.392	0.118	0.036
Van Nuys Arpt.	130	12.232	6.950	4.494	1.168	0.381	0.116	0.036
Van Nuys Arpt.	140	11.568	6.539	4.260	1.108	0.373	0.116	0.035
Van Nuys Arpt.	150	10.900	6.213	4.011	1.057	0.366	0.120	0.037
Van Nuys Arpt.	160	10.318	5.883	3.783	0.990	0.361	0.126	0.039
Van Nuys Arpt.	170	9.793	5.508	3.528	0.916	0.352	0.132	0.041
Van Nuys Arpt.	180	8.749	4.881	3.106	0.801	0.330	0.131	0.041
Van Nuys Arpt.	190	7.325	4.055	2.590	0.709	0.312	0.124	0.038
Van Nuys Arpt.	200	6.095	3.550	2.273	0.649	0.291	0.115	0.035
Van Nuys Arpt.	210	5.585	3.291	2.105	0.608	0.273	0.108	0.033
Van Nuys Arpt.	220	5.391	3.173	2.026	0.585	0.263	0.104	0.032
Van Nuys Arpt.	230	5.358	3.158	2.017	0.586	0.261	0.102	0.032
Van Nuys Arpt.	240	5.562	3.221	2.067	0.600	0.264	0.103	0.032
Van Nuys Arpt.	250	6.141	3.468	2.226	0.637	0.276	0.106	0.032
Van Nuys Arpt.	260	7.517	4.139	2.628	0.740	0.306	0.114	0.035
Van Nuys Arpt.	270	9.582	5.285	3.371	0.947	0.361	0.128	0.039
Van Nuys Arpt.	280	11.940	6.646	4.251	1.172	0.426	0.146	0.045
Van Nuys Arpt.	290	13.781	7.748	5.036	1.390	0.492	0.162	0.051
Van Nuys Arpt.	300	14.699	8.257	5.318	1.452	0.519	0.171	0.053
Van Nuys Arpt.	310	14.663	8.126	5.188	1.399	0.512	0.173	0.053
Van Nuys Arpt.	320	13.864	7.557	4.837	1.295	0.489	0.167	0.050
Van Nuys Arpt.	330	12.590	6.864	4.320	1.158	0.447	0.158	0.047
Van Nuys Arpt.	340	11.154	6.065	3.794	1.002	0.399	0.146	0.044
Van Nuys Arpt.	350	9.767	5.290	3.330	0.873	0.355	0.134	0.040
Van Nuys Arpt.	360	8.435	4.601	2.900	0.751	0.314	0.123	0.037

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Azusa	10	433.580	276.782	196.085	54.156	10.231	2.277	0.686
Azusa	20	467.766	288.074	205.455	59.742	12.978	2.473	0.736
Azusa	30	510.124	323.855	228.526	68.556	16.279	2.398	0.663
Azusa	40	481.466	308.540	218.634	66.134	15.775	2.781	0.722
Azusa	50	511.151	318.042	222.273	67.045	15.589	4.757	1.427
Azusa	60	538.165	318.042	225.857	68.822	16.055	4.757	1.427
Azusa	70	586.371	339.921	237.971	71.847	17.600	5.328	1.627
Azusa	80	565.047	340.581	236.999	72.081	17.010	5.037	1.489
Azusa	90	542.467	336.756	235.966	70.065	15.892	3.069	0.974
Azusa	100	614.922	349.672	238.565	72.586	17.833	5.365	1.636
Azusa	110	607.164	355.932	231.982	70.431	18.908	5.640	1.716
Azusa	120	527.612	317.347	225.746	68.708	16.022	4.386	1.116
Azusa	130	492.207	311.400	220.306	66.929	15.927	2.557	0.717
Azusa	140	473.942	305.203	217.901	66.167	15.365	2.544	0.704
Azusa	150	509.106	323.265	228.171	68.515	16.279	3.978	1.226
Azusa	160	488.820	308.533	216.918	62.076	13.850	3.858	1.230
Azusa	170	474.521	294.724	205.088	55.785	10.957	2.824	0.871
Azusa	180	447.019	272.619	188.262	49.244	7.846	2.433	0.707
Azusa	190	438.760	279.736	198.311	53.940	10.326	2.778	0.684
Azusa	200	477.243	299.939	211.343	60.724	13.607	3.983	1.268
Azusa	210	485.428	308.451	217.084	65.677	15.328	3.996	1.231
Azusa	220	478.712	305.976	218.563	66.452	15.436	2.191	0.662
Azusa	230	491.823	312.849	220.538	66.848	15.768	1.484	0.435
Azusa	240	492.745	315.951	224.802	68.480	15.976	1.442	0.435
Azusa	250	514.036	327.024	231.450	70.431	16.494	2.544	0.754
Azusa	260	537.949	335.881	236.425	71.897	17.161	2.717	0.843
Azusa	270	536.017	337.025	236.135	70.047	15.883	3.628	0.930
Azusa	280	630.768	364.745	235.829	71.699	18.944	5.618	1.736
Azusa	290	544.213	340.528	238.086	71.613	17.152	4.114	1.022
Azusa	300	534.678	336.959	236.612	71.024	16.904	1.958	0.582
Azusa	310	483.645	309.306	220.574	67.081	15.603	1.871	0.522
Azusa	320	494.781	314.487	221.905	66.528	15.826	1.508	0.435
Azusa	330	471.888	301.467	212.957	64.335	15.247	2.520	0.685
Azusa	340	449.591	290.486	207.638	60.450	13.133	2.896	0.853

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Azusa	350	436.092	278.335	196.824	55.810	10.244	2.160	0.662
Azusa	360	421.269	266.487	187.160	48.989	7.785	2.856	0.864
Banning	10	554.346	364.800	262.791	71.439	14.362	4.446	1.659
Banning	20	596.001	396.902	288.965	86.236	18.404	4.725	1.752
Banning	30	594.233	397.580	290.305	90.953	20.925	4.483	1.647
Banning	40	612.146	406.329	295.145	91.478	20.955	4.546	1.674
Banning	50	625.483	415.541	302.092	94.277	21.675	4.728	1.745
Banning	60	683.136	426.510	309.257	96.568	22.264	4.818	1.776
Banning	70	721.488	454.938	322.115	100.376	23.237	4.831	1.782
Banning	80	720.974	468.071	334.658	103.656	24.088	4.901	1.813
Banning	90	731.700	471.192	334.277	100.346	22.355	4.872	1.805
Banning	100	717.088	465.196	332.446	102.900	23.912	4.770	1.758
Banning	110	738.775	464.251	323.879	97.986	22.661	4.856	1.795
Banning	120	716.795	443.738	315.825	96.733	22.756	4.717	1.741
Banning	130	623.234	412.909	299.427	92.896	21.368	4.686	1.730
Banning	140	610.281	406.098	295.717	92.404	21.251	4.582	1.689
Banning	150	600.895	402.542	294.187	92.294	21.227	4.543	1.675
Banning	160	574.150	381.015	276.699	82.214	17.582	4.453	1.651
Banning	170	571.386	375.988	271.119	73.971	14.616	4.583	1.711
Banning	180	573.584	371.358	263.553	63.917	12.582	4.546	1.696
Banning	190	579.439	378.212	270.892	72.578	14.544	4.577	1.705
Banning	200	591.171	393.751	286.609	85.436	18.233	4.562	1.695
Banning	210	602.800	403.740	295.097	92.684	21.326	4.794	1.771
Banning	220	613.939	408.986	297.907	93.002	21.352	4.687	1.730
Banning	230	627.951	417.714	304.001	95.146	21.898	4.699	1.735
Banning	240	646.658	427.608	309.808	96.638	22.273	4.657	1.722
Banning	250	666.322	434.388	311.527	95.955	22.134	4.655	1.715
Banning	260	715.455	463.999	331.529	102.590	23.840	4.693	1.727
Banning	270	714.319	458.232	324.190	97.132	21.705	4.687	1.730
Banning	280	684.571	444.547	317.276	97.635	22.656	4.645	1.709
Banning	290	658.096	426.825	304.750	93.424	21.699	4.650	1.708
Banning	300	644.285	425.800	308.381	96.133	22.154	4.571	1.684
Banning	310	606.459	402.794	292.735	91.342	21.036	4.586	1.691
Banning	320	606.234	401.343	291.014	89.925	20.584	4.934	1.829
Banning	330	580.172	385.842	280.465	87.481	20.170	4.877	1.807

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Banning	340	580.914	383.135	276.663	80.992	17.291	4.410	1.610
Banning	350	553.212	356.598	252.231	70.550	13.649	4.506	1.675
Banning	360	549.834	354.097	250.074	59.580	12.358	4.732	1.760
Burbank Arpt.	10	541.054	352.228	252.106	68.460	13.057	3.552	1.317
Burbank Arpt.	20	578.562	378.340	271.184	78.469	16.812	3.563	1.315
Burbank Arpt.	30	557.610	366.833	266.238	83.004	19.163	3.437	1.258
Burbank Arpt.	40	575.304	377.234	271.670	83.533	19.283	3.415	1.250
Burbank Arpt.	50	588.731	386.506	278.806	86.076	19.882	3.396	1.239
Burbank Arpt.	60	615.120	399.190	286.845	88.691	20.543	3.513	1.282
Burbank Arpt.	70	641.687	415.706	296.760	90.909	21.052	3.571	1.274
Burbank Arpt.	80	660.244	424.449	301.817	93.097	21.747	3.597	1.306
Burbank Arpt.	90	687.435	434.806	304.744	89.865	20.223	3.542	1.298
Burbank Arpt.	100	672.130	432.422	307.495	94.765	22.143	3.632	1.327
Burbank Arpt.	110	635.094	407.801	292.012	90.100	20.953	3.603	1.318
Burbank Arpt.	120	604.909	392.453	282.115	87.634	20.295	3.596	1.317
Burbank Arpt.	130	613.604	401.912	289.017	88.758	20.526	3.608	1.320
Burbank Arpt.	140	576.286	377.054	271.074	83.020	19.160	3.648	1.339
Burbank Arpt.	150	569.984	373.168	268.503	83.053	19.136	3.627	1.330
Burbank Arpt.	160	616.124	398.931	283.546	80.611	17.228	3.493	1.287
Burbank Arpt.	170	599.553	382.886	268.786	73.996	13.363	3.554	1.282
Burbank Arpt.	180	554.869	355.187	249.758	59.157	9.772	3.364	1.246
Burbank Arpt.	190	542.899	353.276	252.966	68.443	13.083	3.400	1.257
Burbank Arpt.	200	553.559	364.262	263.019	77.523	16.662	3.452	1.268
Burbank Arpt.	210	566.089	369.143	267.499	83.140	19.201	3.320	1.203
Burbank Arpt.	220	576.031	377.598	271.814	83.303	19.237	3.560	1.298
Burbank Arpt.	230	602.883	397.805	287.167	88.591	20.495	4.829	1.320
Burbank Arpt.	240	638.055	409.069	289.104	87.266	20.196	3.846	1.312
Burbank Arpt.	250	634.772	411.620	294.363	90.784	21.104	3.542	1.289
Burbank Arpt.	260	661.431	425.245	302.242	92.953	21.708	3.503	1.277
Burbank Arpt.	270	672.155	430.127	304.179	91.056	20.408	3.541	1.295
Burbank Arpt.	280	648.430	414.348	294.553	90.935	21.312	3.610	1.318
Burbank Arpt.	290	626.525	407.193	291.818	90.277	20.967	3.596	1.316
Burbank Arpt.	300	599.500	390.215	279.668	85.626	19.768	3.607	1.322
Burbank Arpt.	310	579.116	378.881	272.313	84.388	19.476	3.610	1.323
Burbank Arpt.	320	590.622	390.245	282.052	86.973	20.109	3.567	1.306

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Burbank Arpt.	330	564.230	375.329	272.203	84.414	19.614	3.574	1.310
Burbank Arpt.	340	609.268	399.376	287.078	83.965	18.047	3.594	1.326
Burbank Arpt.	350	564.386	364.773	258.552	69.076	13.186	4.339	1.328
Burbank Arpt.	360	524.268	336.139	237.092	58.758	11.506	4.339	1.315
Central L.A.	10	458.924	256.779	161.946	40.115	10.961	3.766	1.235
Central L.A.	20	403.176	223.906	156.117	44.204	10.032	3.042	0.841
Central L.A.	30	368.585	220.870	152.750	45.912	10.970	2.957	0.841
Central L.A.	40	378.495	238.491	167.689	50.144	12.037	2.765	0.903
Central L.A.	50	373.399	233.364	162.877	48.107	11.583	2.267	0.712
Central L.A.	60	386.567	237.565	164.019	48.339	11.583	2.911	0.945
Central L.A.	70	390.714	241.397	167.478	49.932	12.087	2.416	0.766
Central L.A.	80	414.962	251.547	174.822	52.845	12.897	2.918	0.945
Central L.A.	90	409.895	249.212	171.563	50.272	11.874	2.616	0.786
Central L.A.	100	406.610	250.177	173.193	51.862	12.650	2.781	0.879
Central L.A.	110	401.968	245.932	170.342	50.645	12.262	1.665	0.479
Central L.A.	120	389.493	242.901	169.770	50.791	12.244	1.512	0.411
Central L.A.	130	366.688	226.574	157.332	47.045	11.251	2.004	0.496
Central L.A.	140	371.073	233.737	164.267	49.093	11.804	2.473	0.706
Central L.A.	150	361.926	226.270	158.334	47.011	11.326	2.194	0.650
Central L.A.	160	371.758	231.657	161.767	45.892	10.362	1.882	0.574
Central L.A.	170	362.817	224.408	155.788	43.725	8.212	1.801	0.494
Central L.A.	180	350.878	213.518	146.505	36.475	6.085	1.536	0.445
Central L.A.	190	360.185	221.110	152.318	40.059	8.195	1.276	0.399
Central L.A.	200	371.554	231.583	161.771	45.985	10.382	1.454	0.432
Central L.A.	210	373.431	234.286	164.258	48.856	11.738	1.977	0.555
Central L.A.	220	373.121	233.474	163.844	48.785	11.730	1.977	0.632
Central L.A.	230	379.190	237.886	166.780	49.800	11.978	1.391	0.399
Central L.A.	240	395.634	246.673	172.205	51.315	12.352	1.768	0.543
Central L.A.	250	401.306	249.544	174.102	52.382	12.687	1.709	0.495
Central L.A.	260	398.143	244.435	169.665	51.033	12.345	2.741	0.832
Central L.A.	270	396.548	242.555	167.680	49.202	11.470	2.392	0.657
Central L.A.	280	415.222	256.352	178.107	53.786	13.103	2.139	0.665
Central L.A.	290	412.005	255.325	177.788	53.312	12.879	1.911	0.637
Central L.A.	300	394.906	243.682	168.845	50.024	12.116	1.506	0.399
Central L.A.	310	371.185	231.695	161.634	47.728	11.507	2.252	0.636

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Central L.A.	320	378.480	238.283	167.455	50.036	12.008	2.030	0.533
Central L.A.	330	363.531	224.012	154.343	46.045	11.000	2.349	0.740
Central L.A.	340	338.080	212.744	149.555	43.531	9.588	2.203	0.657
Central L.A.	350	331.086	206.685	144.388	40.762	7.643	2.457	0.807
Central L.A.	360	377.507	205.938	140.780	36.081	6.938	2.734	0.721
Chino Arpt.	10	642.820	428.216	312.459	86.815	18.768	6.392	2.409
Chino Arpt.	20	658.643	440.731	321.231	97.027	21.657	6.361	2.388
Chino Arpt.	30	679.461	451.408	327.573	104.315	23.958	6.355	2.375
Chino Arpt.	40	669.257	451.269	330.861	104.267	23.956	6.476	2.421
Chino Arpt.	50	713.376	475.740	344.156	106.218	24.407	6.423	2.399
Chino Arpt.	60	709.037	473.530	344.838	108.750	25.052	6.489	2.407
Chino Arpt.	70	771.709	511.866	369.159	114.255	26.321	6.422	2.400
Chino Arpt.	80	787.976	518.345	373.529	117.083	27.169	6.488	2.419
Chino Arpt.	90	813.547	528.522	376.868	113.774	25.509	6.412	2.399
Chino Arpt.	100	784.545	516.206	371.538	115.710	26.860	6.516	2.433
Chino Arpt.	110	781.782	514.951	368.553	112.053	25.746	6.442	2.405
Chino Arpt.	120	751.814	505.139	368.673	116.136	26.748	6.422	2.400
Chino Arpt.	130	682.399	458.600	335.529	107.116	24.647	6.418	2.401
Chino Arpt.	140	699.885	474.511	347.812	109.316	25.162	6.379	2.384
Chino Arpt.	150	725.822	480.500	345.576	107.154	24.636	6.433	2.405
Chino Arpt.	160	652.541	434.845	318.104	96.883	21.896	6.284	2.357
Chino Arpt.	170	675.411	439.337	312.013	85.807	18.746	6.016	2.263
Chino Arpt.	180	675.411	439.337	311.114	80.185	16.344	6.311	2.382
Chino Arpt.	190	678.733	450.371	324.577	89.041	18.892	6.200	2.331
Chino Arpt.	200	694.365	464.951	337.163	100.011	21.655	6.299	2.354
Chino Arpt.	210	697.271	469.451	341.698	104.959	23.890	6.548	2.452
Chino Arpt.	220	742.258	501.383	367.149	115.339	26.455	6.331	2.366
Chino Arpt.	230	733.230	495.541	362.154	113.704	26.227	6.370	2.372
Chino Arpt.	240	756.945	505.687	366.429	113.449	26.057	6.343	2.358
Chino Arpt.	250	824.293	542.745	390.087	120.048	27.515	6.413	2.396
Chino Arpt.	260	793.377	519.273	372.869	116.455	27.034	6.446	2.392
Chino Arpt.	270	858.058	559.710	399.935	121.272	26.903	6.410	2.399
Chino Arpt.	280	792.414	518.142	373.586	117.465	27.263	6.305	2.349
Chino Arpt.	290	747.233	494.276	359.136	113.260	26.162	6.452	2.405
Chino Arpt.	300	747.004	501.161	365.297	114.666	26.374	6.241	2.329

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Chino Arpt.	310	728.322	485.528	351.550	107.460	24.462	6.212	2.321
Chino Arpt.	320	692.396	470.521	346.640	110.013	25.218	6.300	2.351
Chino Arpt.	330	658.701	444.741	328.257	105.077	24.218	6.396	2.390
Chino Arpt.	340	698.645	471.429	344.896	102.921	21.783	6.285	2.358
Chino Arpt.	350	679.521	451.753	326.532	88.800	18.792	6.188	2.329
Chino Arpt.	360	658.509	432.601	307.741	72.625	16.363	6.176	2.331
Desert Hot Springs Arpt.	10	616.051	411.060	299.674	83.098	19.813	6.741	2.533
Desert Hot Springs Arpt.	20	602.597	402.856	293.538	87.310	21.941	6.641	2.483
Desert Hot Springs Arpt.	30	647.392	433.381	315.602	98.303	23.991	6.795	2.549
Desert Hot Springs Arpt.	40	643.973	435.465	320.031	101.279	24.343	6.762	2.524
Desert Hot Springs Arpt.	50	655.740	432.912	314.644	98.330	24.729	6.792	2.543
Desert Hot Springs Arpt.	60	655.545	436.321	317.406	99.849	24.676	6.699	2.496
Desert Hot Springs Arpt.	70	674.313	448.026	325.319	102.144	25.515	6.642	2.484
Desert Hot Springs Arpt.	80	760.018	495.818	354.924	109.571	26.511	6.722	2.505
Desert Hot Springs Arpt.	90	757.749	491.091	350.540	106.194	25.657	6.801	2.550
Desert Hot Springs Arpt.	100	743.577	485.593	348.353	108.538	26.472	6.873	2.564
Desert Hot Springs Arpt.	110	695.010	459.705	332.992	104.606	25.722	6.790	2.534
Desert Hot Springs Arpt.	120	674.819	444.109	320.026	99.766	24.692	6.897	2.578
Desert Hot Springs Arpt.	130	644.117	433.517	317.848	100.698	24.472	7.102	2.656
Desert Hot Springs Arpt.	140	645.680	431.013	313.911	98.476	24.090	7.112	2.671
Desert Hot Springs Arpt.	150	673.601	449.706	326.197	99.766	24.155	7.015	2.632
Desert Hot Springs Arpt.	160	614.019	411.537	300.373	89.586	22.006	7.120	2.682
Desert Hot Springs Arpt.	170	603.086	402.742	293.212	81.153	19.660	6.989	2.645
Desert Hot Springs Arpt.	180	594.892	392.076	281.420	68.031	17.292	6.978	2.642
Desert Hot Springs Arpt.	190	616.760	407.582	294.161	80.603	19.622	6.934	2.622
Desert Hot Springs Arpt.	200	615.267	413.514	302.641	91.073	22.089	7.057	2.663
Desert Hot Springs Arpt.	210	609.461	409.584	300.702	95.822	24.064	6.791	2.545
Desert Hot Springs Arpt.	220	634.278	426.107	311.893	98.100	23.921	6.939	2.590
Desert Hot Springs Arpt.	230	641.944	427.461	313.074	99.815	24.604	6.751	2.526
Desert Hot Springs Arpt.	240	644.397	433.001	317.204	100.772	25.052	6.834	2.558
Desert Hot Springs Arpt.	250	654.935	431.954	311.615	98.551	25.660	6.832	2.559
Desert Hot Springs Arpt.	260	714.189	465.132	332.345	103.319	26.540	6.911	2.590
Desert Hot Springs Arpt.	270	741.377	483.935	346.776	105.777	25.500	6.624	2.480
Desert Hot Springs Arpt.	280	731.496	480.302	345.713	108.156	26.261	7.150	2.536
Desert Hot Springs Arpt.	290	693.493	462.531	336.871	106.711	25.818	6.951	2.603

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Desert Hot Springs Arpt.	300	658.657	436.567	316.313	98.620	24.760	7.035	2.630
Desert Hot Springs Arpt.	310	639.979	428.610	313.687	98.949	24.476	6.995	2.626
Desert Hot Springs Arpt.	320	612.227	407.998	298.945	93.971	24.229	7.011	2.620
Desert Hot Springs Arpt.	330	622.008	419.929	308.241	97.350	23.995	7.065	2.655
Desert Hot Springs Arpt.	340	595.034	401.576	295.061	89.424	22.254	6.942	2.616
Desert Hot Springs Arpt.	350	601.417	399.314	289.481	79.570	19.679	6.805	2.558
Desert Hot Springs Arpt.	360	593.815	384.390	272.049	66.295	17.432	6.941	2.631
Fontana	10	595.555	377.378	264.406	69.409	13.551	2.997	0.914
Fontana	20	558.453	367.146	265.183	78.168	16.718	2.565	0.928
Fontana	30	568.348	375.919	272.629	84.547	19.462	2.542	0.908
Fontana	40	607.773	388.602	277.117	85.655	19.696	3.007	0.918
Fontana	50	643.346	410.444	290.140	86.977	20.279	3.827	1.179
Fontana	60	655.366	415.194	292.242	88.447	20.483	3.665	1.100
Fontana	70	666.016	414.313	296.167	91.137	21.102	4.890	1.350
Fontana	80	703.606	437.337	304.288	93.426	21.768	4.890	1.350
Fontana	90	685.202	432.209	305.001	91.089	20.370	3.357	1.010
Fontana	100	670.533	429.270	304.755	93.515	21.771	4.644	1.303
Fontana	110	639.042	413.596	295.608	90.943	21.056	3.432	0.930
Fontana	120	632.945	396.839	285.370	88.128	20.345	2.580	0.923
Fontana	130	664.414	425.919	301.345	89.954	20.859	2.521	0.897
Fontana	140	594.281	383.149	277.041	85.623	19.687	2.578	0.907
Fontana	150	599.345	381.320	271.172	83.925	19.315	3.542	0.909
Fontana	160	612.520	391.623	276.191	78.206	16.947	5.360	1.478
Fontana	170	632.113	401.589	282.922	75.204	14.649	3.542	0.889
Fontana	180	593.428	368.582	255.055	61.815	10.057	2.499	0.913
Fontana	190	599.418	378.157	266.689	71.025	13.936	5.166	1.344
Fontana	200	599.418	377.714	266.840	78.838	18.321	6.007	1.720
Fontana	210	635.062	400.025	278.641	84.740	19.518	3.268	0.905
Fontana	220	649.915	414.477	292.037	85.964	19.848	2.949	0.924
Fontana	230	673.775	431.912	305.588	91.200	21.134	4.569	1.258
Fontana	240	686.103	433.875	305.162	91.589	21.375	4.186	1.087
Fontana	250	698.135	440.737	309.706	93.568	22.004	2.527	0.898
Fontana	260	735.305	460.142	321.242	96.745	22.843	2.543	0.903
Fontana	270	680.570	433.174	305.581	91.132	20.365	2.523	0.901
Fontana	280	669.126	427.978	303.768	93.183	21.693	2.589	0.891

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Fontana	290	637.369	412.604	294.999	90.886	21.059	2.983	0.903
Fontana	300	609.149	397.720	286.050	88.360	20.399	2.983	0.889
Fontana	310	657.164	415.923	291.100	86.140	19.831	2.931	0.889
Fontana	320	671.836	433.820	308.972	93.549	21.752	2.519	0.899
Fontana	330	596.176	375.953	272.453	84.453	19.436	4.087	1.207
Fontana	340	584.230	370.838	265.321	78.206	16.722	3.610	1.000
Fontana	350	553.310	355.549	254.271	69.346	13.044	2.471	0.897
Fontana	360	582.813	365.363	253.511	61.815	9.583	2.514	0.918
Fullerton Arpt.	10	525.005	334.672	238.339	64.012	12.246	3.316	0.944
Fullerton Arpt.	20	557.124	353.135	252.693	73.676	15.895	3.750	1.049
Fullerton Arpt.	30	572.146	367.322	261.743	80.101	18.510	3.414	0.998
Fullerton Arpt.	40	627.931	407.311	291.064	88.334	20.424	3.481	0.969
Fullerton Arpt.	50	593.830	380.314	268.901	80.659	18.613	3.481	0.969
Fullerton Arpt.	60	594.858	381.074	271.852	83.062	19.216	2.529	0.775
Fullerton Arpt.	70	634.716	403.605	284.740	86.230	20.174	2.718	0.827
Fullerton Arpt.	80	635.022	401.222	282.655	86.473	20.215	2.557	0.813
Fullerton Arpt.	90	663.283	414.079	288.279	84.435	19.035	2.753	0.818
Fullerton Arpt.	100	675.205	427.228	300.456	91.209	21.360	3.119	0.951
Fullerton Arpt.	110	619.212	394.592	279.182	84.761	19.713	2.602	0.790
Fullerton Arpt.	120	594.910	383.434	273.541	83.422	19.303	2.690	0.819
Fullerton Arpt.	130	594.651	385.436	274.916	83.183	19.281	2.145	0.751
Fullerton Arpt.	140	623.123	403.084	287.325	86.605	19.982	2.367	0.771
Fullerton Arpt.	150	576.506	367.470	263.186	80.248	18.574	2.642	0.771
Fullerton Arpt.	160	576.506	367.470	258.761	75.528	16.070	3.928	1.069
Fullerton Arpt.	170	532.633	340.325	242.018	66.266	12.434	2.750	0.794
Fullerton Arpt.	180	554.115	345.538	238.696	59.212	8.951	2.281	0.752
Fullerton Arpt.	190	579.269	369.050	259.861	68.490	13.259	2.309	0.719
Fullerton Arpt.	200	565.356	366.331	261.786	75.924	16.318	2.076	0.737
Fullerton Arpt.	210	595.546	387.817	277.954	84.562	19.499	2.118	0.746
Fullerton Arpt.	220	572.559	373.643	268.128	81.923	18.938	2.017	0.717
Fullerton Arpt.	230	572.990	370.075	264.598	80.550	18.590	2.123	0.751
Fullerton Arpt.	240	600.959	386.486	274.545	83.019	19.244	2.742	0.781
Fullerton Arpt.	250	613.452	391.759	277.664	84.484	19.619	2.843	0.838
Fullerton Arpt.	260	645.870	408.495	287.624	87.556	20.508	2.254	0.791
Fullerton Arpt.	270	636.814	401.552	281.815	83.641	18.784	2.664	0.792

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Fullerton Arpt.	280	641.722	405.069	284.863	86.605	20.309	3.417	1.061
Fullerton Arpt.	290	612.941	389.952	276.159	84.380	19.643	3.797	1.104
Fullerton Arpt.	300	624.531	401.216	284.659	85.904	19.899	2.413	0.755
Fullerton Arpt.	310	609.877	392.743	279.003	83.570	19.225	2.218	0.780
Fullerton Arpt.	320	619.069	398.742	283.094	84.576	19.504	2.689	0.762
Fullerton Arpt.	330	590.374	371.235	260.143	78.967	18.220	2.689	0.775
Fullerton Arpt.	340	540.904	350.722	250.857	72.899	15.660	3.011	0.861
Fullerton Arpt.	350	529.475	339.387	241.264	64.591	12.414	2.678	0.819
Fullerton Arpt.	360	516.116	325.842	227.460	58.332	8.708	2.954	0.868
Hawthorne Arpt.	10	514.012	332.066	236.785	63.747	12.249	1.864	0.667
Hawthorne Arpt.	20	530.824	343.533	247.007	72.430	15.598	2.177	0.644
Hawthorne Arpt.	30	550.972	358.509	257.044	78.728	18.216	2.730	0.743
Hawthorne Arpt.	40	562.194	368.460	264.675	80.954	18.820	3.308	0.906
Hawthorne Arpt.	50	570.513	370.223	265.147	80.996	18.733	3.144	0.928
Hawthorne Arpt.	60	582.449	374.945	267.638	82.103	19.036	2.669	0.746
Hawthorne Arpt.	70	606.229	388.947	276.336	84.392	19.633	2.900	0.893
Hawthorne Arpt.	80	626.651	398.669	281.745	86.178	20.189	2.707	0.761
Hawthorne Arpt.	90	625.889	397.677	280.269	83.676	18.838	2.982	0.865
Hawthorne Arpt.	100	622.488	395.017	278.901	85.402	20.058	2.031	0.687
Hawthorne Arpt.	110	641.584	409.857	289.986	88.034	20.510	3.025	0.884
Hawthorne Arpt.	120	585.272	377.689	269.419	82.255	19.092	2.429	0.658
Hawthorne Arpt.	130	569.815	369.734	264.366	80.566	18.692	1.936	0.680
Hawthorne Arpt.	140	559.409	361.095	259.599	79.519	18.361	1.931	0.679
Hawthorne Arpt.	150	565.898	368.396	263.926	80.106	18.470	1.892	0.662
Hawthorne Arpt.	160	537.302	348.900	249.932	72.833	15.697	1.923	0.685
Hawthorne Arpt.	170	523.917	338.942	241.508	65.550	12.568	1.893	0.629
Hawthorne Arpt.	180	503.721	318.747	223.846	58.110	8.671	1.836	0.661
Hawthorne Arpt.	190	519.397	334.440	237.845	63.909	12.300	1.825	0.654
Hawthorne Arpt.	200	546.776	355.361	254.383	74.063	15.973	1.766	0.629
Hawthorne Arpt.	210	546.705	354.200	254.101	78.098	18.056	4.053	0.974
Hawthorne Arpt.	220	554.677	360.863	258.708	79.060	18.358	4.858	1.304
Hawthorne Arpt.	230	562.160	364.705	261.610	80.148	18.529	2.368	0.654
Hawthorne Arpt.	240	582.472	375.399	267.638	82.103	19.036	2.508	0.738
Hawthorne Arpt.	250	599.180	382.983	271.602	83.145	19.338	2.634	0.746
Hawthorne Arpt.	260	624.632	397.667	281.071	85.986	20.154	1.942	0.676

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Hawthorne Arpt.	270	629.694	398.270	280.084	83.503	18.838	2.042	0.692
Hawthorne Arpt.	280	619.889	393.652	277.692	84.424	19.721	2.015	0.692
Hawthorne Arpt.	290	606.451	387.577	274.550	83.534	19.464	2.031	0.679
Hawthorne Arpt.	300	583.728	376.852	268.866	82.037	19.020	2.039	0.687
Hawthorne Arpt.	310	594.130	383.905	273.481	82.686	19.170	2.996	0.844
Hawthorne Arpt.	320	552.100	355.399	254.474	77.758	17.976	2.279	0.680
Hawthorne Arpt.	330	553.507	359.399	257.323	78.276	18.099	2.585	0.748
Hawthorne Arpt.	340	549.534	357.058	255.071	73.921	16.004	2.488	0.712
Hawthorne Arpt.	350	515.084	332.354	236.846	65.593	12.204	1.898	0.681
Hawthorne Arpt.	360	496.248	314.588	220.472	55.587	8.609	1.856	0.668
John Wayne Int'l Arpt.	10	672.584	448.902	327.400	90.651	16.954	5.348	2.008
John Wayne Int'l Arpt.	20	684.277	455.972	331.174	100.572	21.353	5.438	2.034
John Wayne Int'l Arpt.	30	694.227	470.709	347.135	110.291	25.263	5.453	2.028
John Wayne Int'l Arpt.	40	706.756	477.146	350.068	110.588	25.341	5.471	2.038
John Wayne Int'l Arpt.	50	749.656	506.504	371.481	117.427	26.944	5.469	2.036
John Wayne Int'l Arpt.	60	747.612	499.657	363.834	114.205	26.226	5.463	2.032
John Wayne Int'l Arpt.	70	784.338	519.645	376.088	118.198	27.276	5.416	2.013
John Wayne Int'l Arpt.	80	869.571	571.658	410.973	128.176	29.651	6.062	2.011
John Wayne Int'l Arpt.	90	858.802	559.722	399.805	121.070	26.855	5.452	2.029
John Wayne Int'l Arpt.	100	833.291	543.403	389.033	122.093	28.297	5.391	1.997
John Wayne Int'l Arpt.	110	787.108	521.703	377.701	118.210	27.229	5.327	1.974
John Wayne Int'l Arpt.	120	745.760	491.031	357.709	113.562	26.087	5.336	1.977
John Wayne Int'l Arpt.	130	724.852	488.513	357.906	112.832	25.829	5.473	2.037
John Wayne Int'l Arpt.	140	706.012	474.936	347.541	110.416	25.271	5.286	1.965
John Wayne Int'l Arpt.	150	704.566	469.779	341.396	108.245	24.874	5.479	2.041
John Wayne Int'l Arpt.	160	679.070	456.664	335.596	101.386	21.509	5.225	1.951
John Wayne Int'l Arpt.	170	677.735	447.792	324.677	89.106	16.684	5.243	1.968
John Wayne Int'l Arpt.	180	658.425	435.075	312.482	75.529	13.949	5.016	1.879
John Wayne Int'l Arpt.	190	663.378	438.551	320.360	88.977	16.647	5.197	1.936
John Wayne Int'l Arpt.	200	679.578	454.315	330.584	99.726	21.186	5.351	1.993
John Wayne Int'l Arpt.	210	703.370	473.049	348.677	110.815	25.415	5.290	1.966
John Wayne Int'l Arpt.	220	684.206	461.165	339.671	107.759	24.676	5.431	2.020
John Wayne Int'l Arpt.	230	712.029	482.109	354.715	112.850	25.881	5.405	2.011
John Wayne Int'l Arpt.	240	746.784	495.189	359.199	111.542	25.580	5.429	2.014
John Wayne Int'l Arpt.	250	780.123	516.807	374.222	117.326	27.047	5.444	2.022

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
John Wayne Int'l Arpt.	260	822.658	538.223	386.169	120.130	27.805	5.434	2.016
John Wayne Int'l Arpt.	270	844.205	550.887	393.599	119.066	26.366	5.358	1.992
John Wayne Int'l Arpt.	280	823.780	543.240	391.875	122.773	28.398	5.480	2.033
John Wayne Int'l Arpt.	290	776.427	507.796	364.044	113.395	26.193	5.391	2.001
John Wayne Int'l Arpt.	300	726.295	490.217	359.843	114.644	26.380	5.391	2.003
John Wayne Int'l Arpt.	310	719.546	482.031	353.887	112.000	25.653	5.416	2.015
John Wayne Int'l Arpt.	320	702.156	473.574	348.395	110.323	25.236	5.381	2.003
John Wayne Int'l Arpt.	330	687.064	468.444	346.688	111.026	25.489	5.374	2.000
John Wayne Int'l Arpt.	340	686.520	463.780	340.188	102.409	21.722	5.349	1.998
John Wayne Int'l Arpt.	350	675.337	449.787	326.875	90.603	16.949	5.348	2.006
John Wayne Int'l Arpt.	360	654.879	427.582	306.953	73.901	14.214	5.332	2.003
Lake Elsinore	10	636.760	403.326	283.088	74.359	15.684	5.359	1.461
Lake Elsinore	20	625.700	403.902	287.331	83.141	18.128	4.361	1.051
Lake Elsinore	30	570.221	377.969	274.533	85.418	19.681	4.019	1.132
Lake Elsinore	40	655.738	412.641	287.053	85.940	19.763	3.905	1.040
Lake Elsinore	50	672.002	428.493	301.747	88.916	20.513	5.117	1.543
Lake Elsinore	60	700.117	445.534	313.813	93.552	21.718	3.068	1.051
Lake Elsinore	70	648.060	420.911	301.535	93.171	21.588	3.854	1.107
Lake Elsinore	80	671.257	431.070	306.377	94.255	21.961	3.386	1.023
Lake Elsinore	90	685.093	437.386	308.973	92.395	20.659	2.914	1.012
Lake Elsinore	100	673.177	432.455	307.427	94.606	22.043	2.999	1.043
Lake Elsinore	110	641.603	414.178	296.335	91.393	21.178	3.189	1.031
Lake Elsinore	120	617.332	401.714	289.277	89.528	20.672	3.745	1.036
Lake Elsinore	130	638.325	408.202	288.454	87.752	20.209	5.063	1.408
Lake Elsinore	140	666.795	430.069	306.035	92.479	21.513	5.885	1.625
Lake Elsinore	150	668.214	431.577	307.388	93.022	21.632	4.906	1.214
Lake Elsinore	160	643.136	410.065	288.832	81.409	17.745	3.869	1.165
Lake Elsinore	170	627.579	398.611	279.563	77.855	14.354	3.143	1.039
Lake Elsinore	180	600.062	373.940	258.680	62.191	10.117	2.911	1.016
Lake Elsinore	190	615.221	381.525	262.637	70.240	13.760	2.823	1.032
Lake Elsinore	200	659.608	424.340	301.215	86.617	18.763	2.840	1.029
Lake Elsinore	210	663.508	429.330	305.968	92.594	21.552	3.354	1.030
Lake Elsinore	220	623.978	401.975	284.530	85.862	19.747	2.915	1.052
Lake Elsinore	230	631.352	407.454	288.998	87.666	20.329	2.888	1.040
Lake Elsinore	240	646.089	406.425	288.257	89.028	20.540	4.365	1.191

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Lake Elsinore	250	710.866	435.906	304.074	91.128	21.377	3.924	1.015
Lake Elsinore	260	732.227	454.975	315.484	93.889	21.858	3.247	0.907
Lake Elsinore	270	717.379	444.254	308.488	91.523	20.763	2.916	1.053
Lake Elsinore	280	674.102	432.896	307.606	94.507	22.002	2.658	0.955
Lake Elsinore	290	668.206	428.447	302.988	92.245	21.789	2.833	1.014
Lake Elsinore	300	615.267	402.382	289.639	89.501	20.650	3.134	1.006
Lake Elsinore	310	643.741	414.338	293.540	87.814	20.432	3.829	1.017
Lake Elsinore	320	624.249	400.635	284.055	86.730	20.051	3.829	1.050
Lake Elsinore	330	614.059	394.279	278.695	86.320	19.888	3.594	1.051
Lake Elsinore	340	626.730	404.841	288.174	83.529	18.219	2.983	1.034
Lake Elsinore	350	561.500	361.045	258.946	70.182	13.335	3.416	1.016
Lake Elsinore	360	608.113	376.331	258.658	62.338	10.189	3.308	1.044
Long Beach Arpt.	10	561.864	368.062	266.119	73.148	15.861	5.377	1.787
Long Beach Arpt.	20	568.663	376.957	273.281	80.765	17.346	4.825	1.803
Long Beach Arpt.	30	578.747	386.111	282.832	89.227	20.600	4.775	1.770
Long Beach Arpt.	40	573.930	382.945	279.309	87.490	20.181	4.719	1.753
Long Beach Arpt.	50	600.972	396.822	287.085	88.667	20.389	4.825	1.790
Long Beach Arpt.	60	608.618	401.531	290.407	90.189	20.870	4.723	1.754
Long Beach Arpt.	70	636.495	416.971	300.375	93.642	21.771	4.747	1.756
Long Beach Arpt.	80	685.865	442.980	315.701	97.562	22.813	4.754	1.762
Long Beach Arpt.	90	693.527	445.966	317.426	95.973	21.451	4.843	1.800
Long Beach Arpt.	100	683.641	442.079	317.093	99.116	23.125	4.853	1.801
Long Beach Arpt.	110	662.380	427.858	303.807	95.205	22.116	4.796	1.779
Long Beach Arpt.	120	627.923	415.032	300.561	93.817	21.713	4.874	1.812
Long Beach Arpt.	130	613.124	399.384	289.849	90.519	20.870	4.845	1.801
Long Beach Arpt.	140	612.776	406.607	294.992	92.402	21.293	4.865	1.799
Long Beach Arpt.	150	593.134	397.271	289.452	90.361	20.933	4.804	1.787
Long Beach Arpt.	160	573.722	381.007	276.988	82.637	17.707	4.806	1.794
Long Beach Arpt.	170	561.254	369.045	265.902	72.898	14.049	4.712	1.764
Long Beach Arpt.	180	553.595	359.623	255.712	62.926	12.213	4.484	1.685
Long Beach Arpt.	190	592.449	387.971	278.560	76.021	14.469	4.525	1.696
Long Beach Arpt.	200	627.987	411.614	295.010	85.665	18.354	4.593	1.708
Long Beach Arpt.	210	575.765	386.312	282.637	88.889	20.514	4.653	1.725
Long Beach Arpt.	220	605.752	404.892	295.431	92.491	21.300	4.781	1.777
Long Beach Arpt.	230	606.743	400.120	291.671	91.643	21.189	5.729	1.747

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Long Beach Arpt.	240	687.635	452.494	325.678	100.495	23.269	4.699	1.743
Long Beach Arpt.	250	701.405	450.380	317.945	98.168	22.835	4.851	1.801
Long Beach Arpt.	260	689.597	446.988	320.348	99.634	23.221	4.721	1.749
Long Beach Arpt.	270	698.948	452.024	321.744	97.216	21.712	4.753	1.766
Long Beach Arpt.	280	699.315	450.848	320.131	98.277	22.937	4.778	1.769
Long Beach Arpt.	290	691.388	443.360	313.024	95.202	22.070	4.830	1.794
Long Beach Arpt.	300	625.467	412.914	298.726	93.292	21.604	4.795	1.781
Long Beach Arpt.	310	648.092	429.344	310.731	95.890	22.038	4.855	1.804
Long Beach Arpt.	320	592.319	393.929	286.612	89.434	20.625	4.831	1.797
Long Beach Arpt.	330	584.150	384.544	279.132	88.056	20.320	4.800	1.786
Long Beach Arpt.	340	569.299	380.223	277.276	82.969	17.781	4.805	1.795
Long Beach Arpt.	350	559.539	364.519	263.799	72.448	14.140	4.784	1.793
Long Beach Arpt.	360	559.539	361.978	256.504	66.872	12.479	4.755	1.788
Los Angeles Int'l Arpt.	10	524.309	343.509	247.218	67.434	14.102	4.786	1.795
Los Angeles Int'l Arpt.	20	525.659	344.867	250.963	75.306	16.211	4.805	1.794
Los Angeles Int'l Arpt.	30	557.611	368.902	266.822	82.151	19.000	4.811	1.788
Los Angeles Int'l Arpt.	40	567.866	375.357	271.838	83.923	19.324	4.833	1.794
Los Angeles Int'l Arpt.	50	555.677	366.342	265.941	82.979	19.194	4.861	1.809
Los Angeles Int'l Arpt.	60	572.781	374.771	271.636	84.975	19.719	4.891	1.817
Los Angeles Int'l Arpt.	70	608.763	397.144	285.299	88.594	20.638	4.923	1.825
Los Angeles Int'l Arpt.	80	634.590	411.301	293.970	91.283	21.362	4.913	1.822
Los Angeles Int'l Arpt.	90	650.555	417.801	296.104	89.135	19.995	4.899	1.824
Los Angeles Int'l Arpt.	100	632.373	405.683	288.973	89.653	20.959	4.960	1.841
Los Angeles Int'l Arpt.	110	604.793	393.080	282.629	87.798	20.433	4.841	1.798
Los Angeles Int'l Arpt.	120	577.878	377.385	272.358	85.495	19.858	4.907	1.824
Los Angeles Int'l Arpt.	130	548.860	363.684	264.414	82.728	19.138	4.798	1.779
Los Angeles Int'l Arpt.	140	551.873	365.153	265.005	82.449	19.059	4.743	1.765
Los Angeles Int'l Arpt.	150	535.862	356.837	259.886	81.222	18.811	4.826	1.796
Los Angeles Int'l Arpt.	160	531.963	351.845	254.994	75.643	16.298	4.833	1.804
Los Angeles Int'l Arpt.	170	517.601	336.477	242.314	66.447	13.996	4.805	1.796
Los Angeles Int'l Arpt.	180	508.330	329.034	233.677	57.189	12.645	4.825	1.814
Los Angeles Int'l Arpt.	190	512.158	336.791	242.877	66.416	14.195	4.783	1.793
Los Angeles Int'l Arpt.	200	529.070	349.210	254.128	75.970	16.366	4.853	1.812
Los Angeles Int'l Arpt.	210	539.389	358.287	260.418	81.104	18.787	4.824	1.794
Los Angeles Int'l Arpt.	220	552.269	364.247	264.757	82.821	19.163	4.853	1.804

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Los Angeles Int'l Arpt.	230	561.648	367.355	265.284	82.089	18.948	4.772	1.774
Los Angeles Int'l Arpt.	240	577.281	378.378	273.521	85.157	19.743	4.808	1.786
Los Angeles Int'l Arpt.	250	602.865	392.604	282.492	87.857	20.444	4.884	1.811
Los Angeles Int'l Arpt.	260	636.961	411.469	293.371	90.725	21.221	4.850	1.798
Los Angeles Int'l Arpt.	270	649.458	415.717	294.682	88.603	19.872	4.795	1.783
Los Angeles Int'l Arpt.	280	635.583	410.477	292.619	90.395	21.142	4.927	1.829
Los Angeles Int'l Arpt.	290	615.390	394.402	283.301	87.971	20.479	4.876	1.812
Los Angeles Int'l Arpt.	300	575.238	375.899	270.975	84.681	19.646	4.841	1.794
Los Angeles Int'l Arpt.	310	576.275	380.358	274.785	85.049	19.763	4.801	1.783
Los Angeles Int'l Arpt.	320	549.724	364.766	264.937	82.446	19.083	4.821	1.790
Los Angeles Int'l Arpt.	330	540.473	359.274	261.291	81.541	18.891	4.946	1.842
Los Angeles Int'l Arpt.	340	537.820	355.379	256.947	75.696	16.307	4.866	1.813
Los Angeles Int'l Arpt.	350	523.409	342.469	246.192	67.020	14.009	4.582	1.707
Los Angeles Int'l Arpt.	360	512.168	328.519	231.905	58.686	12.419	4.636	1.741
Mission Viejo	10	546.318	344.817	241.122	63.808	13.548	5.058	1.388
Mission Viejo	20	572.494	343.564	247.163	72.531	18.193	5.895	1.785
Mission Viejo	30	565.874	365.304	259.700	78.453	18.446	4.045	1.157
Mission Viejo	40	581.806	375.778	267.363	80.908	19.020	4.513	1.411
Mission Viejo	50	577.239	370.567	262.190	79.768	18.455	3.081	0.810
Mission Viejo	60	573.800	371.372	265.719	81.424	18.840	3.540	1.048
Mission Viejo	70	597.791	383.317	272.586	83.452	19.384	5.152	1.536
Mission Viejo	80	626.255	397.709	280.863	85.814	20.038	5.152	1.536
Mission Viejo	90	633.207	400.583	281.755	83.856	18.820	3.639	1.062
Mission Viejo	100	627.415	398.729	281.758	86.072	20.094	3.618	1.002
Mission Viejo	110	599.830	384.536	273.427	83.627	19.409	3.791	1.029
Mission Viejo	120	574.738	371.656	266.004	81.640	18.890	3.707	1.007
Mission Viejo	130	587.715	373.781	263.988	79.768	18.666	5.435	1.600
Mission Viejo	140	578.338	367.776	259.297	78.697	18.121	5.435	1.600
Mission Viejo	150	535.646	350.630	252.725	77.669	17.905	2.913	0.600
Mission Viejo	160	524.760	341.963	245.767	72.000	15.454	2.562	0.699
Mission Viejo	170	506.339	325.089	231.693	64.061	11.918	3.144	0.977
Mission Viejo	180	499.342	316.845	222.378	55.811	8.511	1.947	0.470
Mission Viejo	190	511.851	328.918	233.817	62.584	11.987	1.500	0.520
Mission Viejo	200	526.301	342.920	246.439	72.186	15.490	1.572	0.546
Mission Viejo	210	536.436	351.397	253.438	78.023	17.998	1.646	0.567

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Mission Viejo	220	578.811	371.161	263.252	79.430	18.692	2.907	0.611
Mission Viejo	230	593.698	378.853	267.791	80.403	18.874	5.306	1.611
Mission Viejo	240	598.736	383.232	270.943	81.810	19.308	4.967	1.449
Mission Viejo	250	602.267	387.241	275.788	84.533	19.631	2.370	0.575
Mission Viejo	260	628.255	400.216	283.110	86.502	20.192	1.657	0.556
Mission Viejo	270	634.709	401.066	281.997	83.820	18.804	3.130	0.880
Mission Viejo	280	626.255	397.709	281.028	85.941	20.079	4.294	1.315
Mission Viejo	290	614.176	388.852	273.697	83.829	19.646	3.694	1.034
Mission Viejo	300	575.513	371.681	265.963	81.510	18.849	2.012	0.556
Mission Viejo	310	624.468	399.667	283.169	85.409	20.002	2.694	0.793
Mission Viejo	320	549.546	357.454	256.909	78.697	18.121	3.576	1.111
Mission Viejo	330	574.008	366.978	259.854	78.305	18.355	4.741	1.467
Mission Viejo	340	541.271	348.804	247.595	72.374	15.782	3.565	0.997
Mission Viejo	350	552.198	332.630	237.132	64.938	13.910	5.483	1.497
Mission Viejo	360	579.253	338.189	232.376	57.604	14.954	5.989	1.741
Ontario Arpt.	10	649.504	429.317	309.962	85.052	19.102	6.234	2.350
Ontario Arpt.	20	652.071	441.825	325.423	98.883	21.703	6.485	2.441
Ontario Arpt.	30	678.047	451.873	326.037	100.921	24.070	6.448	2.409
Ontario Arpt.	40	666.527	442.956	321.979	103.669	23.887	6.476	2.423
Ontario Arpt.	50	694.737	455.955	327.177	105.008	24.263	6.455	2.416
Ontario Arpt.	60	693.489	463.020	340.308	108.604	25.022	6.496	2.427
Ontario Arpt.	70	769.133	510.561	369.258	115.357	26.695	6.545	2.444
Ontario Arpt.	80	792.792	518.811	372.411	115.909	26.879	6.497	2.425
Ontario Arpt.	90	807.524	524.613	373.884	112.789	25.739	6.520	2.440
Ontario Arpt.	100	799.188	522.771	375.576	117.152	27.156	6.435	2.400
Ontario Arpt.	110	778.701	494.883	358.216	113.632	26.275	6.458	2.414
Ontario Arpt.	120	707.846	472.323	343.826	107.921	24.838	6.447	2.410
Ontario Arpt.	130	681.123	452.332	327.590	104.979	24.390	6.448	2.410
Ontario Arpt.	140	657.305	445.039	327.248	103.265	24.113	6.431	2.396
Ontario Arpt.	150	648.905	442.670	327.696	105.075	28.218	8.934	2.675
Ontario Arpt.	160	670.531	453.979	333.516	100.791	21.785	6.430	2.415
Ontario Arpt.	170	688.415	460.366	334.656	92.160	18.987	6.338	2.387
Ontario Arpt.	180	626.400	411.989	296.445	71.719	16.420	6.214	2.339
Ontario Arpt.	190	671.731	451.230	328.246	90.595	19.029	6.348	2.382
Ontario Arpt.	200	667.587	441.475	323.373	98.383	21.755	6.400	2.401

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Ontario Arpt.	210	690.623	466.574	341.206	106.357	24.328	6.404	2.393
Ontario Arpt.	220	712.190	476.477	346.557	107.696	24.788	6.415	2.399
Ontario Arpt.	230	729.053	481.309	345.290	107.545	24.684	6.454	2.419
Ontario Arpt.	240	715.497	477.131	348.521	110.223	25.360	6.484	2.430
Ontario Arpt.	250	844.385	556.268	400.184	123.954	28.564	6.271	2.323
Ontario Arpt.	260	811.582	530.195	379.621	118.594	27.494	6.359	2.349
Ontario Arpt.	270	863.865	548.714	383.454	116.473	25.819	6.490	2.426
Ontario Arpt.	280	819.640	519.952	375.681	118.085	27.369	6.279	2.339
Ontario Arpt.	290	822.950	544.825	393.255	122.583	28.318	6.423	2.400
Ontario Arpt.	300	743.175	479.231	348.941	110.455	25.453	6.254	2.330
Ontario Arpt.	310	691.632	463.786	338.808	106.728	24.480	6.303	2.352
Ontario Arpt.	320	672.170	454.780	334.021	106.026	24.346	6.276	2.346
Ontario Arpt.	330	702.993	472.220	345.599	109.165	25.085	6.487	2.431
Ontario Arpt.	340	651.630	440.843	323.814	97.801	21.475	6.234	2.335
Ontario Arpt.	350	647.998	431.897	313.832	86.532	18.737	6.042	2.273
Ontario Arpt.	360	641.171	423.108	302.877	72.702	16.333	6.282	2.369
Palm Springs Arpt.	10	592.111	388.129	279.026	75.827	15.623	5.128	1.920
Palm Springs Arpt.	20	618.813	410.336	297.233	87.886	18.812	5.169	1.927
Palm Springs Arpt.	30	603.837	402.722	294.117	92.294	21.274	5.298	1.969
Palm Springs Arpt.	40	616.962	410.878	299.229	93.489	21.513	5.382	2.002
Palm Springs Arpt.	50	633.729	419.432	304.832	95.083	21.881	5.230	1.939
Palm Springs Arpt.	60	665.961	440.035	318.191	98.868	22.810	5.142	1.906
Palm Springs Arpt.	70	674.857	442.877	319.171	99.370	23.005	5.330	1.975
Palm Springs Arpt.	80	710.665	459.228	327.893	101.814	23.712	5.250	1.934
Palm Springs Arpt.	90	729.571	466.569	331.384	99.656	22.215	5.305	1.968
Palm Springs Arpt.	100	713.628	460.682	328.141	101.383	23.585	5.400	2.003
Palm Springs Arpt.	110	685.959	448.983	322.818	100.126	23.174	5.277	1.958
Palm Springs Arpt.	120	637.042	419.708	304.530	95.261	21.986	5.291	1.960
Palm Springs Arpt.	130	633.387	412.586	294.436	89.740	20.689	5.292	1.964
Palm Springs Arpt.	140	611.230	403.900	293.115	91.097	20.948	5.313	1.976
Palm Springs Arpt.	150	604.482	402.145	292.390	90.965	20.957	5.318	1.978
Palm Springs Arpt.	160	603.329	394.578	281.721	82.878	17.782	5.345	1.999
Palm Springs Arpt.	170	647.504	424.601	304.665	82.433	15.921	5.333	1.993
Palm Springs Arpt.	180	567.831	368.159	261.581	62.295	13.941	5.154	1.933
Palm Springs Arpt.	190	570.803	378.316	274.381	75.656	15.767	5.234	1.937

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Palm Springs Arpt.	200	611.611	405.976	294.359	86.890	18.513	5.213	1.939
Palm Springs Arpt.	210	642.190	421.056	303.056	92.911	21.506	5.209	1.931
Palm Springs Arpt.	220	584.013	390.074	285.912	90.492	20.868	5.348	1.987
Palm Springs Arpt.	230	596.520	398.383	290.921	91.596	21.108	5.216	1.926
Palm Springs Arpt.	240	641.947	421.237	303.571	94.529	21.830	5.283	1.959
Palm Springs Arpt.	250	661.955	429.377	307.321	95.653	22.173	5.381	1.995
Palm Springs Arpt.	260	703.428	453.903	323.370	100.375	23.354	5.343	1.973
Palm Springs Arpt.	270	718.818	460.958	326.387	97.893	21.889	5.460	2.025
Palm Springs Arpt.	280	706.459	455.590	324.948	100.325	23.346	5.469	2.016
Palm Springs Arpt.	290	659.585	427.504	307.548	96.412	22.371	5.384	1.995
Palm Springs Arpt.	300	660.549	429.858	306.655	95.344	22.013	5.401	1.999
Palm Springs Arpt.	310	620.197	406.640	293.391	92.190	21.251	5.332	1.981
Palm Springs Arpt.	320	626.626	414.324	299.554	91.823	21.126	5.296	1.965
Palm Springs Arpt.	330	607.725	402.861	292.147	91.442	21.090	5.343	1.979
Palm Springs Arpt.	340	641.907	424.620	306.766	89.993	19.199	5.765	1.908
Palm Springs Arpt.	350	618.954	405.994	291.561	78.756	15.779	5.152	1.929
Palm Springs Arpt.	360	640.610	408.409	286.509	67.215	13.757	5.059	1.892
Perris	10	640.494	404.997	283.474	74.662	14.536	4.847	1.415
Perris	20	658.164	423.836	301.012	86.640	18.781	3.544	1.298
Perris	30	618.951	396.124	284.519	89.012	20.507	3.640	1.324
Perris	40	679.281	440.055	313.958	95.317	22.184	3.870	1.349
Perris	50	701.790	453.640	323.219	98.243	22.886	4.469	1.362
Perris	60	682.369	418.501	298.768	92.706	21.378	3.620	1.315
Perris	70	721.544	454.685	318.378	94.960	22.140	3.596	1.311
Perris	80	759.480	477.468	334.486	101.568	24.022	3.615	1.309
Perris	90	704.472	451.438	319.530	95.777	21.388	3.529	1.287
Perris	100	691.910	446.228	317.995	98.176	22.857	3.536	1.280
Perris	110	659.349	429.782	308.531	95.611	22.145	3.648	1.322
Perris	120	646.275	415.642	300.330	93.424	21.565	3.712	1.359
Perris	130	679.540	436.767	309.420	92.487	21.435	4.651	1.403
Perris	140	664.688	429.729	306.145	92.647	21.553	4.428	1.413
Perris	150	665.679	424.130	297.794	89.395	20.589	3.834	1.405
Perris	160	665.679	424.130	297.794	86.347	18.755	3.803	1.397
Perris	170	646.917	411.257	289.547	76.659	14.900	3.704	1.372
Perris	180	615.476	381.420	262.171	64.202	10.967	3.844	1.429

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Perris	190	646.099	410.346	288.380	75.837	14.705	3.621	1.332
Perris	200	659.930	421.850	297.449	83.863	18.067	3.719	1.370
Perris	210	679.020	437.322	310.222	92.551	21.388	3.682	1.344
Perris	220	682.453	441.499	314.684	95.309	22.155	3.707	1.353
Perris	230	702.862	454.469	323.856	98.459	22.940	5.709	1.761
Perris	240	630.490	414.426	299.201	92.856	21.412	3.839	1.373
Perris	250	654.862	426.451	305.952	94.721	21.937	3.704	1.343
Perris	260	746.468	463.474	321.214	98.357	22.882	3.727	1.354
Perris	270	736.970	452.229	318.803	95.374	21.281	3.520	1.280
Perris	280	753.436	471.961	329.667	99.317	23.421	3.336	1.200
Perris	290	719.787	458.067	323.007	97.939	23.019	3.554	1.279
Perris	300	682.810	434.237	306.222	92.659	21.446	4.324	1.338
Perris	310	684.950	439.901	311.531	93.059	21.551	4.576	1.362
Perris	320	681.393	441.268	314.666	95.344	22.163	3.743	1.298
Perris	330	684.114	443.216	316.207	95.935	22.313	4.595	1.319
Perris	340	657.980	423.609	301.065	86.947	18.859	3.771	1.385
Perris	350	656.023	416.802	292.963	77.190	15.006	3.849	1.427
Perris	360	644.530	402.016	278.241	71.463	10.724	3.800	1.405
Pico Rivera	10	478.965	285.177	202.573	55.113	11.726	4.250	1.278
Pico Rivera	20	489.809	306.183	213.410	61.832	13.421	3.148	1.002
Pico Rivera	30	489.809	306.183	219.195	67.016	15.583	2.886	0.860
Pico Rivera	40	480.930	310.024	221.486	67.309	15.616	2.637	0.817
Pico Rivera	50	532.023	336.690	236.832	70.649	16.716	4.367	1.359
Pico Rivera	60	515.684	320.750	228.229	69.498	16.193	3.117	0.760
Pico Rivera	70	522.311	332.105	234.828	71.467	16.723	2.910	0.925
Pico Rivera	80	542.386	342.295	240.878	73.237	17.226	2.211	0.583
Pico Rivera	90	541.415	340.321	238.532	70.781	16.035	2.483	0.696
Pico Rivera	100	543.657	342.943	241.629	73.559	17.499	2.388	0.621
Pico Rivera	110	520.628	330.360	233.529	70.765	16.532	2.016	0.474
Pico Rivera	120	502.496	322.180	229.264	69.831	16.266	2.136	0.617
Pico Rivera	130	488.571	314.053	223.912	68.019	15.795	1.827	0.559
Pico Rivera	140	484.897	306.941	219.255	66.616	15.461	1.725	0.530
Pico Rivera	150	468.816	302.709	216.391	65.795	15.285	1.407	0.440
Pico Rivera	160	455.806	293.345	209.411	61.422	13.218	1.415	0.440
Pico Rivera	170	442.751	283.621	201.380	56.701	10.495	1.407	0.440

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Pico Rivera	180	430.585	272.862	191.811	50.224	7.400	1.407	0.440
Pico Rivera	190	440.846	282.554	200.591	53.961	10.454	1.407	0.440
Pico Rivera	200	493.785	309.461	215.641	62.621	13.391	1.428	0.440
Pico Rivera	210	500.888	316.369	222.075	67.168	15.620	1.935	0.570
Pico Rivera	220	484.562	310.330	221.787	67.481	15.736	1.935	0.570
Pico Rivera	230	511.640	315.104	224.894	68.470	15.912	2.477	0.653
Pico Rivera	240	546.345	344.976	242.625	73.068	17.374	3.016	0.959
Pico Rivera	250	532.478	331.912	234.613	71.361	16.691	2.279	0.601
Pico Rivera	260	541.603	342.571	241.354	73.471	17.294	1.562	0.440
Pico Rivera	270	544.924	342.563	240.265	71.395	16.178	2.403	0.536
Pico Rivera	280	540.087	340.599	239.893	73.070	17.202	3.523	0.983
Pico Rivera	290	565.215	354.720	248.514	75.010	17.918	3.378	0.919
Pico Rivera	300	518.053	322.316	228.630	69.630	16.334	3.506	0.951
Pico Rivera	310	534.590	338.445	238.109	71.042	16.808	4.152	1.266
Pico Rivera	320	499.869	317.300	223.765	68.093	15.925	2.255	0.653
Pico Rivera	330	469.382	304.451	218.364	66.734	15.514	2.873	0.860
Pico Rivera	340	458.852	296.889	212.411	61.910	13.431	3.231	0.908
Pico Rivera	350	450.806	286.528	203.539	56.900	12.334	4.201	1.325
Pico Rivera	360	571.323	332.609	213.343	50.236	15.621	5.850	1.813
Redlands	10	576.613	376.579	270.751	73.544	13.947	4.128	1.474
Redlands	20	588.707	389.680	282.468	83.745	17.924	3.823	1.329
Redlands	30	633.441	416.761	299.889	91.025	20.882	4.467	1.648
Redlands	40	627.425	402.005	290.147	89.277	20.554	5.255	1.646
Redlands	50	642.785	422.245	302.740	91.891	21.146	4.698	1.724
Redlands	60	702.885	456.924	325.898	98.220	22.459	4.316	1.572
Redlands	70	662.181	431.540	309.641	95.781	22.158	4.843	1.787
Redlands	80	709.941	457.530	325.181	99.551	23.099	4.806	1.768
Redlands	90	735.347	469.947	331.745	98.622	21.960	4.767	1.765
Redlands	100	736.785	471.812	333.569	101.480	23.621	4.673	1.717
Redlands	110	680.453	436.071	312.778	96.804	22.414	4.635	1.704
Redlands	120	636.207	416.048	298.928	92.310	21.315	4.632	1.709
Redlands	130	617.736	408.070	295.555	91.784	21.142	4.085	1.439
Redlands	140	615.451	401.661	289.373	88.503	20.355	4.622	1.702
Redlands	150	602.479	397.398	288.809	89.783	20.671	4.214	1.371
Redlands	160	611.678	403.666	291.523	85.771	18.353	3.954	1.232

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Redlands	170	579.258	377.362	270.291	73.093	13.907	4.482	1.670
Redlands	180	564.701	361.492	254.649	63.685	12.200	4.419	1.653
Redlands	190	568.385	373.163	268.840	73.247	14.183	5.149	1.698
Redlands	200	566.930	371.606	267.069	79.859	17.144	5.541	1.644
Redlands	210	606.104	404.772	294.310	91.452	21.119	4.867	1.746
Redlands	220	611.676	408.270	297.215	92.705	21.381	5.735	1.790
Redlands	230	621.010	409.257	295.831	91.478	21.052	4.624	1.710
Redlands	240	651.272	415.215	300.166	93.320	21.512	4.779	1.731
Redlands	250	652.837	417.081	299.160	93.337	21.641	5.190	1.713
Redlands	260	708.194	457.382	325.942	100.653	23.467	4.614	1.700
Redlands	270	716.497	457.051	324.107	97.390	21.744	5.477	1.673
Redlands	280	709.317	449.416	318.363	97.683	22.803	4.544	1.667
Redlands	290	678.989	433.692	311.235	96.565	22.351	4.447	1.629
Redlands	300	657.823	417.741	298.207	92.508	21.366	4.021	1.459
Redlands	310	632.875	416.380	299.982	92.691	21.323	3.052	1.048
Redlands	320	607.183	402.861	292.661	90.985	20.910	3.362	1.149
Redlands	330	596.310	395.093	286.617	89.245	20.546	4.200	1.541
Redlands	340	584.242	384.328	277.218	81.605	17.450	3.602	1.249
Redlands	350	614.221	383.305	269.975	73.641	14.090	3.996	1.483
Redlands	360	633.248	400.669	278.982	64.709	12.063	4.449	1.653
Riverside Arpt.	10	581.233	381.838	274.554	74.573	14.541	4.583	1.711
Riverside Arpt.	20	585.687	387.514	280.828	83.250	17.821	4.316	1.598
Riverside Arpt.	30	661.657	433.936	311.693	95.142	21.984	5.265	1.628
Riverside Arpt.	40	654.897	431.263	310.635	95.317	22.030	4.748	1.755
Riverside Arpt.	50	688.876	454.024	327.394	100.737	23.171	4.864	1.803
Riverside Arpt.	60	698.454	453.881	323.672	97.547	22.317	4.901	1.678
Riverside Arpt.	70	673.005	437.533	311.569	95.258	22.082	6.079	1.764
Riverside Arpt.	80	711.703	457.234	324.501	99.179	23.042	4.875	1.797
Riverside Arpt.	90	731.616	467.406	329.901	98.066	21.844	4.872	1.805
Riverside Arpt.	100	738.288	472.739	334.215	101.672	23.659	4.787	1.767
Riverside Arpt.	110	671.009	433.950	311.679	96.658	22.405	5.422	1.787
Riverside Arpt.	120	650.172	418.086	301.254	93.528	21.583	4.602	1.697
Riverside Arpt.	130	629.644	406.347	293.623	91.142	21.000	4.451	1.635
Riverside Arpt.	140	626.504	401.572	290.373	90.606	20.832	4.801	1.680
Riverside Arpt.	150	646.144	420.770	299.947	89.797	20.596	4.704	1.739

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Riverside Arpt.	160	605.754	399.189	288.063	84.672	18.134	4.629	1.721
Riverside Arpt.	170	577.305	376.045	269.477	73.305	13.914	4.446	1.653
Riverside Arpt.	180	561.432	359.273	253.038	63.325	12.355	4.547	1.689
Riverside Arpt.	190	575.815	375.347	268.922	72.883	14.292	4.686	1.740
Riverside Arpt.	200	614.044	404.482	291.184	85.340	18.383	4.848	1.776
Riverside Arpt.	210	602.938	402.443	292.525	90.860	20.988	4.722	1.746
Riverside Arpt.	220	609.336	406.498	295.835	92.234	21.275	4.724	1.746
Riverside Arpt.	230	629.513	416.009	300.642	92.552	21.251	4.722	1.746
Riverside Arpt.	240	632.878	415.288	299.832	93.037	21.470	4.767	1.762
Riverside Arpt.	250	674.205	440.760	316.849	98.398	22.801	4.724	1.744
Riverside Arpt.	260	754.931	481.116	338.511	101.773	23.588	4.711	1.727
Riverside Arpt.	270	730.748	466.353	327.994	98.285	22.074	4.802	1.780
Riverside Arpt.	280	734.225	473.488	336.095	103.101	24.066	4.612	1.694
Riverside Arpt.	290	692.212	448.422	318.948	96.482	22.229	4.723	1.739
Riverside Arpt.	300	734.082	474.512	337.028	101.127	23.204	4.722	1.745
Riverside Arpt.	310	686.085	450.346	325.216	100.316	23.142	4.703	1.738
Riverside Arpt.	320	608.193	401.391	290.779	90.358	20.771	4.753	1.759
Riverside Arpt.	330	656.550	434.385	314.721	97.188	22.321	4.517	1.667
Riverside Arpt.	340	615.341	391.241	280.852	83.465	17.853	4.433	1.641
Riverside Arpt.	350	576.745	376.403	269.922	73.043	14.358	4.938	1.846
Riverside Arpt.	360	584.631	366.613	256.632	64.432	12.127	4.467	1.660
Santa Monica Arpt.	10	513.453	321.659	229.388	61.802	11.916	3.066	1.128
Santa Monica Arpt.	20	515.244	335.646	240.491	69.811	15.085	3.669	1.138
Santa Monica Arpt.	30	515.292	336.137	241.940	74.927	17.372	3.235	1.181
Santa Monica Arpt.	40	528.389	345.063	248.325	76.272	17.667	3.943	1.180
Santa Monica Arpt.	50	539.651	351.089	251.917	77.178	17.889	3.545	1.181
Santa Monica Arpt.	60	555.259	359.488	257.125	78.790	18.300	4.377	1.310
Santa Monica Arpt.	70	577.798	370.847	264.510	81.248	18.942	3.412	1.164
Santa Monica Arpt.	80	639.846	408.589	288.547	88.304	20.869	3.180	1.150
Santa Monica Arpt.	90	632.742	396.929	277.366	81.623	18.411	3.944	1.115
Santa Monica Arpt.	100	614.499	391.470	276.603	84.249	19.719	3.039	1.105
Santa Monica Arpt.	110	585.384	377.222	268.815	82.478	19.227	3.078	1.115
Santa Monica Arpt.	120	588.200	381.315	272.587	83.442	19.405	2.935	1.060
Santa Monica Arpt.	130	540.228	353.099	253.351	77.427	18.012	3.113	1.132
Santa Monica Arpt.	140	558.320	364.914	261.977	80.061	18.615	2.923	1.056

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Santa Monica Arpt.	150	539.842	354.577	255.352	78.365	18.228	3.235	1.180
Santa Monica Arpt.	160	540.485	350.663	250.283	72.129	15.542	3.063	1.122
Santa Monica Arpt.	170	516.809	331.685	234.453	62.883	12.164	3.042	1.121
Santa Monica Arpt.	180	504.542	320.143	224.433	56.366	9.113	3.100	1.147
Santa Monica Arpt.	190	512.408	331.917	236.960	63.902	12.320	3.073	1.110
Santa Monica Arpt.	200	508.222	331.679	238.433	69.892	15.089	3.160	1.156
Santa Monica Arpt.	210	540.629	350.288	251.636	76.800	17.822	3.105	1.129
Santa Monica Arpt.	220	547.961	358.307	257.049	78.270	18.160	3.084	1.124
Santa Monica Arpt.	230	599.969	387.745	276.199	83.520	19.384	3.077	1.120
Santa Monica Arpt.	240	557.751	361.651	259.182	79.648	18.488	2.988	1.078
Santa Monica Arpt.	250	573.624	367.906	262.373	80.723	18.833	3.081	1.116
Santa Monica Arpt.	260	602.666	384.114	271.749	83.215	19.544	3.168	1.149
Santa Monica Arpt.	270	607.503	385.793	271.794	81.078	18.240	3.108	1.132
Santa Monica Arpt.	280	604.616	384.744	271.964	83.126	19.493	3.145	1.139
Santa Monica Arpt.	290	607.704	388.857	275.558	83.843	19.558	3.205	1.162
Santa Monica Arpt.	300	551.207	357.441	255.959	78.577	18.249	3.753	1.121
Santa Monica Arpt.	310	537.824	347.600	249.702	76.838	17.789	3.127	1.135
Santa Monica Arpt.	320	527.903	343.266	246.138	74.961	17.335	2.992	1.084
Santa Monica Arpt.	330	521.972	336.759	240.162	73.850	17.125	4.306	1.148
Santa Monica Arpt.	340	505.633	330.271	237.573	69.887	15.085	3.315	1.095
Santa Monica Arpt.	350	494.878	319.054	227.175	60.912	11.723	2.929	1.075
Santa Monica Arpt.	360	513.453	321.659	222.704	56.436	9.196	3.079	1.139
Upland	10	555.373	345.876	239.980	63.174	12.070	2.793	0.750
Upland	20	555.373	345.876	245.990	71.955	15.439	2.554	0.674
Upland	30	538.038	349.286	251.434	77.169	17.789	3.822	1.069
Upland	40	550.750	358.150	257.230	78.714	18.122	3.028	0.915
Upland	50	561.055	364.068	261.063	79.916	18.425	3.495	0.954
Upland	60	611.698	386.244	271.072	81.271	18.947	4.127	1.261
Upland	70	598.834	383.543	272.526	83.246	19.321	3.901	1.164
Upland	80	626.468	397.965	281.130	85.801	20.033	3.624	0.978
Upland	90	645.363	401.670	282.193	83.845	18.833	3.848	1.183
Upland	100	627.698	398.667	281.537	85.816	20.024	3.728	1.053
Upland	110	607.091	383.543	272.526	83.246	19.321	3.950	1.212
Upland	120	597.761	380.200	268.225	81.414	19.134	3.836	0.999
Upland	130	562.165	364.808	261.616	80.103	18.472	3.203	0.874

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Upland	140	553.217	357.852	257.001	78.637	18.104	2.558	0.714
Upland	150	574.559	364.124	256.266	78.343	18.070	2.394	0.714
Upland	160	552.555	355.209	252.039	72.840	16.058	3.199	0.684
Upland	170	532.439	337.016	237.260	64.983	14.553	5.052	1.475
Upland	180	554.323	341.406	234.907	58.933	10.880	4.156	1.063
Upland	190	546.571	342.042	238.299	63.932	12.307	2.771	0.812
Upland	200	572.130	353.008	247.315	72.389	15.533	4.951	1.463
Upland	210	608.407	387.571	273.800	81.780	19.093	4.951	1.463
Upland	220	552.614	357.603	256.809	78.572	18.090	2.576	0.770
Upland	230	561.542	364.421	261.334	80.007	18.446	2.120	0.596
Upland	240	576.691	372.635	266.372	81.561	18.857	3.009	0.817
Upland	250	622.700	390.231	272.968	82.243	19.365	3.009	0.817
Upland	260	622.159	394.920	278.858	85.058	19.862	2.872	0.832
Upland	270	652.561	402.430	280.564	83.325	18.739	2.608	0.719
Upland	280	622.953	394.720	278.198	84.657	19.756	1.892	0.484
Upland	290	587.508	373.630	265.074	80.913	18.804	1.942	0.560
Upland	300	570.809	368.203	262.872	80.275	18.549	1.680	0.462
Upland	310	589.492	374.574	263.399	77.861	18.191	2.048	0.635
Upland	320	614.264	391.550	276.708	82.720	19.302	3.078	0.978
Upland	330	577.430	356.281	250.972	76.828	17.700	2.876	0.810
Upland	340	512.649	333.122	238.925	69.750	14.983	1.701	0.462
Upland	350	516.291	331.570	235.612	63.320	12.060	1.476	0.462
Upland	360	492.585	311.580	218.245	56.352	8.367	2.268	0.595
USC/Downtown L.A.	10	555.030	358.365	254.880	68.522	13.060	3.593	0.938
USC/Downtown L.A.	20	562.801	368.086	264.743	77.494	16.603	2.991	0.700
USC/Downtown L.A.	30	592.076	387.124	278.295	85.022	19.559	2.440	0.656
USC/Downtown L.A.	40	602.648	393.365	282.960	86.681	19.938	2.976	0.746
USC/Downtown L.A.	50	614.124	399.781	286.461	87.395	20.132	4.794	1.304
USC/Downtown L.A.	60	631.676	408.685	292.512	89.748	20.723	3.708	1.082
USC/Downtown L.A.	70	657.404	421.964	299.537	91.465	21.217	3.962	1.230
USC/Downtown L.A.	80	675.915	429.241	303.600	92.951	21.713	3.721	1.090
USC/Downtown L.A.	90	687.531	435.333	306.198	91.214	20.482	3.345	0.937
USC/Downtown L.A.	100	683.125	434.911	306.890	93.513	21.845	2.690	0.798
USC/Downtown L.A.	110	653.006	417.949	297.275	90.856	21.058	2.766	0.833
USC/Downtown L.A.	120	632.879	408.930	291.561	88.740	20.492	2.924	0.803

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
USC/Downtown L.A.	130	606.811	395.355	283.751	86.863	20.006	3.122	0.892
USC/Downtown L.A.	140	602.738	393.235	282.629	86.448	19.873	1.721	0.475
USC/Downtown L.A.	150	589.748	385.841	277.525	84.919	19.547	1.464	0.473
USC/Downtown L.A.	160	575.464	374.176	267.923	77.890	16.698	1.821	0.555
USC/Downtown L.A.	170	558.237	359.730	255.783	68.331	13.047	2.013	0.531
USC/Downtown L.A.	180	542.473	343.367	240.155	62.497	9.174	1.732	0.453
USC/Downtown L.A.	190	557.701	360.758	257.299	69.138	13.182	1.481	0.449
USC/Downtown L.A.	200	574.258	373.296	267.214	77.711	16.661	1.374	0.451
USC/Downtown L.A.	210	585.007	383.088	275.740	84.405	19.407	1.665	0.465
USC/Downtown L.A.	220	587.948	384.194	276.152	84.437	19.437	2.723	0.784
USC/Downtown L.A.	230	591.821	385.746	276.694	84.365	19.385	2.723	0.784
USC/Downtown L.A.	240	618.542	400.640	286.224	87.507	20.188	2.498	0.752
USC/Downtown L.A.	250	652.415	418.877	297.483	90.746	21.048	2.301	0.655
USC/Downtown L.A.	260	652.146	418.631	296.528	90.887	21.310	2.084	0.596
USC/Downtown L.A.	270	678.838	427.251	299.018	88.006	19.699	1.586	0.464
USC/Downtown L.A.	280	667.871	425.785	300.762	91.753	21.420	1.885	0.558
USC/Downtown L.A.	290	656.229	420.935	298.632	90.895	21.080	1.879	0.472
USC/Downtown L.A.	300	633.849	409.623	292.127	89.482	20.648	2.010	0.528
USC/Downtown L.A.	310	612.292	399.690	287.244	88.112	20.285	4.585	1.199
USC/Downtown L.A.	320	575.652	376.567	271.420	83.393	19.225	5.297	1.506
USC/Downtown L.A.	330	590.769	385.805	277.025	84.493	19.458	3.155	0.856
USC/Downtown L.A.	340	573.616	373.199	267.953	78.074	16.692	3.016	0.798
USC/Downtown L.A.	350	560.344	359.733	254.478	71.575	13.003	2.831	0.804
USC/Downtown L.A.	360	532.392	340.413	239.858	62.506	9.002	2.728	0.604
Van Nuys Arpt.	10	558.302	365.479	264.072	72.342	13.756	4.517	1.685
Van Nuys Arpt.	20	592.389	392.286	283.480	83.593	18.035	4.551	1.697
Van Nuys Arpt.	30	597.720	384.318	280.689	88.215	20.383	4.461	1.652
Van Nuys Arpt.	40	658.752	436.741	315.843	97.024	22.288	4.485	1.663
Van Nuys Arpt.	50	614.608	399.740	288.973	90.061	20.797	4.464	1.652
Van Nuys Arpt.	60	626.171	411.689	297.042	92.188	21.349	4.629	1.676
Van Nuys Arpt.	70	725.166	472.205	337.669	104.025	24.173	4.582	1.692
Van Nuys Arpt.	80	731.068	463.729	325.032	100.088	23.486	4.589	1.687
Van Nuys Arpt.	90	706.819	455.542	323.352	97.210	21.747	4.597	1.706
Van Nuys Arpt.	100	683.826	442.860	316.402	98.507	23.039	4.662	1.726
Van Nuys Arpt.	110	652.865	429.447	308.992	96.072	22.419	4.650	1.720

Table 3: Hourly Receptor Proximity Adjustment Factors $\left(\frac{\mu g/m^3}{lb/hr}\right)$ cont'd

Met Station	Angle	50 M	75 M	100 M	200 M	300 M	500 M	1,000 M
Van Nuys Arpt.	120	622.516	412.135	297.765	92.985	21.521	4.659	1.724
Van Nuys Arpt.	130	616.357	406.555	292.462	90.401	20.877	4.583	1.699
Van Nuys Arpt.	140	632.597	415.919	299.022	92.257	21.280	4.514	1.669
Van Nuys Arpt.	150	637.603	420.278	302.227	91.647	21.047	4.516	1.664
Van Nuys Arpt.	160	605.417	403.244	292.414	86.598	18.637	4.569	1.702
Van Nuys Arpt.	170	564.595	371.010	267.227	72.893	13.888	4.488	1.672
Van Nuys Arpt.	180	601.593	378.819	262.689	61.024	11.975	4.535	1.701
Van Nuys Arpt.	190	601.593	378.819	262.689	71.059	13.643	4.482	1.668
Van Nuys Arpt.	200	552.865	362.991	263.745	78.847	16.950	4.433	1.650
Van Nuys Arpt.	210	567.556	376.987	274.109	85.194	19.692	4.482	1.662
Van Nuys Arpt.	220	595.902	395.564	287.344	89.335	20.581	4.467	1.645
Van Nuys Arpt.	230	592.632	390.765	283.514	88.957	20.534	4.610	1.711
Van Nuys Arpt.	240	633.214	414.703	299.160	93.212	21.555	4.626	1.709
Van Nuys Arpt.	250	639.235	415.988	297.654	93.230	21.646	4.434	1.638
Van Nuys Arpt.	260	680.823	441.840	315.877	97.901	22.829	4.589	1.689
Van Nuys Arpt.	270	684.276	442.358	314.657	94.888	21.199	4.567	1.693
Van Nuys Arpt.	280	671.009	435.283	311.742	96.907	22.588	4.645	1.720
Van Nuys Arpt.	290	650.303	424.821	305.275	94.676	21.944	4.642	1.720
Van Nuys Arpt.	300	619.218	409.041	296.153	92.337	21.351	4.641	1.722
Van Nuys Arpt.	310	607.361	400.941	290.100	89.883	20.742	4.644	1.724
Van Nuys Arpt.	320	613.330	409.890	298.947	93.583	21.574	4.589	1.702
Van Nuys Arpt.	330	581.125	388.721	283.205	88.614	20.500	4.609	1.712
Van Nuys Arpt.	340	572.079	374.397	271.579	81.056	17.381	5.158	1.678
Van Nuys Arpt.	350	558.115	364.863	262.802	72.374	13.764	4.664	1.741
Van Nuys Arpt.	360	546.746	353.689	249.904	60.581	11.944	4.526	1.692

ATTACHMENT 3

South Coast Air Quality Management District

AB 2588 and Rule 1402 Supplemental Guidelines

(Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act)

September 2018

Preface

This document (Supplemental Guidelines) is a supplementary guide to the State of California Office of Environmental Health Hazard Assessment (OEHHA) document entitled *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. The OEHHA guidance document contains several sections that refer users to their local air district for specific or additional requirements and this document describes and clarifies the requirements for the South Coast Air Quality Management District (SCAQMD). This version of the Supplemental Guidelines updates the previous November 2016 version.

The Supplemental Guidelines are intended to be a "living" document, which staff will update periodically as needed. The major revisions to this document from the previous November 2016 version include:

- Adding a description for the Voluntary Risk Reduction Program (refer to Section 3.6 and Table 3);
- Adding an HRA Summary Form (refer to Attachment A to Appendix B);
- Removing tables that are updated frequently and are listed in other SCAQMD rules or guidelines and including a reference to the applicable table(s) in the existing SCAQMD rule or guidelines instead; and
- Updating terms and acronyms (refer to Appendix G).

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1. INTRODUCTION

These Supplemental Guidelines are to be used in conjunction with the document prepared by the State of California Office of Environmental Health Hazard Assessment (OEHHA) entitled "Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments" (referred to hereafter as the 2015 OEHHA HRA Guidelines).[1] Facilities required to submit health risk assessments to the South Coast Air Quality Management District (SCAQMD) must follow the 2015 OEHHA HRA Guidelines pursuant to Health and Safety Code 44360(b)(2). Since the 2015 OEHHA HRA Guidelines defer to the local air district for specific, localized, or additional requirements, these Supplemental Guidelines address those areas and other issues that have arisen during the implementation of the AB 2588 Program at SCAQMD.

A certification form must be submitted to SCAQMD with all documents and correspondence relating to health risk assessments.[2]

Please visit SCAQMD's AB 2588 Program webpage provided below for additional information, documents, and any questions regarding this document, health risk assessment methodology, and other AB 2588 Program issues.[3] Questions may be emailed to AB2588@aqmd.gov or asked via phone at (909) 396-3610.

[1] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

[2] http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/forms

[3] http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588

2. OVERVIEW OF THE AB 2588 PROGRAM

In 1987, the California legislature adopted the Air Toxics "Hot Spots" Information and Assessment Act; also known as Assembly Bill 2588 (AB 2588). The goals of the AB 2588 Program are to collect toxic air contaminant emissions data, identify facilities having localized impacts, determine health risks, and notify affected individuals. In 1992, the California legislature added a risk reduction component, the Facility Air Toxic Contaminant Risk Audit and Reduction Plan, or Senate Bill 1731 (SB 1731), which requires facilities to develop and implement measures to reduce impacts if risks are found above thresholds specified by air districts. SCAQMD *Rule 1402 - Control of Toxic Air Contaminants from Existing Sources* implements various aspects of AB 2588 and SB 1731 including public notification and risk reduction requirements for facilities with health risks that are above specified thresholds.

Rule 1402 was amended in October 7, 2016 to include a provision to allow facilities to participate in a Voluntary Risk Reduction Program. This program is an alternative to complying with the traditional AB 2588 Program and Rule 1402 approach that provides qualifying facilities an opportunity to reduce health risks below the Notification Risk Level through a Voluntary Risk Reduction Plan (VRRP) and employ a Modified Public Notification approach as specified in Rule 1402. The Voluntary Risk Reduction Program will achieve risk reductions both sooner and beyond what is required in the traditional AB 2588, SB 1731, and Rule 1402 process.

There are five important components to the AB 2588 program as follows:

- *Emissions Reporting* - Facilities subject to the AB 2588 Program submit an air toxics inventory every four years through SCAQMD's Annual Emissions Reporting (AER) Program. Facilities are allowed to simplify AER reporting by aggregating common sources.
- *Prioritization* - From the simplified reported toxic emissions submitted through AER, SCAQMD staff prioritizes facilities, using a procedure approved by the Governing Board, into three categories: high, intermediate, and low priority. High priority facilities are then asked to prepare an Air Toxics Inventory Report (ATIR). In contrast to the simplified reporting allowed under AER, the ATIR requires greater detail which includes process, device, and stack information for each piece of equipment.
- *Health Risk Assessment* - From the detailed reported toxic emissions submitted through the ATIR, high priority facilities must prepare a Health Risk Assessment (HRA).
- *Public Notice* - If the health risks reported in the HRA exceed specified public notification thresholds, then the facility is required to provide public notice to the affected community.
- *Risk Reduction* - If the health risks reported in the HRA exceed specified action risk levels in Rule 1402, then the facility is required to reduce their health risks below the action risk levels.

Figure 1 below provides an overview of the AB 2588 Program and the different paths a facility may follow under Rule 1402.

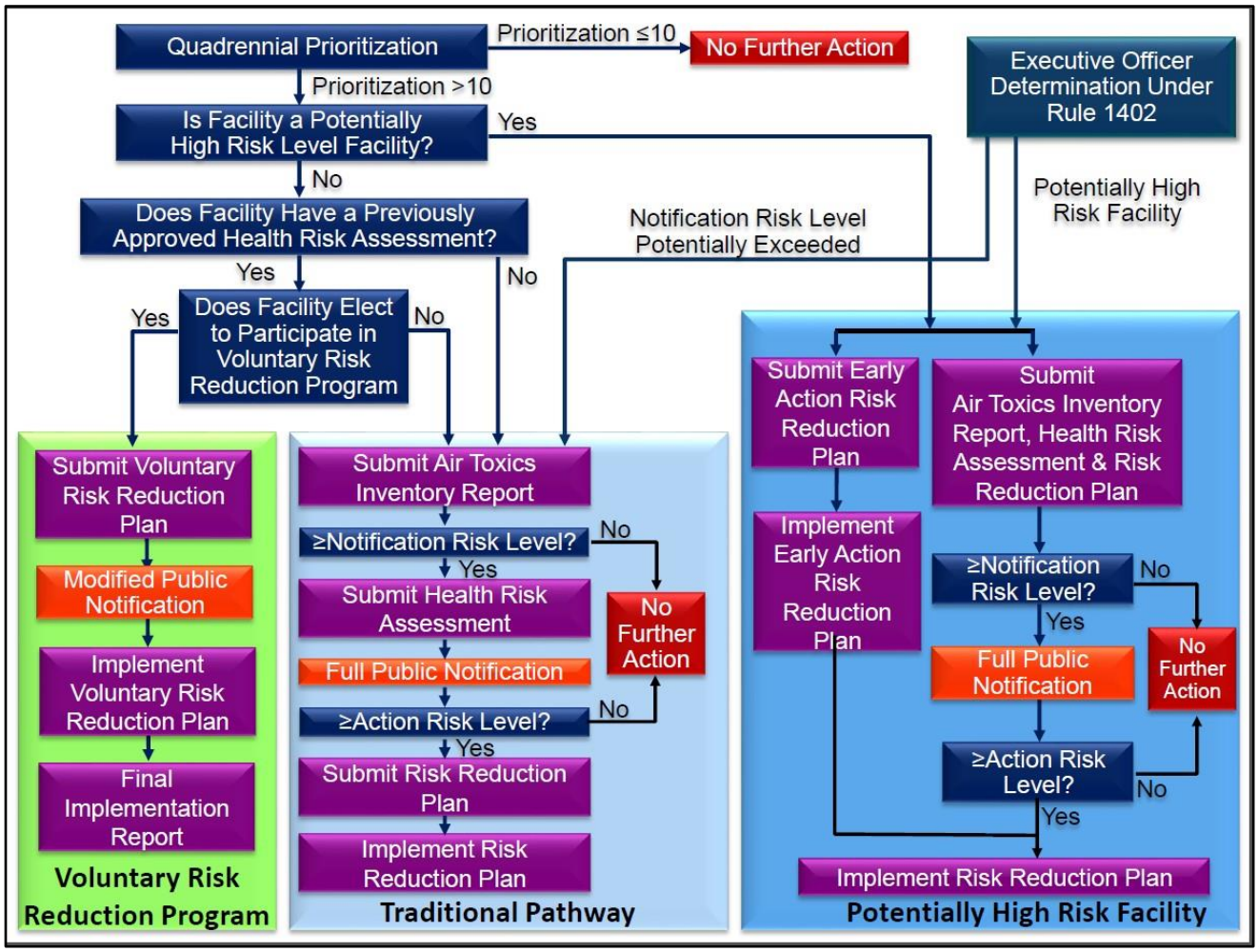


Figure 1. Overview of the AB 2588 Program and illustration of the paths by which a facility may follow

3. SUPPLEMENTAL GUIDELINES

3.1 Air Toxics Emissions Reporting

SCAQMD's AER Program is used for:

- All facilities subject to AER, including AB 2588 facilities who report their annual emissions of criteria pollutants and any one of 24 toxic air contaminants and ozone depleting compounds (ODC) (shown in Table 1 below). The report comprises the annual emissions report for toxic air contaminants.
- AB 2588 facilities which are subject to quadrennial (once in four years) reporting requirements. These facilities report any one of approximately 177 toxic air contaminants and ODCs from a detailed list of substances in Table A-1 of *Reporting Procedures for AB 2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory*.[4] This report comprises the quadrennial emissions report for toxic air contaminants.

Facilities subject to the AER Program calculate and report their emissions based on their throughput data (e.g., fuel usage, material usage, etc.), appropriate emission factors, and control efficiency, if applicable. The method for reporting emissions is described on SCAQMD's website.[5]

Table 1. Annually Reported Toxic Air Contaminants and ODCs under the AER Program

Ammonia	Chlorinated dioxins and dibenzofurans	Lead
Asbestos	Chlorofluorocarbons	Methylene chloride
Arsenic (inorganic)	1,4-Dioxane	Nickel
Benzene	Ethylene dibromide	Perchloroethylene
Beryllium	Ethylene dichloride	Polynuclear aromatic hydrocarbons (PAH)
1,3-Butadiene	Ethylene oxide	1,1,1-Trichloroethane
Cadmium	Formaldehyde	Trichloroethylene
Carbon tetrachloride	Hexavalent chromium	Vinyl chloride

The data collected in the AER Program in addition to information from other sources (i.e. monitoring data, source specific information, etc...) are used to determine potential candidates for the AB 2588 Program. Facilities that meet one of the following AB 2588 Program qualification conditions are required to prepare and submit a quadrennial air toxics inventory if:

- They emit 10 tons per year or more of VOC, NOx, SOx, or PM;
- They emit 25 tons per year or more of a combination of VOC, NOx, SOx, and PM;
- They emit less than 10 tons per year of VOC, NOx, SOx, or PM, but the facility activity is listed in California Air Resources Board's (CARB) Emission Inventory Criteria and Guidelines for the Air Toxics "Hot Spots" Program[6];
- Their emissions exceed one or more of the reporting thresholds in Table I or II in *Rule*

[4] http://www.aqmd.gov/docs/default-source/planning/risk-assessment/quadrennial_atir_procedure.pdf

[5] http://www.aqmd.gov/home/rules-compliance/compliance/annual-emission-reporting

[6] http://www.arb.ca.gov/ab2588/2588guid.htm

1402 – Control of Toxic Air Contaminants From Existing Sources;[7] or

- The Executive Officer of SCAQMD determines that emissions levels from the facility have the potential to cause an exceedance of risk reduction thresholds.

Facilities subject to the AB 2588 Program must provide a quadrennial report for toxic air contaminants. These substances are listed in Table A-1 of *Reporting Procedures for AB 2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory*, which provides the substance names and associated Chemical Abstracts Service (CAS) numbers. The degree of accuracy is also provided for each substance. The degree of accuracy is a de minimis emission level for reporting. As a result, facility-wide emissions of the substance which are greater than one-half of their corresponding degree of accuracy must be inventoried and reported.

As part of the quadrennial report for toxic air contaminants, facilities must also provide the distances to the nearest residential and commercial receptors, and the facility operating schedule (e.g., operating hours per day, operating days per week, and operating weeks per year). It is critical that facilities estimate their toxic emissions as precisely and accurately as possible. These reported emissions are used to prioritize the facility as discussed in the next section, 3.2. Prioritization Procedure. A facility's prioritization score determines its fees and if it is necessary to prepare an ATIR or VRRP (if eligible).

An ATIR should be prepared by using the latest approved version of CARB's Hotspots Analysis and Reporting Program (HARP).[8] In contrast to the simplified reporting allowed under AER, an ATIR requires a larger list of compounds (approximately 450 toxic air contaminants) and greater detail including process, device, and stack information for each piece of equipment.

When a facility is notified to prepare an ATIR or VRRP, the quadrennial toxic air contaminants emissions report is used as the 'base year emissions inventory.' This same base year emissions inventory is also used to prepare an HRA, Public Notice, and Risk Reduction Plan (RRP).

3.2. Prioritization Procedure

The AB 2588 Program requires SCAQMD staff to designate each facility as either high, intermediate, or low priority based on its individual priority score.

Per the requirements of the AB 2588 Program, SCAQMD's Prioritization Procedure considers the potency, toxicity, and quantity of hazardous materials released from the facility; the proximity of the facility to potential receptors, including, but not limited to, hospitals, schools, daycare centers, worksites, and residences; and any other factors that SCAQMD uses to determine that the facility may pose a significant risk to receptors. SCAQMD's Prioritization Procedure also includes adjustment factors for exposure period, averaging times, and the treatment of multipathway pollutants. The Prioritization Procedure is available at SCAQMD's website.[9]

A facility receives two scores: one for carcinogenic effects and the other for non-carcinogenic effects. The facility is then ranked using the higher of the two scores. Three categories are used in

[7] http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1402.pdf
[8] http://www.arb.ca.gov/toxics/harp/harp.htm
[9] http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/prioritization

the ranking: high priority, intermediate priority, and low priority. Facilities designated as high priority are notified by SCAQMD staff of their priority score, required to submit a comprehensive inventory of their air toxic emissions via an ATIR, and required to submit a quadrennial emissions report using the AER software. Facilities ranked as intermediate priority are considered to be "District Tracking" facilities, which are required to submit an air toxics inventory once every four years, using the AER software. Facilities ranked as low priority are exempt from quadrennial emissions reporting. Priority scores are re-calculated each time a facility updates its quadrennial air toxic emission inventory. Table 2 summarizes the priority score categories and the actions required by each category.

Table 2. Priority Score Categories

Category	Facility Priority Score (PS)	Actions
High Priority	PS > 10	Prepare ATIR; update emissions quadrennially through AER
Intermediate Priority	1 < PS ≤ 10	Update emissions quadrennially through AER
Low Priority	PS ≤ 1	Exempt from quadrennial emissions reporting

SCAQMD staff considers requests from High Priority facilities to be re-prioritized after errors or other problems with their quadrennial emissions inventory report. Once the corrections are verified by SCAQMD staff, the facility will be informed, in writing. The following sections discuss the criteria used for evaluating requests to reprioritize a facility.

3.2.1. Receptor Distance

One of the factors considered when prioritizing facilities is the receptor distance. All facilities must report the distances to the nearest residential and commercial receptors as part of their AER submittal. If receptor distances are not provided, then default values (conservative receptor distances) are used by SCAQMD staff to prioritize that facility. If a facility operator believes that their facility was incorrectly categorized due to an incorrect or default receptor distance, then the facility must prepare and submit a signed copy of the Receptor Proximity Form which can be downloaded from the SCAQMD's website.[10]

3.2.2. Computational Errors

If computational errors or conservative assumptions were made in the quadrennial emissions report for toxic air contaminants inventory that overestimated emissions and resulted in a High Priority classification, the facility may correct the errors and submit the corrected estimates and supporting documentation to AB 2588 Program staff. The facility must include in their submission the nature of the error and calculations showing how the original emission estimate was determined and how the correction changes this value.

Please note that SCAQMD staff must use process rates and emissions from the quadrennial emissions reporting year to prioritize a facility. Changes in emissions estimates due to changes in

[10] http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/forms

process rates in years other than the quadrennial emissions reporting year cannot be used to re-categorize a facility. See section 3.3.2 for further details.

3.2.3 ~~New~~ Source Test Results

Source test results may be used only if they have been previously approved by SCAQMD. The source test must be representative of the current operating conditions of the equipment. Additional documentation may be required to demonstrate that the equipment or process has not changed since the time of the source test.

If new source test results are available and have been previously submitted to and approved by SCAQMD, then the approved source test results may be used with the process rates in the quadrennial emissions inventory report to recalculate emissions and the priority score of a facility.

3.2.4. Equipment/Process Shutdowns or Process Modifications

If equipment or processes with air toxic emissions have been shut down prior to High Priority classification and the permits have been surrendered, then these emission reductions may be used to recalculate the priority score of High Priority facilities. Evidence for these emission reductions must include copies of letters sent to SCAQMD requesting emission reduction credits and/or the surrender of SCAQMD permits.

If a process has been modified since the quadrennial emissions report and the equipment or process emits a different quantity of a toxic substance, and the facility has applied for and received a permit modification reflecting this change, then the emission reduction for that substance may be used to recalculate the priority score.

All supporting documentation regarding equipment shutdowns and process modifications must be received by AB 2588 Program staff in order to recalculate the priority score.

3.2.5. Facility Closures

If the entire facility is closed prior to High Priority classification or if a facility is scheduled for complete closure, this information must be reported to AB 2588 Program staff. Upon review, staff will make a decision whether the facility should submit an ATIR. Factors that must be considered include the status of permits granted to the facility by SCAQMD and the nature of any ongoing activities at the facility. Unless a facility is informed by staff in writing that an ATIR is no longer required, the facility operator must submit an ATIR by the date required.

3.2.6. Change of Ownership/Operator

If there has been a change in ownership or operator, the new owner/operator must submit the requested reports unless the facility no longer emits any substances required to be reported under AB 2588. In such case, the new facility owner/operator must provide SCAQMD staff the necessary documentation to be exempt from reporting requirements of the AB 2588 Program.

3.3. Emission Estimates Approved for Use in HRAs

Facilities subject to the submittal of HRAs under the AB 2588 Program must estimate and submit their ATIR using the latest approved version of HARP.[11] This ATIR should include, at a minimum, the elements outlined in Appendix A of these Supplemental Guidelines. OEHHA has grouped the substances to be reported into three groups as shown in Appendix A of the 2015 OEHHA HRA Guidelines.[12] There are distinct reporting requirements for the three groups as follows:

Appendix A-I Substances – All emissions of these substances must be quantified in the ATIR and HRA including those calculated in the ATIR as below the degree of accuracy or below detection limits.

Appendix A-II Substances – Emissions of these substances do not need to be quantified in the ATIR and HRA; however, facilities must report whether the substances are used, produced, or otherwise present on-site. These substances can be simply listed in a table in the HRA.

Appendix A-III Substances – These substances only need to be reported in a table in the ATIR and HRA if they are manufactured by the facility.

The intent of the AB 2588 Program is that facilities performing HRAs use the process rates and emissions data submitted in their quadrennial emissions inventory report (see Section 3.1). SCAQMD receives requests from facilities to use process rates and emissions data other than those reported in their quadrennial emissions inventory report. As a general policy, SCAQMD will allow emission changes only if (1) the changes conform to one of the situations discussed in the following sections and (2) any emission increases are also included.

3.3.1. Computational Errors

Computational errors in the quadrennial emissions inventory report must be reported to SCAQMD staff as soon as detected. Written requests to correct errors for inclusion in the risk assessment must include documentation of the nature of the error and calculations to show how the original emission value was determined and how correcting the computational error changes this value.

3.3.2. Emission Reductions from a Facility's Base Year Emissions Inventory

HRAs in the AB 2588 Program take a 'snapshot' of a base year emissions inventory (or quadrennial emissions inventory report) which is determined by the HRA request letter or notification by the Executive Officer to prepare an ATIR, HRA, or VRRP. This base year is commonly the most recent quadrennial emissions reporting year. Emissions reductions must be verified to be considered as an allowable change. The allowable changes in this section can only be considered as a revision to the quadrennial emissions inventory report that has already been submitted. Modifications after the base year are discussed in Section 3.3.3. Verified emission reductions are those which are permanent and can be substantiated as occurring during the base

[11] http://www.arb.ca.gov/toxics/harp/harp.htm

[12] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

year. Verification requirements include specifications in SCAQMD's permit issued to the facility, a surrender of the existing SCAQMD permit, or reductions as required by SCAQMD rule(s). Letters of intent or internal memos mandating new company policy are not considered verifiable emission reductions.

Examples of verifiable emission reductions include:

- Misreporting of throughput information, inaccurate emission factors, and incorrect emission calculation methodology.
- A previously operating permitted source has been shut down and therefore has no emissions. In order for this to be considered as a verified emissions reduction, the facility must have surrendered the permit to SCAQMD. If a facility chooses to retain the permit for possible use of the equipment in the future, that source cannot be considered a permanent verified emissions reduction. Please send a copy of the letter requesting inactivation of the permit and any other supporting documentation to AB 2588 Program staff.
- A listed substance was no longer used and therefore not emitted in a process at the facility. The permit conditions have previously been modified to reflect this change. A copy of the modified permit or, if not yet available, a copy of the 400A application form requesting a change of permit conditions and a copy of the check for filing fee submitted to SCAQMD must be sent to AB 2588 Program staff.
- Pollution control equipment which has been issued a permit-to-construct, has been installed, and was in operation. Provide a copy of the permit-to-construct (and permit-to-operate, if issued), and show calculations for emission reductions. Provide the references for any emission factors used in the calculations. If source testing data was used to calculate the emissions, provide a copy of the source test protocol and all documentation relating to the results.
- Requirements of new SCAQMD rules that have resulted in permanent and enforceable reductions. Provide documentation on how and when reductions were achieved.

If the facility wishes to use verified emission reductions in their HRA, documentation of these verified changes must be provided.

3.3.3. Modifications in Risk after the Base Year

HRAs in the AB 2588 Program take a 'snapshot' of a base year emissions inventory which is determined by the HRA request letter. This base year is commonly the most recent quadrennial emissions reporting year. In some cases, more recent emissions are substantially different than the base year emissions of a facility due to modifications. Facilities can include information about the more recent emission changes and how those affect health risks in a supplemental appendix to their HRA. If a facility includes supplemental information showing that emissions and health risks have been reduced since the base year, then this more recent emissions scenario can be used when comparing residual health risks against Rule 1402(c)(2) Risk Reduction thresholds as long as the new emissions scenario is based on emission reductions that are permanent, enforceable, and verifiable. The health risks from the base year will still be used when comparing against Rule 1402(c)(12) Public Notification Thresholds. If public notification is required, then the supplemental information about reductions in health risk since the base year can be included in the notification materials.

The facility should contact AB 2588 Program staff to obtain approval and determine if the changes occurring after the base year can be considered as verifiable, enforceable, and permanent emission reductions. Upon approval, the facility must estimate cancer risk, cancer burden, and hazard indices for both the base year and the estimated emissions after the proposed future reductions are complete. The two risk estimates must be presented separately in the HRA submitted to SCAQMD. The dual estimate provides a backup in case reductions proposed by the facility are not implemented as planned. Note that new emissions or emission increases, due to process changes or new equipment, must also be quantified and included in any HRA which incorporates emission reductions since the quadrennial emissions inventory was prepared.

3.3.4. ~~New~~ Source Testing Data

Data from new or yet to be completed source tests will not be approved for use in the preparation of the required HRA if an ATIR has already been approved without the use of those source tests. However, if a facility has already conducted and completed the source test with an SCAQMD-approved source test protocol, and all supporting documentation is provided to AB 2588 Program staff, it may be considered for approval. SCAQMD staff will notify the facility in writing if new source test results are approved for use in the HRA. Please call AB 2588 Program staff if you submit a request and have not been notified regarding approval before submitting the HRA.

If a facility wishes to provide unapproved source test data for informational purposes only, it must be presented in an alternate HRA (i.e., as an appendix to the HRA). The alternate HRA must be presented with separate findings and discussion of cancer risk and hazard indices. Failure to completely separate the alternate HRA from the required analysis is grounds for rejection of the HRA.

3.3.5. Diesel Particulate Matter Emissions

Diesel particulate matter emissions were identified as a toxic air contaminant by CARB in 1998, and were added to the list of compounds in SCAQMD *Rule 1401 – New Source Review* on March 7, 2008. Under the current AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines Regulation, amended on August 27, 2007, facility operators are required to include health risks of any diesel exhaust particulate emissions from stationary emergency and prime compression ignition internal combustion engines, as well as portable diesel engines. Please clearly identify emergency diesel internal combustion engines (DICEs) and their corresponding emissions. This is essential because, on January 5, 2007, the SCAQMD Governing Board adopted separate public notification procedures for emergency DICEs.[13]

3.4. Uncertainty Analyses and Alternat~~ive~~ HRAs

The 2015 OEHHA HRA Guidelines describe uncertainty analyses (or HRAs with alternate assumptions) that may be provided at the discretion of SCAQMD. SCAQMD staff will allow such analyses to be included as one of the appendices to the facility's HRA. This analysis would be a supplement to the primary HRA that is carried out using the assumptions presented in the 2015

[13] http://www3.aqmd.gov/hb/2007/January/070128a.html

OEHHA HRA Guidelines and the guidelines included. Deviations from the OEHHA Tier-1 point estimate methodology must be described in detail at the beginning of the appendix and the reasons for the alternative assumptions must also be described in detail with supporting documentation.

All analyses ~~and~~, discussion, and information relating to an alternative analysis (including unapproved source test data) must appear under a separate title such as "Alternative Analysis" in an appendix to the HRA. If an alternative HRA is mixed together with the Tier-1 analysis and not presented in a separate appendix of the document as required by OEHHA and SCAQMD guidelines, the HRA will be considered unacceptable and returned to the facility owner/operator for revision. Failure to comply with these guidelines are ~~. An alternative HRA is also held to the same~~ grounds for rejection of~~as~~ the primary HRA in accordance with Rule 1402(e).[14] The Alternate HRA it is for informational purposes only and is not reviewed or approved by SCAQMD, neither will it be used for comparison to Rule 1402 risk levels.

3.5. HRA Format

The format for the HRA must follow the detailed outline presented in Appendix B of these Supplemental Guidelines. A completed HRA Summary must be included in the Executive Summary of all HRAs submitted to SCAQMD; a sample of the form can be downloaded from SCAQMD's AB 2588 Program website.[15] The detailed HRA outline provided in Appendix B lists the HARP computer files to be included electronically with the HRA. All copies of electronic file(s) should be sent to AB 2588 Program staff. The HRA should also be submitted electronically (i.e., PDF format).

Cancer risk values should be reported to the nearest tenth and should be rounded up from 5 (e.g., 5.05 in a million is rounded up to 5.1 in a million). Non-cancer risk values should be reported to the nearest hundredth and should be rounded up from 5 (e.g., a hazard index (HI) of 0.105 is rounded to 0.11).

3.6. Public Notification, Risk Reduction, and Voluntary Risk Reduction Levels

The SCAQMD Governing Board has adopted risk levels for purposes of public notification pursuant to the AB 2588 Program. In addition, SCAQMD Rule 1402 establishes action risk levels that require risk reduction; the levels are summarized in Table 3 below and the elements to include in a RRP are included in Appendix D of these Supplemental Guidelines. Additional information regarding SCAQMD's public notification procedures are available on the website.[16]

Rule 1402 includes a provision to allow facilities to participate in the Voluntary Risk Reduction Program. If facilities choose to participate, they voluntarily reduce their health risk beyond the Action Risk Level to below the Notification Risk Level in lieu of the traditional AB 2588 Program process. Facilities also perform a modified public notification that does not require distribution of individual letters and public meetings as in the traditional AB 2588 Program approach. Additional information regarding qualifications and procedures for SCAQMD's Voluntary Risk Reduction Program are available on SCAQMD's website.[17]

[14] http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1402.pdf?sfvrsn=4
[15] http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/forms
[16] http://www.aqmd.gov/nav/about/public-notices/ab-2588-notices
[17] http://www.aqmd.gov/docs/default-source/planning/risk-assessment/vrrp_guidelines.pdf?sfvrsn=4

Table 3. Public Notification, Risk Reduction, and Voluntary Risk Reduction Levels

Risk Variable	Public Notification Levels	Risk Reduction Levels	Voluntary Risk Reduction Levels
Cancer risk	≥ 10 in a million	≥ 25 in a million	≥ 10 in a million
Non-cancer risk	HI > 1	HI ≥ 3	HI > 1
Cancer burden	--	≥ 0.5 excess cancer cases	--

3.7. Maximum Exposed Individual

To identify the location of the maximum exposed individual, it is necessary to examine current land use and allowable land use in the vicinity of the point of maximum impact (residential, commercial/industrial, or mixed use). Currently, the use of block group or census tract centroids as surrogates for the maximum exposed individual does not provide sufficient spatial resolution and will not be approved.

Cancer risk and non-cancer chronic hazard indices (HI) must be provided for both the most exposed residential and the most exposed commercial/industrial receptors. The non-cancer acute HI must be provided for the offsite point of maximum impact (PMI). Additionally, cancer risk and HI values at each sensitive receptor located within the zone of impact must be presented in a table. The zone of impact is discussed in the next section.

3.8. Zone of Impact

In an HRA, it is necessary to define a zone of impact or a method to set boundaries on the analysis. For AB 2588 purposes, SCAQMD requires that the HRA must encompass the area subject to an added lifetime cancer risk (all pathways) of one in one million or greater (i.e. $\geq 1.0 \times 10^{-6}$). For non-cancer risks, the analysis must bound the area subject to an HI greater than or equal to one half (≥ 0.5).

3.9. Land Use Considerations

Risk estimates are sensitive to land uses (e.g. residential, commercial, vacant) since these factors can affect exposure assumptions. If residential or worker risks are not calculated at the PMI because the land is currently vacant, then the location, zoning and potential future land uses must be discussed. Updated information on current land uses is requested when updated emission estimates are reported to SCAQMD.

3.10. Maps

Maps showing the location of the source in relation to the zone of impact must be submitted. Dispersion modeling for sources should be conducted with receptors defined in terms of Universal Transverse Mercator (UTM) coordinates and a World Geodetic System 1984 (WGS84) spatial reference system. For cancer risk, total risk isopleths for facilities should be plotted on the street

map provided using HARP at cancer risk intervals of 1, 10, 25, and 100 in a million. Isopleths for non-cancer HI must include levels corresponding to an HI of 0.5, 1.0, 3.0, and 5.0.

Separate maps should be provided for each of the four risk variables: cancer risks, non-cancer acute risks, non-cancer chronic risks, and non-cancer 8-hour chronic risks. The maps must contain an accurate scale for measuring distances and a legend. The map scale that can accommodate the isopleths and show the greatest level of detail must be used. The names of streets and other locations must be presented and be legible.

The location of schools, hospitals, day-care centers, other sensitive receptors, residential areas and work-sites within the zone of impact must be identified on the map. If the area of the zone of impact is very large, then more detail should be devoted to higher concentration/risk areas versus lower risk areas. The land uses in the vicinity of the PMI must be shown in detail. This may require a separate map. If sensitive receptors are located within the zone of impact, then cancer risk and HI values must also be presented in the form of a table including all the sensitive receptors.

3.11. Air Dispersion Modeling

Air dispersion modeling is performed for the exposure assessment of the HRA. A basic understanding of dispersion modeling is presumed. For a more detailed overview of regulatory modeling procedures, refer to the U.S. EPA's "Guideline on Air Quality Models[18]" and/or the 2015 OEHHA HRA Guidelines.

3.11.1. Facility Description and Source Information

The HRA should contain a brief description of the facility and its activities as shown in the detailed HRA outline provided in Appendix B. Table 4 lists the information on the facility and its surroundings that must be provided in the modeling analysis. The facility location is used to determine the most representative meteorological data for the analysis. The nearby land use is needed to properly label receptors as residential, commercial, sensitive, etc.

The facility plot plan (including a length scale) is needed to determine all source locations including their elevations above sea level, building dimensions, and the property boundary. The operating schedule, the hourly emission rates, the annual average emission rates, and the source parameters listed in Table 4 are necessary to accurately characterize the source emissions. Please refer to the detailed outline provided in Appendix B for additional information and guidance.

[18] https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

Table 4. Required Source Information

Information on the Facility and Its Surroundings
- Location (i.e., address and UTM coordinates in WGS84)
- Local land use (within 20 km)
- Local topography (within 20 km)
- Facility plot plan
  - Property boundaries
  - Horizontal scale
  - Building heights (for building downwash calculations)
  - Source locations including elevations

Point Source Information (stacks, vents, etc.)
- Maximum and average hourly emission rates
- Annual emissions
- Stack location (in UTM coordinates in WGS84) on plot plan including elevation
- Stack height
- Stack gas exit velocity
- Stack gas exit temperature
- Building dimensions, heights, and location

Fugitive Source Information (area and volume sources)
- Maximum and average hourly emission rates
- Annual emissions
- Source location (in UTM coordinates in WGS84) on plot plan including elevations
- Source height
- Area or volume dimensions

3.11.2. Model Selection and Model Options

All HRAs prepared for the AB 2588 Program must use the most recent version of HARP.[19] U.S. EPA's air quality dispersion model, AERMOD, is used by HARP for the exposure assessment. AERMOD is a Gaussian plume model capable of estimating pollutant concentrations from a wide variety of sources that are typically present in an industrial source complex. Emission sources are categorized into four basic types: point, area, volume, and open pit sources. AERMOD estimates hourly concentrations for each source/receptor pair and calculates concentrations for user-specified averaging times, including an average concentration for the complete simulation period. AERMOD includes atmospheric dispersion options for both urban and rural environments and can address flat, gently rolling, and complex terrain situations. AERMOD documentation is available on the U.S. EPA website.[20] Table 5 summarizes the default dispersion modeling assumptions recommended by SCAQMD. AERMOD-ready meteorological data are available on SCAQMD's website.[21]

[19] https://www.arb.ca.gov/toxics/harp/harp.htm
[20] https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models
[21] http://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data

Table 5. Summary of SCAQMD Dispersion Modeling Guidance

Parameter	Assumption
Model Control Options	
• Use Regulatory Default?	Yes
• Urban or Rural?	Urban
Source Options	
• Include Building Downwash?	Yes
Meteorology Options	
• Meteorological Data	AERMOD-ready data available on SCAQMD website. See section 3.11.3.

AERMOD should be executed using the urban dispersion parameters (i.e., URBAN), which is SCAQMD policy for all air quality impact analyses in its jurisdiction. The U.S. EPA regulatory default options should be used for all projects. If non-default options are used, a justification must be included and SCAQMD staff approval is needed.

3.11.3. Meteorological Data

SCAQMD has AERMOD-ready meteorological data for the South Coast Air Basin available on the SCAQMD website including a map showing the locations of meteorological stations with AERMOD-ready data, a table listing the meteorological data for the meteorological stations, and a list of station data including abbreviations, geographical information, and surface characteristics.[22]

The most representative meteorological station should be chosen for modeling which in most cases, is the nearest station; however, an intervening terrain feature may dictate the use of an alternate station. Modelers should contact AB 2588 Program staff regarding the most representative meteorological station, if necessary. The data are available on the following SCAQMD website.[23]

3.11.4. Receptor Grid

Air dispersion modeling is required to estimate (a) annual average concentrations to calculate the Maximum Individual Cancer Risk (MICR), the maximum chronic HI, the zones of impact, and excess cancer burden and (b) peak hourly concentrations to calculate the health impact from substances with acute non-cancer health effects. To achieve these goals, the receptor grid should begin at the facility fence line and extend to cover the zone of impact. In addition, the receptor grid should be fine enough to identify the points of maximum impact.

To identify the maximum impacted receptors (i.e., peak cancer risk and peak hazard indices) a grid spacing of 100 meters or less must be used. All receptors should be identified in UTM coordinates. Receptor grid points outside of the facility boundary must be placed so that individual grid points

[22] http://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data
[23] http://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod

are placed at UTM coordinates ending in "00" (e.g., grid point UTM East 572300 and UTM North 3731000). Receptor grids with less than 100 meter spacing must include grid points at UTM coordinates ending in "00." Elevations must be provided for all receptor grids.

Receptors on the facility boundary must be placed along the boundary following the maximum spacing requirements shown in Table 6. Sensitive receptors must be identified by exact UTM coordinates. Elevations must be provided for all receptors.

Table 6. Maximum Receptor Spacing Requirements for Fenceline Receptors

Area of Facility	Maximum Receptor Spacing
Area < 4 acres	20 meters
4 acres ≤ Area < 10 acres	30 meters
10 acres ≤ Area < 25 acres	50 meters
25 acres ≤ Area < 100 acres	75 meters
Area ≥ 100 acres	100 meters

3.11.5. Stacks with Raincaps and Area Sources

Emission release points with raincaps or which are oriented so that the exhaust is vented downward or horizontally may not use the velocity inside the stack as the vertical velocity of the point source in the model. However, as a point source must be modeled with some vertical velocity, these stacks may be modeled with a positive vertical velocity of no more than 0.01 meters per second. In general, if there is uncertainty on how to represent sources in a model, AB 2588 Program staff should be consulted before proceeding with modeling.

According to U.S. EPA guidance for area sources in AERMOD, the aspect ratio (i.e., length/width) for area sources should be less than 10 to 1. If this is exceeded, then the area should be subdivided to achieve a 10 to 1 or less aspect ratio for all sub-areas.

3.12. HRA

SCAQMD requires that all HRAs for the AB 2588 Program be prepared in accordance with OEHHA and CARB guidance[24] and using the latest approved version of HARP. The OEHHA Guidelines requires at least a Tier-1 evaluation, which allows for Derived Risk Calculations. The Derived method uses high end exposure parameters for the top two exposure pathways and mean exposure parameters for the remaining pathways for cancer risk estimates. For chronic non-cancer assessments, the Derived method uses high end exposures for the top three exposure pathways. CARB has developed an updated Risk Management Policy that includes recommendations for inhalation exposures,[25] which recommends using high end breathing rates (95th percentile) for children from the 3rd trimester through age 2, and 80th percentile breathing rates for all other ages

[24] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

[25] Information regarding CARB's Risk Management policy can be located at: https://www.arb.ca.gov/toxics/toxics.htm

for residential exposures. In accordance with these guidelines, SCAQMD recommends Derived Risk Calculations using CARB's Risk Management Policy to be prepared and presented in an HRA. CARB prepared HARP to facilitate the preparation and transmittal of a compliant ATIR and HRA. The details are provided below.

3.12.1. OEHHA Guidance

OEHHA's guidance for preparing HRAs is contained in the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[26] This guidance manual has undergone public and peer review, was endorsed by the California Scientific Review Panel (SRP), and approved by OEHHA in March 2015.

The 2015 OEHHA HRA Guidelines recognizes four types of evaluations.

Tier-1: point estimate, using standard assumptions

Tier-2: point estimate, using site-specific details

Tier-3: stochastic risk, using standard assumptions

Tier-4: stochastic risk, using site-specific details

The details are described in the 2015 OEHHA HRA Guidelines.

"Tier-1 is a standard point-estimate approach using the recommended point-estimates presented in this document. […] Tier-1 evaluations are required for all HRAs prepared for the Hot Spots Program." (see Section 2.5.3. of 2015 OEHHA HRA Guidelines[26])
"[T]he Tier-1 evaluation is useful in comparing risks among a large number of facilities and must be included in all HRAs." (see Section 8.2.5.C. of 2015 OEHHA HRA Guidelines[26])

As such, SCAQMD requires that all HRAs for the AB 2588 Program contain at least a Tier-1 evaluation. The results of the Tier-1 evaluation are used for comparative and regulatory purposes (i.e., risk status, fee category, public notice, and risk reduction).

The Executive Summary and main body of the HRA shall contain only statements regarding the results of the Tier-1 evaluation. Tier-2, Tier-3, and Tier-4 evaluations should not be in the Executive Summary or main document; they may be prepared and presented as appendices to the main document. Site specific details for either a Tier-2, Tier-3, or Tier-4 evaluation will require review and approval by OEHHA, CARB, and SCAQMD.

3.12.3. HARP

HARP is designed to meet the programmatic requirements of the AB 2588 Program and will calculate all four OEHHA Tiers, both the Derived Risk Calculations (as designed by OEHHA), and CARB's "Risk Management Policy Inhalation Rates for Residential Cancer Risk Calculations."

[26] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

The outline for an HRA is contained in Appendix B. The list of files that must be submitted with an HRA for the AB 2588 Program are included in Table 7. Any emissions factor development, emission rate calculations, or approved source test protocol and reports must be submitted in electronic format (e.g., in Microsoft Excel). If these items have been attached to the AER report, please refer to it in the cover letter to avoid a redundant submittal.

Table 7. Files that must be provided with HRA submittals

File Type	Notes
HRA Input	All files created by CARB's Air Dispersion Modeling and Risk Tool (ADMRT) Module
HRA Output	
Dispersion Modeling Input	All AERMOD and BPIP files used in the HRA including terrain data. All meteorological data files including any AERMET files if default SCAQMD meteorological data is not used.
Dispersion Modeling Output	
Emission Inventory Input	All files created by CARB's Emission Inventory Module (EIM)
Emission Inventory Output	
Emission Calculations	Provided in electronic format (e.g., Excel) and documented references (i.e. sample calculations)
Source Tests	Only SCAQMD-approved source tests can be used. SCAQMD approval must be included in submittal.
Air Monitoring Data	Any monitoring data used in the HRA should be provided.

3.12.4. SCAQMD's Default Assumptions for HRAs

All HRAs prepared for SCAQMD must include an OEHHA Tier-1 evaluation. All SCAQMD risk management decisions are based on the Tier-1 evaluation. Tier-2, Tier-3, and Tier-4 evaluations may be prepared but must be included in an appendix to the HRA. The results of the Tier-2, Tier-3, and/or Tier-4 evaluations must not be included in the Executive Summary or main body of the HRA. Table 8 summarizes the HRA assumptions required by SCAQMD. Deviations from these defaults must be approved by SCAQMD staff prior to their use.

Residential cancer risks assume a 30-year exposure (cancer burden assumes a 70-year exposure) and must include, at a minimum, the following pathways: home grown produce, dermal absorption, soil ingestion, and mother's milk. A deposition velocity of 0.02 m/s should be assumed for the non-inhalation pathways. The HRA should assume default values in HARP for all pathways with the exception of the dermal pathway which should assume a "warm" climate. The other pathways of fish ingestion, dairy milk ingestion, drinking water consumption, and meat (i.e., beef, pork, chicken, and egg) ingestion should be included only if the facility impacts a local fishable body of water, grazing land, dairy, or water reservoir. The "RMP Using the Derived Method" risk calculation option should be used for estimating cancer risks at residential receptors. To estimate chronic non-cancer risks at residential receptors the "OEHHA Derived Method" risk calculation option should be used. The 8-hour chronic non-cancer risk should also be calculated for residential receptors for any source that operates at least 8 hours per day and 5 days per week.

Table 8. Summary of SCAQMD Health Risk Assessment Guidance

Parameter	Assumptions
Multipathway	
• Inhalation	Required for residential and worker receptors
• Dermal	Required for residential and worker receptors
• Soil	Required for residential and worker receptors
• Homegrown Produce	Required for residential receptors
• Mother's Milk	Required for residential receptors
• Beef/Dairy	Site specific
• Pigs, Chickens, and/or Eggs	Site specific
• Deposition Velocity	0.02 meters per second
• MP Exposure Assumptions	Use HARP defaults except for dermal pathway which uses "warm" climate
Residential Cancer Risk Assumptions	
• Exposure Duration	30 years for individual receptors 70 years for cancer burden
• Analysis Option	RMP Using the Derived Method
Worker Cancer Risk Assumptions	
• Exposure Duration	25 years
• Analysis Option	OEHHA Derived Method
Residential and Worker Non-Cancer Risk Assumptions	
• Analysis Option	OEHHA Derived Method

Worker cancer risks assume a 25-year exposure and must include the pathways of dermal absorption and soil ingestion. A deposition velocity of 0.02 m/s should be assumed for these pathways and the dermal pathway should assume a 'warm' climate. The "OEHHA Derived Method" risk calculation option should be used for estimating cancer and non-cancer chronic risks at worker receptors.

The air concentration that the neighboring workers breathe when present at work is different than the annual average concentration calculated by AERMOD. The annual average estimated by AERMOD is a 24 hours per day, 7 days per week, 365 days per year average, regardless of the actual operating schedule of the emitting facility. It is assumed the off-site worker is impacted by the toxic emissions only during work hours. Thus, the model-predicted concentrations must be adjusted by a multiplying factor to reflect the pollutant concentration that the worker breathes. For example, suppose that the off-site worker and the emitting facility have the same operating schedule, perhaps 8 hours per day, 5 days per week, and 52 weeks per year. The annual average concentrations predicted by AERMOD must be adjusted by a factor of 4.2 (i.e., 7/5 x 24/8). Please refer to the 2015 OEHHA HRA Guidelines for further information.

The adjustment factors for all possible operating schedules are provided in Tables 5.1 and 5.2 of SCAQMD *Permit Application Package "N" For Use in Conjunction with the Risk Assessment*

Procedures for Rules 1401, 1401.1, and 212.[27] These factors are entered into HARP by activating the Worker Adjustment Factor (WAF) option in the Inhalation Pathway and entering the appropriate factor from either one of the tables.

The adjustments in Tables 5.1 and 5.2 should only be applied when estimating worker cancer risks for facilities that do not operate continuously. The adjustments are not applicable to residential cancer risks and to residential or worker chronic non-cancer risks.

[27] http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf

Appendix A

Elements of an Air Toxics Inventory Report

1. Report Summary (hard copy)

- Facility name, Facility ID, and location
- Facility plot plan identifying: emission source location, property line, horizontal scale, and building heights and dimensions
- Facility total emission rate by substance for all emittants including the following information (2015 OEHHA HRA Guidelines Appendix A-I Substances must be quantified in the inventory report):
  - substance name and CAS number
  - annual average emission for each substance (lb/yr and g/s)
  - maximum one-hour emissions for each substance (lbs/hr and g/s)
- Supporting documentation such as source test report and SCAQMD approval letter if emissions are measured

2. Use the EIM portion of HARP to provide facility, device, process, emissions, and stack data in a HARP database, including but not limited to the following information:

- Source identification number used by the facility
- Source name
- SCAQMD permit number if available
- Source location using UTM coordinates (in meters) with a WGS84 projection
- Source base elevation (m)
- Source height (m)
- Source dimensions (e.g., stack diameter, building dimensions, area/volume size, etc.) (m)
- Stack gas exit velocity (m/s) if applicable
- Stack gas volumetric flow rate (ACFM) if applicable
- Stack gas exit temperature (K)
- Number of operating hours per day
- Number of operating days per week
- Number of operating weeks per year
- Report emission control equipment and efficiency by source and by substance.

The description should be brief.

- Report annual average and maximum hourly emission rates for each toxic substance for each source
- Report emission inventory methods indicating whether emissions are measured or estimated

Appendix B

Outline for the HRA

I. Table of Contents

- Section headings with page numbers indicated
- Tables and figures with page numbers indicated
- Definitions and abbreviations. Must include a definition of acute, 8-hour chronic, chronic, and cancer health impacts
- Appendices with page numbers indicated

II. Executive Summary

- Name of facility and the complete address
- Facility ID number
- Description of facility operations and a list identifying emitted substances, including a table of maximum 1-hour and annual emissions in units of lbs/hr and lbs/yr, respectively
- List the multipathway substances and their pathways
- Text presenting overview of dispersion modeling and exposure assessment
- Text defining dose-response assessment for cancer and non-cancer health impacts and a table showing target organ systems by substance for non-cancer impacts
- Summary of results (See Attachment A to this Appendix). Potential cancer risks for residents must be based on 30-year, Tier-1 analysis and potential cancer risks for workers must be based on 25-year, Tier-1 analysis. Cancer burden results must be based on 70-year, Tier-1 analysis
    - Location (address or UTM coordinates) and description of the off-site PMI, maximum exposed individual resident (MEIR), and maximum exposed individual worker (MEIW). See Attachment A for the required summary form
    - Location (address or UTM coordinates) and description of any sensitive receptors that are above a cancer risk of ten in one million or above a non-cancer health HI of one
    - Text presenting an overview of the total potential multipathway cancer risk at the PMI, MEIR, MEIW, and sensitive receptors (if applicable). Provide a table of cancer risk by substance for the MEIR and MEIW. Include a statement indicating which of the substances appear to contribute to (i.e., drive) the potential health impacts. In addition, identify the exposure pathways evaluated in the HRA
    - Provide a map of the facility and surroundings and identify the location of the MEIR, MEIW, and PMI
    - Provide a map of 30-year lifetime cancer risk zone of impact (i.e., 1 in one million risk contour), if applicable. Also show the 10, 25, and 100 in one million risk contours, if applicable. If the cancer burden is greater than 0.5, then a map showing the 1 in one million risk contour based on a 70-year lifetime should also be presented
    - Text presenting an overview of the acute and chronic non-cancer hazard quotients or the (total) hazard indices for the PMI, MEIR, MEIW, and sensitive receptors.

Include separate statements (for acute, 8-hour chronic, and annual chronic exposures) indicating which of the substances appear to drive the potential health impacts. In addition, clearly identify the primary target organ(s) that are impacted from acute and chronic exposures
- Identify any subpopulations (e.g., subsistence fishers) of concern
- Table and text presenting an overview of estimates of population exposure
- Version of the Risk Assessment Guidelines and computer program(s) used to prepare the risk assessment

III. Main Body of Report

A. Hazard Identification

- Table and text identifying all substances emitted from the facility. Include the CAS number of substance and the physical form of the substance if possible. The complete list of the substances to be considered is contained in Appendix A of the 2015 OEHHA HRA Guidelines[28]
- Table and text identifying all substances that are evaluated for cancer risk and/or non-cancer acute and chronic health impacts. In addition, identify any substances that present a potential cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure
- Describe the types and amounts of continuous or intermittent predictable emissions from the facility that occurred during the reporting year. As required by statute, releases from a facility include spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping (fugitive), leaching, dumping, or disposing of a substance into ambient air. Include the substance(s) released and a description of the processes that resulted in long-term and continuous releases

B. Exposure Assessment

This section describes the information related to the air dispersion modeling process that should be reported in the risk assessment. In addition, doses calculated by pathway of exposure for each substance should be included in this section. The educated reader should be able to reproduce the risk assessment without the need for clarification. The location of any information that is presented in appendices, on electronic media, or attached documents that supports information presented in this section, must be clearly identified by title and page number in this section's text and in the document's table of contents.

B.1 Facility Description

[28] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

Report the following information regarding the facility and its surroundings:

- Facility name
- Facility ID number
- Facility location (i.e., address)
- Local topography
- Facility plot plan identifying: emission source locations, property line, horizontal scale, building heights and dimensions
- Description of the site/route dependent exposure pathways. Provide a summary of the site-specific inputs used for each pathway (e.g., water or grazing intake assumptions). This information may be clearly presented and cross-referenced to the text in an appendix

B.2 Emissions Inventory

Report the following information regarding the facility's sources and emissions in table format; see Appendix K of 2015 OEHHA HRA Guidelines.[29] Depending on the number of sources and/or pollutants, this information may be placed in the main body of the report or in an appendix

- Source identification number used by the facility
- Source name
- Source location using UTM coordinates (in meters); with a WGS84 projection
- Source base elevation (m)
- Source height (m)
- Source dimensions (e.g., stack diameter, building dimensions, area/volume size, etc.) (m)
- Stack gas exit velocity (m/s) if applicable
- Stack gas volumetric flow rate (ACFM) if applicable
- Stack gas exit temperature (K)
- Number of operating hours per day and per year
- Number of operating days per week
- Number of operating days or weeks per year
- Report emission control equipment and efficiency by source and by substance. The description should be brief.
- Report emission inventory methods indicating whether emissions are measured or estimated.
- Report emission rates for each toxic substance, grouped by source, in table form

[29] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

including the following information (see Appendix K of 2015 OEHHA HRA Guidelines). Depending on the number of sources and/or pollutants, this information may be placed in the main body of the report or in an appendix

- Source name
- Source identification number
- Substance name and CAS number
- Annual average emissions for each substance (lbs/yr and g/s). Radionuclides are reported in curies/yr
- Maximum one hour emissions for each substance (lbs/hr and g/s). Radionuclides are reported in millicuries/yr
- Report facility total emission rates by substance for all emittants including the following information (see Appendix K of 2015 OEHHA HRA Guidelines). This information should be in the main body of the report
- Substance name and CAS number
- Annual average emissions for each substance (lbs/yr and g/s). Radionuclides are reported in curies/yr
- Maximum one-hour emissions for each substance (lbs/hr and g/s). Radionuclides are reported in millicuries/yr

B.3 Air Dispersion Modeling

- The HRA should indicate the source and time period of the meteorological data used. Include the meteorological data electronically with the HRA. SCAQMD has AERMOD-ready meteorological data for available stations in the South Coast Air Basin. This data can be downloaded from SCAQMD's website[30]
- Include proper justification for using the meteorological data. The nearest representative meteorological station should be chosen for modeling. Usually this is simply the nearest station to the facility; however, an intervening terrain feature may dictate the use of an alternate site
- The latest approved version of AERMOD and HARP should be used for all HRAs prepared for the AB 2588 Program
- Table and text that specifies the following information:
  - Selected model options and parameters
  - Receptor grid spacing
- For the PMI, MEIR, MEIW, and any sensitive receptors required by SCAQMD, include tables that summarize the annual average concentrations calculated for all substances
- For the PMI, MEIR, MEIW, and any sensitive receptors required by SCAQMD,

[30] http://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data

include tables that summarize the maximum one-hour; chronic 8-hour; and 90-day rolling average (lead only) concentrations

C. Risk Characterization

HARP generates the risk characterization data needed for the outline below. Any data needed to support the risk characterization findings should be clearly presented and referenced in the text and appendices. A listing of HARP files that meet these HRA requirements are provided in Section V. All HARP files should be included in the HRA. Ideally, the HRA report and a summary of data used in the HRA should be on paper and all data and model input and output files should be provided electronically.

The potential cancer risk for the PMI, MEIR, and sensitive receptors of interest must be presented in the HRA's text, tables, and maps using a residential 30-year exposure period. MEIW location should use appropriate exposure periods. For the AB 2588 Program, the 30-year exposure duration should be used as the basis for residential public notification and risk reduction audits and plans. All HRAs must include the results of a Tier-1 exposure assessment. If persons preparing the HRA would like to present additional information (i.e., exposure duration adjustments or the inclusions of risk characterizations using Tier-2 through Tier-4 exposure data), then this information should be presented in separate, clearly titled, sections, tables, and text.

The following information should be presented in this section of the HRA. If not fully presented here, then by topic, clearly identify the section(s) and pages within the HRA where this information is presented.

- Description of receptors to be quantified
- Identify the site/route dependent exposure pathways (e.g., water ingestion) for the receptor(s), where appropriate (e.g., MEIR). Provide a summary of the site-specific inputs used for each exposure pathway (e.g., water or grazing intake assumptions). In addition, provide reference to the appendix (section and page number) that contains the modeling (i.e., HARP/dispersion modeling) files that show the same information
- Tables and text providing the following information regarding the potential multipathway cancer risks at the PMI, MEIR, MEIW, and any sensitive receptors of concern:
  - Location in UTM coordinates
  - Contribution by substance
  - Contribution by source
- Tables and text providing the following information regarding the acute non-cancer hazard quotient at the PMI, MEIR, MEIW, and any sensitive receptors of concern:
  - Location in UTM coordinates
  - Target organ(s)
  - Contribution by substance
  - Contribution by source

- Tables and text providing the following information regarding the chronic non-cancer (inhalation and oral) hazard quotient at the PMI, MEIR, MEIW, and any sensitive receptors of concern:
  - Location in UTM coordinates
  - Target organ(s)
  - Contribution by substance
  - Contribution by source
- Table and text presenting estimates of population exposure. Tables should indicate the number of persons exposed to a total cancer risk greater than 10^{-6}, 10^{-5}, 10^{-4}, etc. and total hazard quotient or HI greater than 0.5, 1.0, 3.0, and 5.0. Total excess cancer burden should also be provided
- Provide maps that illustrate the HRA results as noted below. The maps should be an actual street map of the area impacted by the facility with UTM coordinates and facility boundaries clearly labeled. This should be a true map (i.e., one that shows roads, structures, etc.), drawn to scale, and not a schematic drawing. Color aerial photos are usually the most appropriate choice. The following maps are required:
  - Locations of the PMI, MEIR, MEIW, and sensitive receptors for the cancer and non-cancer acute and chronic risks. Also show the facility emission points and property boundary
  - Total cancer risk (including multipathway factors) contours for the following risk levels: 100, 25, 10, and 1 in a million. Maps should be provided for the minimum exposure pathways (i.e., inhalation, soil ingestion, dermal exposure, and mother's milk) and for all applicable exposure pathways (i.e., minimum exposure pathways plus additional site/route specific pathways). Include the facility location on the maps
  - Non-cancer acute and chronic HI contours for the following levels: 5.0, 3.0, 1.0 and 0.5. Include the facility location
- The risk assessor may want to include a discussion of the strengths and weaknesses of the risk analyses and associated uncertainty directly related to the facility HRA
- If appropriate, comment on the possible alternatives for control or remedial measures
- If possible, identify any community concerns that influence public perception of risk

D. References

IV. Appendices

The appendices should contain all data, sample calculations, assumptions, and all modeling and risk assessment files that are needed to reproduce the HRA results. All data and model input and output files should be provided electronically (e.g., uploaded to SCAQMD's OnBase system or on USB Flash Drive). All appendices and the information they contain should be referenced, clearly titled, and paginated. The following are potential appendix topics unless presented elsewhere in the HRA:

- List of all receptors in the zone of impact and their associated risks
- Emissions by source
- Census data
- Maps and facility plot plan
- All calculations used to determine emissions, concentrations, and potential health impacts at the PMI, MEIR, MEIW, and sensitive receptors
- Presentation of alternate risk assessment methods (e.g., alternate exposure durations, or Tier-2 to Tier-4 evaluations with supporting information)

V. Computer Files

The list of electronic files that must be submitted for the HRA are found in Table 7 of Chapter 3 of this document. They must be useable (i.e., can be opened and run in AERMOD/HARP if file is an AERMOD/HARP file). Any supplementary files should be submitted in formats that will not lose formatting in transfer (i.e. pdf for text documents).

Attachment A to Appendix B

HRA Summary Form

This summary form should accompany all HRAs and be presented at the beginning of the Executive Summary.

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

HEALTH RISK ASSESSMENT SUMMARY FORM

(Required in Executive Summary of HRA)

Facility Name : _____
Facility Address: _____
_____
Type of Business: _____
SCAQMD ID No.: _____

A. Cancer Risk

(One in a million means one chance in a million of getting cancer from being constantly exposed to a certain level of a chemical over a period of time)

1. Inventory Reporting Year : _____
2. Maximum Cancer Risk to Receptors : *(Offsite and residence = 30-year exposure, worker = 25-year exposure)*
   a. Offsite _____ in a million Location: _____
   b. Residence _____ in a million Location: _____
   c. Worker _____ in a million Location: _____
3. Substances Accounting for 90% of Cancer Risk: _____
   Processes Accounting for 90% of Cancer Risk: _____
4. Cancer Burden for a 70-yr exposure: *(Cancer Burden = [cancer risk] x [# of people exposed to specific cancer risk])*
   a. Cancer Burden _____
   b. Number of people exposed to >1 per million cancer risk for a 70-yr exposure _____
   c. Maximum distance to edge of 70-year, 1 x 10^{-6} cancer risk isopleth (meters) _____

B. Hazard Indices

[Long Term Effects (chronic) and Short Term Effects (acute)]
(non-carcinogenic impacts are estimated by comparing calculated concentration to identified Reference Exposure Levels, and expressing this comparison in terms of a "Hazard Index")

1. Maximum Chronic Hazard Indices:
   a. Residence HI: _____ Location: _____ toxicological endpoint: _____
   b. Worker HI : _____ Location: _____ toxicological endpoint: _____
2. Substances Accounting for 90% of Chronic Hazard Index: _____
3. Maximum 8-hour Chronic Hazard Index:
   8-Hour Chronic HI: _____ Location: _____ toxicological endpoint: _____
4. Substances Accounting for 90% of 8-hour Chronic Hazard Index: _____
5. Maximum Acute Hazard Index:
   PMI: _____ Location: _____ toxicological endpoint: _____
6. Substances Accounting for 90% of Acute Hazard Index: _____

C. Public Notification and Risk Reduction

1. Public Notification Required? ____ Yes ____ No
   a. If 'Yes', estimated population exposed to risks > 10 in a million for a 30-year exposure, or an HI >1
   _____
2. Risk Reduction Required? ____ Yes ____ No

Revised 4/30/2015

Appendix C

HRA Review Check List

The check list contained here is used by SCAQMD staff to standardize the review of HRAs. It is being provided to assist facilities and consultants in their HRA preparation.

Facility Name:	**Facility ID:**
Street Address:	
City:	**Zip Code:**
HRA Consultant:	**Reviewer:**

Dispersion Modeling

1. Control Pathway
   a. "Regulatory Default Option" checked? **Yes No**
      i) If No, explain why:_____
   b. Urban Option
      i) "Apply All Sources" checked? **Yes No**
      ii) "Population" from the latest Census data is added for county? **Yes No**
      iii) "Roughness Length" = 1.0 (default value) **Yes No**
2. Source Pathways
   a. Sources
      i) Check if source list is consistent with following documents:
         - Base Year AER source list? **Yes No**
         - District equipment list (permit list)? **Yes No**
      ii) "Source Type" determined properly? **Yes No**
      iii) "Volume/Area source dimensions" are reasonable? **Yes No**
      iv) "UTMs" are consistent with Plot Plan? **Yes No**
      v) "Elevation" of source(s) are imported from AERMAP output file? **Yes No**
      vi) Adequate "Emission Rates" used? (default 1 g/s) **Yes No**
      vii)"Release Heights" reasonable? **Yes No**
      viii) Stack parameters are consistent with those provided in the report **Yes No**
      ix) Accurate and sufficient details entered for every source? **Yes No**
   b. Variable Emissions
      i) Default emission rate used? (default: 1 g/s, 24 hrs/day, 365 days/yr) **Yes No**
      ii) If not, appropriate emission rate factors are used? (Table 2) **Yes No**
   c. Buildings
      i) All surrounding buildings included? **Yes No**
      ii) Tier Heights and corner points reasonable? **Yes No**

- If No in any, _

3. Receptors
   a. Grid receptors
      i) Included? (should be "Yes") **Yes No**
      ii) Spacing? (should be no greater than 100 meters) **Yes No**
         - Assumed spacing_____meters
      iii) Elevations included? (should be "Yes") **Yes No**
      iv) Is gridded area sufficient to cover acceptable risk levels? **Yes No**
   b. Property boundary receptors
      i) Included? (should be "Yes") **Yes No**
      ii) Spacing? (should follow guidance in Table 3) **Yes No**
         - Assumed spacing_____meters
      iii) Elevations included (should be "Yes") **Yes No**
   c. Sensitive receptors
      i) Included? (should be "Yes" if cancer risks >1 in a million) **Yes No**
      ii) Elevation included? (should be "Yes") **Yes No**
      iii) Verified from review of Google Earth or other source **Yes No**
   d. Census block receptors
      i) Included? (should be "Yes" if cancer risks >1 in a million) **Yes No**
      ii) Elevation included? (should be "Yes") **Yes No**
   e. Pathway receptors included? (should be "No") **Yes No**
4. Meteorology Pathway (The latest met data files shall be used.)
   a. Surface Met Data File: _____.sfc
   b. Profile Met Data File:_____.pfl
   c. Base Elevation of Met Station (PROFBASE):_____meters
   d. Does the Met Station reflect prevailing meteorological conditions (ex., prevailing winds), surrounding land use, and topography that exists at the source? This is not always the closest Met Station (Table 1) **Yes No**
5. Terrain Option
   a. (Step 1) is Anchor location correct? **Yes No**
   b. (Step 2) is appropriate DEM/NED data file linked? **Yes No**

i) DEM/NED file used: _____

ii) Is (Are) the DEM/NED file(s) covering sufficient area? **Yes No**

c. (Step 3) independently ran AERMAP? **Yes No**

6. Building Downwash
7. Independently ran BPIP Prime? **Yes No** Duplication of AERMOD Results
   a. Independently ran AERMOD? **Yes No**
   b. Average χ/Q first high values for each source group reproduced? **Yes No** (not required; useful if diagnosing discrepancies)
   c. Max 1-hour χ/Q first high values for each source group reproduced? **Yes No** (not required; useful if diagnosing discrepancies)
8. All plt files are generated successfully? **Yes No**

Site Visit

- Site visit conducted? **Yes No**
  a. If Yes, **Date** **Time** ,
  b. Facility Contact: _____
  c. SCAQMD Staff: _____

Program Used

1. Facility submittal package is processed by the latest version of HARP? **Yes No**
   a. If NOT, name software used: _____
2. This review is performed using the latest version of HARP? **Yes No**
   a. If NOT, name software used: _____

General Comments

_____

_____

_____

Appendix D

Elements of a Risk Reduction Plan

INTRODUCTION

Facilities with an approved HRA with health risks greater than or equal to the Action Risk Levels as identified in SCAQMD Rule 1402 are required to submit an RRP within the specified timeframes for each specific category as specified in the Rule. Facilities participating in the Voluntary Risk Reduction Program under Rule 1402 should follow the *Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program* that are available online.[31] The owner or operator is responsible for preparing a RRP that identifies the risk reduction measures that should be implemented in order to reduce the impact of the total facility emissions below the Action Risk Levels.

ELEMENTS OF A RISK REDUCTION PLAN

1. The name, address, and SCAQMD facility identification number, and Standard Industrial Code (SIC) and North American Industry Classification System (NAICS) codes of the facility;
2. A facility risk characterization which includes an updated ATIR and HRA, if the risk due to total facility emissions has increased above or decreased below the levels indicated in the previously approved HRA;
3. Identification of each source from which risk needs to be reduced in order to achieve a risk below Rule 1402 Action Risk Levels;
4. For each source identified in subparagraph (3), an evaluation of the risk reduction measures available to the owner or operator, including emission and risk reduction potential, and time necessary for implementation;
    - An updated ATIR and HRA if total facility risks are different than what was approved in the previously approved HRA.
5. Specification of the risk reduction measures that shall be implemented by the owner or operator to comply with the requirements of Rule 1402, subdivision (i) to achieve the Action Risk Level or the lowest achievable level;
6. A schedule for implementing the specified risk reduction measures as quickly as feasible. The schedule shall include the submittal of all necessary applications for permits to construct or modify within 180 days of approval of the RRP, or in accordance with another schedule subject to approval by the Executive Officer, and specify the dates for other increments of progress associated with implementation of the risk reduction measures;
7. If requesting a time extension, the plan must also include the following information:
    - A description of the risk reduction measure(s) for which a time extension is needed;
    - The reason(s) a time extension is needed;
    - Progress in implementing risk reduction measures in the plan;
    - For RRPs, estimated health risks at the time of the extension request and at the end

[31] http://www.aqmd.gov/docs/default-source/planning/risk-assessment/vrrp_guidelines.pdf?sfvrsn=4

of the risk reduction period; and the length of time extension requested.

The Executive Officer will review the request for the time extension and will approve or reject the time extension based on the following criteria:

- The facility-wide health risk is below the Significant Risk Level at the time of submittal of the time extension request;
- The owner or operator provides sufficient details identifying the reason(s) a time extension is needed that demonstrates to the Executive Officer that there are specific circumstances beyond the control of the owner or operator that necessitate additional time to complete implementation of the plan. Such a demonstration may include, but is not limited to, providing detailed schedules, engineering designs, construction plans, permit applications, purchase orders, economic burden, and technical infeasibility; and
- The time extension will not result in an unreasonable risk to public health.

8. An estimation of the residual health risk after implementation of the specified risk reduction measures; and
9. Proof of certification of the RRP as meeting all requirements by an individual who is officially responsible for the processes and operations of the facility. The person who makes this certification must be one of the following:
    - An engineer who is registered as a professional engineer pursuant to Business and Professional Code section 6762.
    - An individual who is responsible for the operations and processes of the facility.
    - An environmental assessor registered pursuant to Health and Safety Code section 25570.3.

Appendix E

Elements of a Risk Reduction Progress Report

INTRODUCTION

Facilities with an approved RRP or VRRP as identified in SCAQMD Rule 1402 are required to submit an **Annual Progress Report** every twelve months as long as their total facility risk meets or exceeds the Rule 1402 Action or Significance Risk Levels.

ELEMENTS OF A RISK REDUCTION PROGRESS REPORT

1. A description of any increases or decreases in emissions of toxic air contaminants that have occurred at the facility, including a description of any associated permits that were subject to Rule 1401, since approval of the RRP or VRRP;
2. The increments of progress (interim facility risks) achieved in implementing the risk reduction measures specified in the RRP or VRRP. The interim facility risk should represent the previous twelve month period;
3. Submittal dates of all applicable permit application(s), the status of the application(s), the name of the regulatory agency, and the corresponding permit number(s);
4. A schedule indicating dates for future increments of progress; and
5. Identification of any increments of progress that will be achieved later than specified in the plan and the reason for achieving the increments late.

Appendix F

Elements of Early Action Reduction Plans for Potentially High Risk Level Facilities

INTRODUCTION

Facilities designated as a Potentially High Risk Level Facility by the Executive Officer, as identified in SCAQMD Rule 1402, are required to submit an Early Action Reduction Plan within 90 days of notification of such designation. The purpose of the Early Action Reduction Plan is to expedite risk reduction to mitigate the elevated health risk to protect public health.

ELEMENTS OF AN EARLY ACTION REDUCTION PLANS FOR POTENTIALLY HIGH RISK LEVEL FACILITIES

Within 90 days of the date of notification by the Executive Officer that the facility is a Potentially High Risk Level Facility, an owner or operator shall submit an Early Action Reduction Plan that identifies a list of measures that can be implemented immediately to reduce the facility-wide health risk. The Early Action Reduction Plan shall include:

1. The name, address, and SCAQMD Facility ID number;
2. Identification of device(s) or process(es) that are the key health risk driver(s);
3. Risk reduction measure(s) that can be implemented by the owner or operator that includes but are not limited to procedural changes, process changes, physical modifications, and curtailments; and
4. A schedule for implementing the specified risk reduction measures.

Appendix G

List of Acronyms and Abbreviations

List of Acronyms and Abbreviations

Acronym	Description
AB 2588	Air Toxics "Hot Spots" Information and Assessment Act
AER	Annual Emissions Reporting
ATIR	Air Toxics Inventory Report
CARB	California Air Resources Board
CAS	Chemical Abstracts Service
DICE	Diesel Internal Combustion Engine
EIM	Emission Inventory Module
HARP	Hotspots Analysis and Reporting Program
HI	Hazard Index
HRA	Health Risk Assessment
MEIR	Maximum Exposed Individual Resident
MEIW	Maximum Exposed Individual Worker
MICR	Maximum Individual Cancer Risk
NAICS	North American Industry Classification System
ODC	Ozone Depleting Compound
OEHHA	Office of Environmental Health Hazard Assessment
PMI	Point of Maximum Impact
RRP	Risk Reduction Plan
SB 1731	Facility Air Toxic Contaminant Risk Audit and Reduction Plan
SIC	Standard Industrial Code
SRP	(California) Scientific Review Panel
SCAQMD	South Coast Air Quality Management District
U.S. EPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VRRP	Voluntary Risk Reduction Plan
WAF	Worker Adjustment Factor
WGS84	World Geodetic System 1984

ATTACHMENT 4

South Coast Air Quality Management District

Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program

September 2018

Preface

This version of the Voluntary Risk Reduction Program Guidelines updates the previous October 2016 version. This is intended to be a "living" document, which staff will update periodically with updated procedures and requirements. The major revisions to this document from the previous October 2016 version include:

- Clarifying required facility information (refer to Section 2.1);
- Clarifying the types of emissions to be included in the emissions inventory;
- Adding a requirement to provide process flow diagram(s) for equipment emitting toxic air contaminants;
- Reorganizing the "Current Facility Risk Characterization" section to match the way the information in the Emissions Inventory Module of CARB's HARP program is listed (refer to Section 2.2);
- Clarifying the required elements of the "Proposed Facility Risk Characterization" section and how to represent proposed changes in the Emissions Inventory file (refer to Section 2.3);
- Clarifying all required elements of the Voluntary Risk Reduction Plan (refer to Sections 2.4 and 2.5); and
- Including screenshots which show required entries using the Emissions Inventory Module of CARB's HARP program (refer to Appendix A – Required Entries to EIM).

TABLE OF CONTENTS

1. INTRODUCTION

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) established a statewide program to inventory air toxics emissions from individual facilities as well as requirements for risk assessment, public notification of potential health risks, and risk reduction. South Coast Air Quality Management District (SCAQMD) Rule 1402 – Control of Toxic Air Contaminants from Existing Sources (Rule 1402)[1] implements various aspects of the AB 2588 program and includes public notification and risk reduction requirements for facilities that are above set thresholds.

Rule 1402 includes a provision to allow facilities to participate in the Voluntary Risk Reduction Program. The Voluntary Risk Reduction Program was developed based on comments from some industry representatives that wanted the opportunity to voluntarily reduce their health risk beyond the Action Risk Level to below the Notification Risk Level in lieu of the standard process. The Voluntary Risk Reduction Program is an alternative to complying with the traditional AB 2588 program and Rule 1402 approach and provides qualifying facilities an opportunity to reduce health risks below the Notification Risk Level with a Modified Public Notification approach that does not require distribution of individual letters and public meetings. The Modified Public Notification will be placed on SCAQMD's website and in the AB 2588 Annual Report in lieu of traditional Public Notification, as described in SCAQMD's "Public Notification Procedures for Facilities Under the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402").[2] Compliance with AB 2588 and Rule 1402 Public Notification requirements does not replace Proposition 65 and its Public Notification requirements or any other regulatory requirements. This Program will achieve risk reductions both sooner and beyond what is required in the traditional Rule 1402 process as it focuses on implementation of risk reduction measures immediately.

Under Rule 1402, facilities that meet the eligibility requirements and elect to participate in the Voluntary Risk Reduction Program must submit a Voluntary Risk Reduction Plan (VRRP). The VRRP identifies the risk reduction measures that a facility will implement to achieve risk reductions below the Voluntary Risk Threshold. The "Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program" specify the guidelines for preparing, approving, and demonstrating implementation of the VRRP:

1. The procedures an owner or operator must follow in preparing a VRRP pursuant to (h)(2) of Rule 1402;
2. The information that the Executive Officer will use when approving or rejecting the VRRP pursuant to (h)(3) of Rule 1402; and
3. The procedures an owner or operator must follow in preparing a Final Implementation Report for the VRRP pursuant to (j)(2) of Rule 1402.

2. PREPARING A VOLUNTARY RISK REDUCTION PLAN

The owner or operator is responsible for preparing a VRRP that identifies the risk reduction measures that shall be implemented in order to reduce the impact of the total facility emissions

[1] http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1402.pdf
[2] http://www.aqmd.gov/docs/default-source/planning/risk-assessment/pn_procedures.pdf

below the Voluntary Risk Threshold. Rule 1402 defines the Voluntary Risk Threshold as a Maximum Individual Cancer Risk (MICR) of ten in one million (10×10^{-6}), a total acute or chronic Hazard Index (HI) of one (1.0) for any target organ system at any receptor location, and the more stringent of either the National Ambient Air Quality Standard (NAAQS) for lead or applicable ambient lead concentration limit in a SCAQMD rule. Only those risk reduction measures that are needed to reduce facility risks below the Voluntary Risk Threshold need to be identified in the VRRP.

Emissions that are routine and predictable must be included, including testing of emergency Internal Combustion Engines (ICE). Emissions from actual emergency use is not considered routine and predictable and do not need to be included. Portable diesel ICEs that are used primarily on-site and for a single purpose or used in a fixed location for most of its life are considered "stationary" and should be included for AB 2588 program purposes.

The facility information and release, device, process, and emissions data must be provided in an Emissions Inventory Module[3] (EIM) database using the Universal Transverse Mercator (UTM) coordinate system with the World Geodetic System (WGS84) datum. While actual information is stored in an associated Microsoft Access database file, the EIM program should be used to verify the accuracy of the entries for two reasons: 1. much of the data is relational and data integrity is more easily verified using the EIM program; 2. data is entered directly into the tables and may not meet the minimum validation requirements when using the EIM program for entry. The minimum information required in the EIM file is shown in Appendix A.

The Voluntary Risk Reduction Plan shall include:

2.1 Facility Information

- Facility Name
- Base Reporting Year as identified by SCAQMD staff
- SCAQMD Facility Identification Number
- Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) Numbers
- Facility Origin (i.e., address and UTM 11 coordinates in WGS84 in kilometers)
- Facility Contact
    - Name
    - Title
    - Phone Number
    - Address
    - E-mail address
- Facility plot plan
    - Property boundaries (in relative meters to the Facility Origin)
    - Distance scale
    - Building locations and boundaries (in relative meters to the Facility Origin)
    - Building heights (in meters, for building downwash calculations)

[3] https://www.arb.ca.gov/toxics/harp/harp.htm

    - Source locations including elevations (in UTM 11 coordinates in WGS84 in kilometers)
- Surrounding land use map (e.g., the local city's zoning map)
    - 0.5 mile radius from property boundary
    - Distance scale
    - Identification of closest sensitive receptor (e.g., residence, school, etc.)
    - Identification of closest worker receptor
- Process flow diagram

2.2 Current Facility Risk Characterization

- Release Data: All sources and source names must be included. Refer to Release Information Entry screenshot in Appendix A for required information.
    - Point Sources:
        - Stack locations (in UTM 11 coordinates in WGS84 in kilometers)including elevations (ft)
        - Stack diameters (ft), gas exit velocities (ft/min), gas flow rates (ft^3/min), gas exit temperatures (F), and release heights (ft)
        - Stack release type (vertical, horizontal, or rain cap). If the rain cap option is used, please indicate this and include both actual and virtual stack parameters.
    - Fugitive Sources: Includes Volume, Area, and Open Pit sources
        - Source locations (in UTM 11 coordinates in WGS84 in kilometers)
        - Source dimensions and heights (ft)
        - Volume sources: Include initial lateral and vertical dimensions (ft)
        - Area source: initial vertical dimensions, square or rectangular dimensions (ft)
        - Open pits: volume of the open pit (ft^3)
        - Other types of fugitive sources: describe and provide applicable dimensions and data
        - Calculations for initial air dispersion factors (e.g., σ_y and $\sigma_{z)}$, if applicable
- Device Data: All devices and equipment subject to the AB 2588 program or SCAQMD Rule 1402 must be included by their application number. Refer to Device Information Entry screenshot in Appendix A for required information.
    - All permitted devices
    - Any existing devices operating under an open application
    - Any devices exempt from permitting must be listed by the SCAQMD Rule exempting them
    - Any devices with zero emissions must be included. The Process Rates for these devices may be set as zero to reflect zero emissions
    - Any other unpermitted operations, activities, equipment, or emissions that are still subject to the AB 2588 program or Rule 1402
    - Device IDs, Device Names, Permit IDs (if applicable), Number of Devices, Output Capacities, Size, Units Code, and Type Code
- Process Data: All processes producing emissions. Refer to Process Information Entry

screenshot in Appendix A for required information.
    - Device IDs, Process IDs, Process Description, Release ID, SCC Number, SCC Units, Process Rate (SCC Units/Yr), Maximum Design Rate (SCC Units/hr), Maximum Hourly Process Rate (SCC Units/hr), Operating Hours Per Day, and Operating Days Per Week
- Emission Data: All Toxic Air Contaminants (TACs) in the Office of Environmental Health Hazard Assessment (OEHHA) Guidelines Appendix A-I must be included and quantified in the inventory report.[4] Refer to Emission Information Entry screenshot in Appendix A for required information. Facility total emission rate by substance and Process ID must include the following information:
    - Substance name and Chemical Abstract Service (CAS) Number
    - Annual average emission for each substance (lb/yr)
    - Maximum one-hour emissions for each substance (lb/hr)
    - Device ID, Process ID
    - Control Devices: Primary Control (CNTL1), Secondary Control, Control Efficiency (Percent)
    - Emission Factors: Uncontrolled EMS Factor, EMS Factor
- Receptors: Refer to Receptor Information Entry screenshot in Appendix A for required information.
    - Coarse grid used to define the zone of impact
    - Refined grid used to identify the point of maximum impact and maximum exposed individuals
    - All appropriate receptors (i.e. residential, commercial, or sensitive)
        - Closest sensitive receptor (e.g. residence, school, etc.)
        - Closest worker receptor
        - Nearest residential receptor based on prevailing wind
        - Nearest worker receptor based on prevailing wind

      Note for prevailing wind receptor: Using the wind rose from the representative SCAQMD meteorological station, identify the prevailing wind (dominant wind direction). Then identify the nearest receptor following the prevailing wind (dominant wind direction).

2.3 Proposed Facility Risk Characterization

- Release Data: List any changes from the Current Facility Risk Characterization such as new or removed sources and changed source parameters. If there are no changes, please state so.
- Device Data: List any changes from the Current Facility Risk Characterization such as device removals or additions along with Permit IDs. If there are no changes, please state so.
- Process Data: List any changes from the Current Facility Risk Characterization. If there are no changes, please state so.

[4] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

- Emission Data: List any changes from the Current Facility Risk Characterization by TAC name and CAS Number. If there are no changes, please state so.

2.4 Supplementary Information

- A description of verifiable risk reduction measures and estimated emission reductions or efficiencies. Only those risk reduction measures that are needed to reduce facility risks below the Voluntary Risk Threshold need to be identified in the VRRP.
- A description of how the risk reduction measures will be enforced, such as through a new or modified SCAQMD permit or compliance plan. Proposed risk reduction measures, if approved, may become enforceable.
- A description of how the estimated emission reductions or efficiency will be demonstrated and maintained, such as through a source test, manufacturers' data, etc.
- Permit numbers associated with sources or processes to be reduced, if applicable.
- Schedule for implementing the specified risk reduction measures, including dates for increments of progress, submittal dates for application for permits, purchases of equipment, source tests, and commissioning of equipment.
- Anticipated increases or decreases in facility emissions, by TAC name and CAS Number, for each device and process with verifiable risk reduction measures.

2.5 Final Submittal

- EIM and associated files with Facility Information and Current Facility Risk Characterization data. The latest approved version of EIM can be downloaded from California Air Resources Board's (CARB) Hotspots Analysis and Reporting Program (HARP).[5]
- EIM and associated files with Facility Information and Proposed Facility Risk Characterization data.
- Any supplementary information in electronic format discussing facility information, VRRP proposals, EIM data, and any missing information that cannot be entered into the EIM.
- Supporting documentation for emission factors, such as source test reports and approval letters, CARB's or the United States Environmental Protection Agency's (U.S. EPA) reference publications, Safety Data Sheets (SDS), technical literature, etc. Source test results may be used only if they have been previously approved by SCAQMD. The source test must be representative of the current operating conditions of the equipment. Additional documentation may be required to demonstrate that the equipment or process has not changed since the time of the source test.
- Emission Factors Reference Sources Table.[6] This table should list the reference sources for each emission factor used. This can include reference sources such as AP-42, SDSs, source testing, or air quality monitoring data.
- Dispersion modeling input and output files (all AERMOD and BPIP files used in the VRRP including terrain data. All meteorological data files including any AERMET

[5] https://www.arb.ca.gov/toxics/harp/harp.htm
[6] Template available here: http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588

files if default SCAQMD meteorological data is not used.)
- Air monitoring data, if applicable.

The Voluntary Risk Reduction Plan may also include optional information as additional proof that the risk reduction measures identified will reduce the impact of the total facility emissions below the Voluntary Risk Threshold. Optional information may include:
- Pre-approved meteorological file, if SCAQMD default meteorological file is not used; and
- United States Geological Survey Digital Elevation Model Data.

Table 1 lists the files which must be included in the VRRP submittal.

Table 1: Files that must be provided for Facility Risk Characterizations

File Type	Notes
Emission Inventory Input	All files in CARB's Emissions Inventory Module format.
Emission Inventory Output	
Emission Calculations and/or Dispersion Modeling (if applicable)	Provided in electronic format (e.g., Excel) and documented references (i.e. sample calculations).
Source Tests	Only SCAQMD-approved source tests can be used. SCAQMD approval must be included in submittal.
Air Monitoring Data	Any monitoring data used shall be provided.

3. APPROVAL OF THE VOLUNTARY RISK REDUCTION PLAN

Within 30 days of receipt, the Executive Officer or designee will conduct an initial review of the VRRP and confirm receipt. The Executive Officer or designee will approve or reject the Voluntary Risk Reduction Plan based on whether it meets the requirements outlined above, the information provided is complete and accurate, and the ability of the proposed Voluntary Risk Reduction Plan to verifiably reduce the impact of total facility risk below the Voluntary Risk Threshold as quickly as feasible, but by no later than two and half years from Voluntary Risk Reduction Plan approval. If the Voluntary Risk Reduction Plan is rejected, the facility has 30 days to correct all identified deficiencies and resubmit. If the revised plan is rejected, the facility has one more opportunity to fix the identified deficiencies. If the second revised plan is rejected, then the facility will not be allowed to participate in the Voluntary Risk Reduction program and the facility will be subject to the standard AB 2588 pathway. The denial will act as a notification to prepare an Air Toxics Inventory Report (ATIR) and Health Risk Assessment (HRA) within 90 days.

Emission reductions or control efficiencies must be verifiable to be considered as a risk reduction measure in a Voluntary Risk Reduction Plan. Verifiable emission reductions or control efficiencies are those which are permanent, can be sustained, and must be enforceable through permit conditions or compliance plans. Emission reductions or control efficiencies must be demonstrable through a source test, manufacturers' data, or other mechanism. Each risk reduction measure shall be implemented by the date specified in the approved Voluntary Risk Reduction

Plan. Rule 1402 includes provisions for modifying Voluntary Risk Reduction Plans and extending implementation dates, if needed. If no risk reduction measures are necessary to reduce the facility's health risks below the Voluntary Risk Threshold, the VRRP need not include risk reduction measures.

4. VOLUNTARY RISK THRESHOLD

The Voluntary Risk Threshold is based on the concept of the ATIR. SCAQMD staff will run facility VRRP information through the latest approved version of California Air Resources Board's Hotspots Analysis and Reporting Program (HARP) or equivalent and compare the result to the Voluntary Risk Threshold pursuant to Rule 1402 paragraph (c)(24).

5. VOLUNTARY RISK REDUCTION PLAN IMPLEMENTATION

Risk reduction measures identified in the Voluntary Risk Reduction Plan must be completed within the designated schedule and be verifiable and enforceable by permit condition or compliance plan. With Executive Officer approval, facilities may modify or request an extension to the Voluntary Risk Reduction Plan pursuant to (k)(2) and (l) of Rule 1402, respectively. Facilities failing to implement their Voluntary Risk Reduction Plan are in violation of Rule 1402 and subject to daily penalties. Facilities that cannot achieve compliance immediately may seek a variance from the SCAQMD Hearing Board, which may issue one depending on whether statutorily required findings can be made (refer to Rule 515 – Findings and Decision).

6. FINAL IMPLEMENTATION REPORT

The owner or operator shall submit a final implementation report pursuant to Rule 1402 paragraph (j)(2) one all measures listed in the Voluntary Risk Reduction Plan are fully implemented. The final implementation report demonstrates that the measures in the Voluntary Risk Reduction Plan have been completed, risk reduction measures have been verified, and therefore, the facility is below the Voluntary Risk Threshold. Approval of the final implementation report by the Executive Officer or designee acknowledges compliance with Rule 1402 requirements and that no further action is necessary.

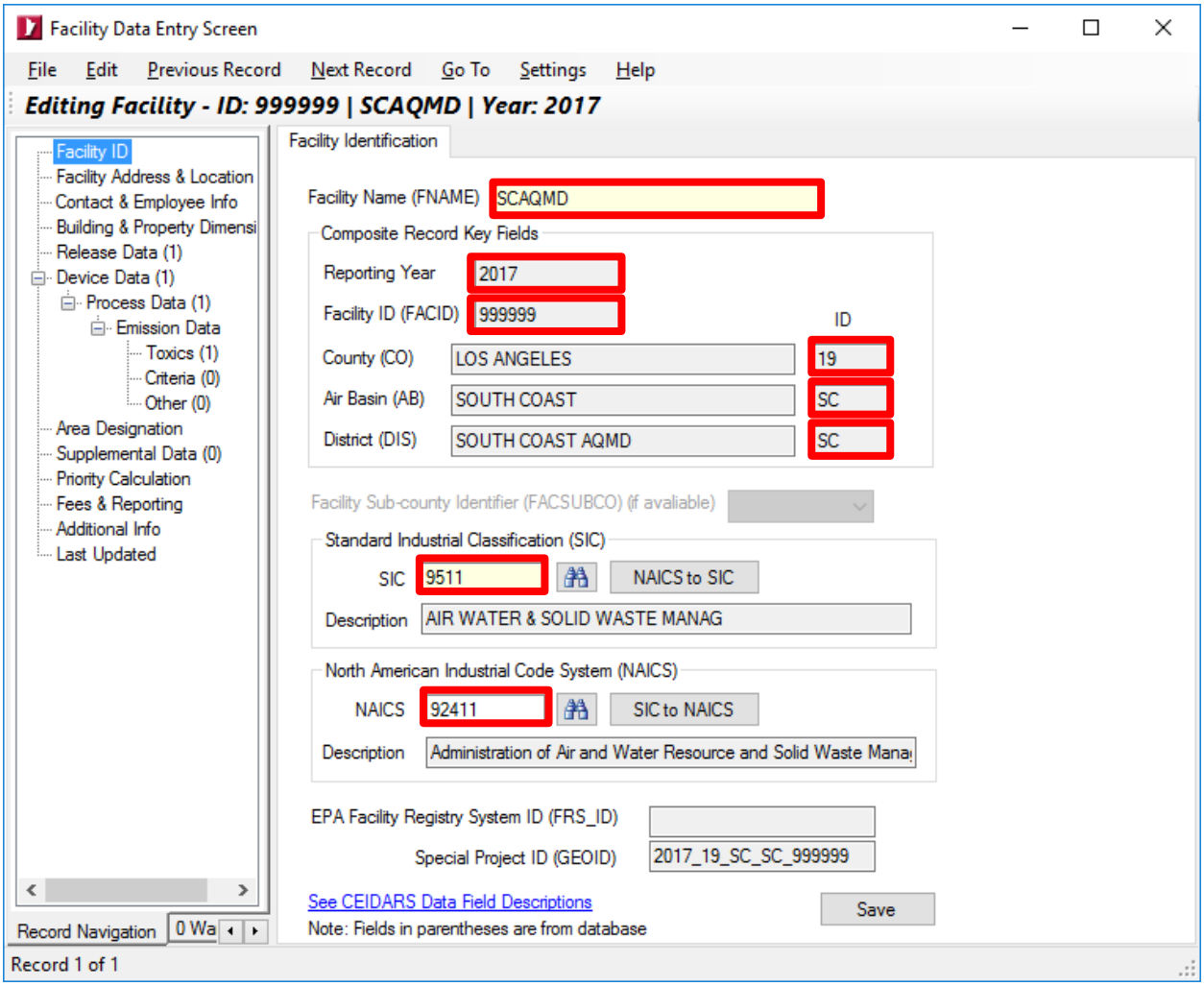
The final implementation report shall include, at a minimum, all of the following:

- The name, address, and SCAQMD facility identification number;
- The approved Voluntary Risk Reduction Plan; and
- Proof and verification the operator implemented the risk reduction measures in the approved Voluntary Risk Reduction Plan.

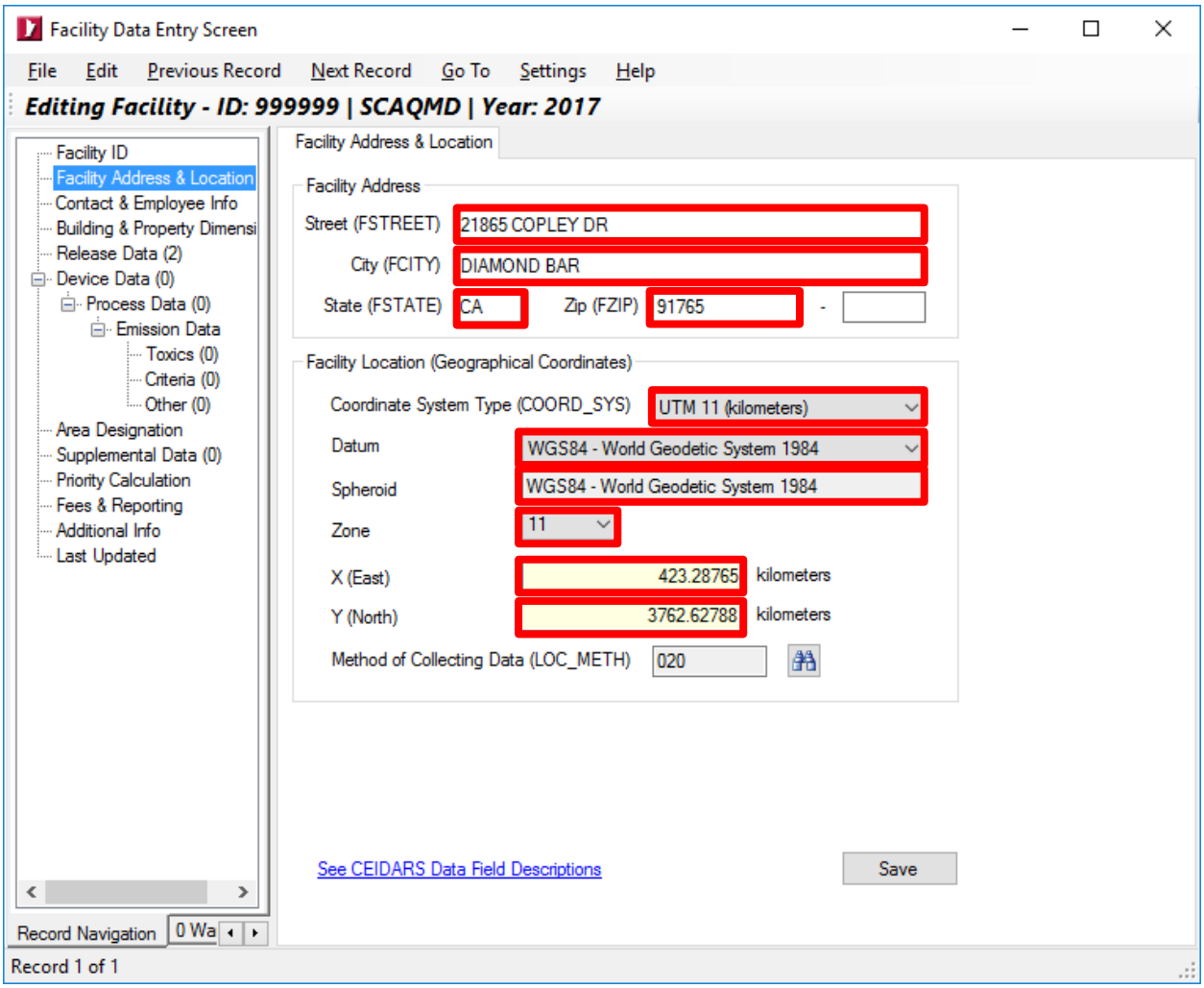
Proof would include enforceable permit conditions or compliance plans. Verification of emission reductions include, but are not limited to, specifications in the SCAQMD permit issued to the facility, a surrender of the existing SCAQMD permit(s), or reductions as required by SCAQMD rule(s). Letters of intent or internal memos mandating new company policy are not considered verifiable emission reductions. Verification of pollution control equipment which have been installed and are now in operation, includes but is not limited to, the source test protocol, final report, and all documents relating to the results.

APPENDIX A – Required Entries to EIM

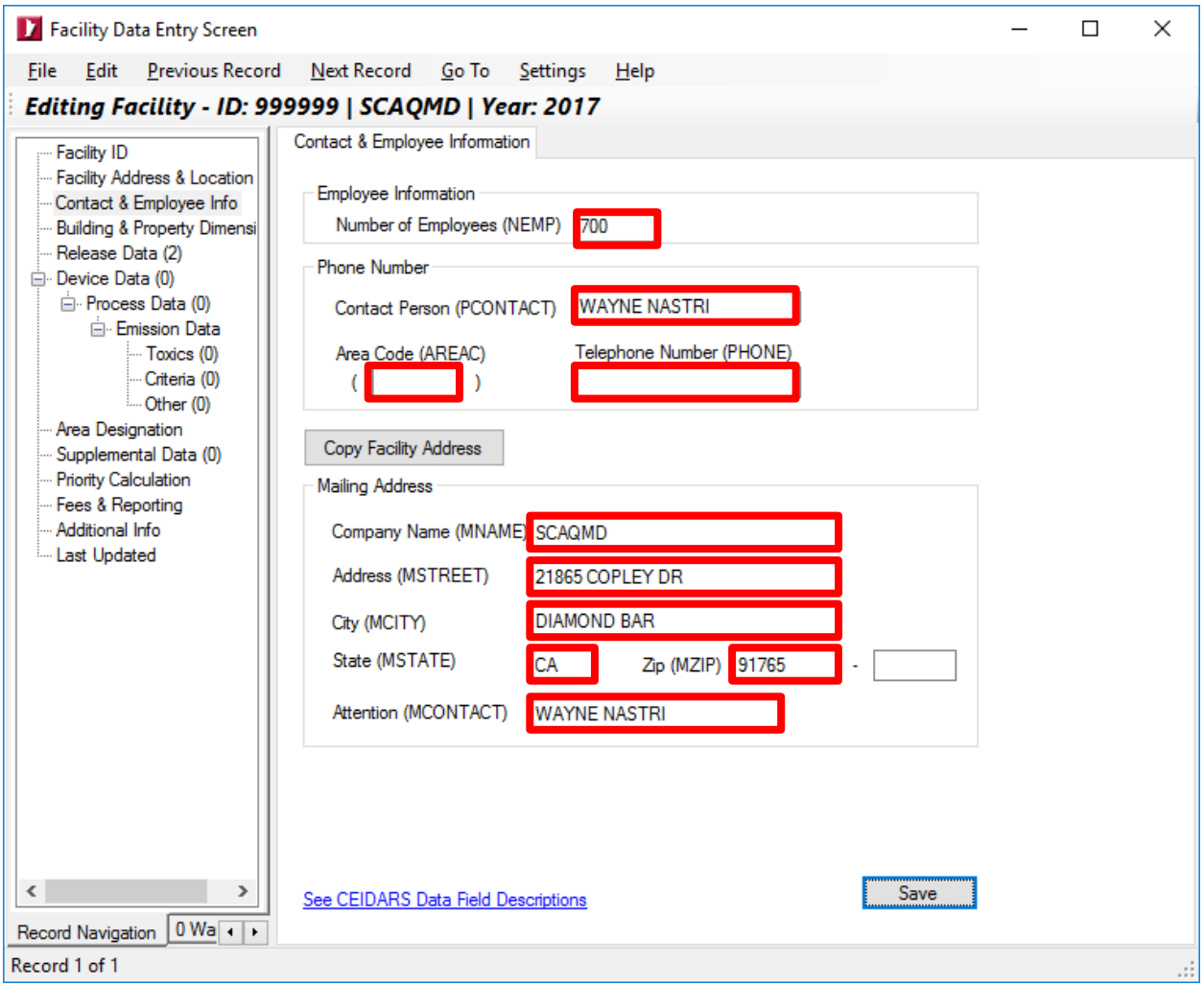
1. Facility Information Entry



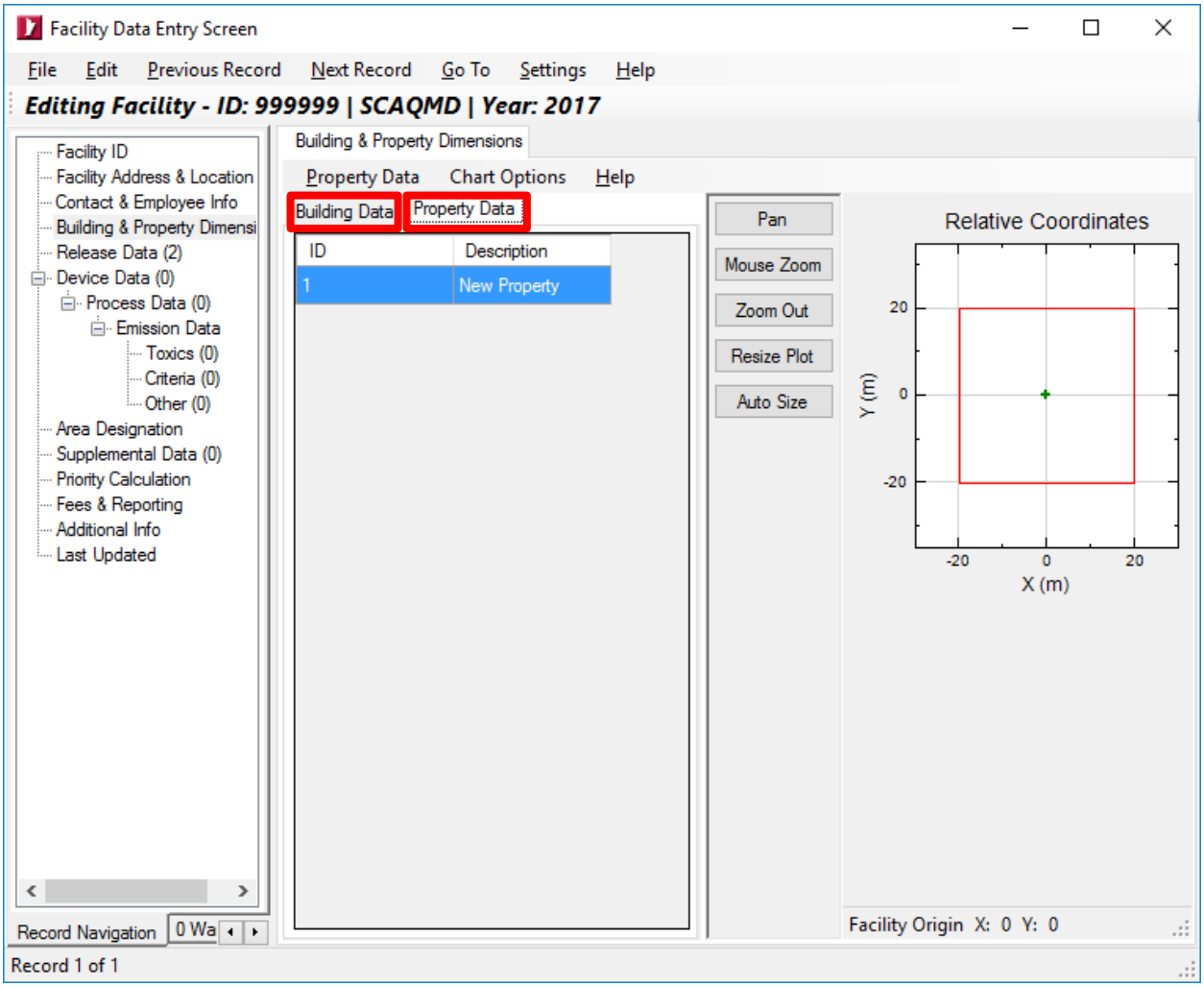
All fields shown with red outline on the EIM screenshot shown above must be completed with the exception of the last two fields (U.S. EPA Facility Registry System ID and Special Project ID). The data for the base Reporting Year must match the inventory year requested by SCAQMD for the facility.



All fields shown with red outline on the EIM screenshot shown above must be completed with the exception of the last field (method of collecting data). The coordinate system type, datum, spheroid and zone must match those shown above.

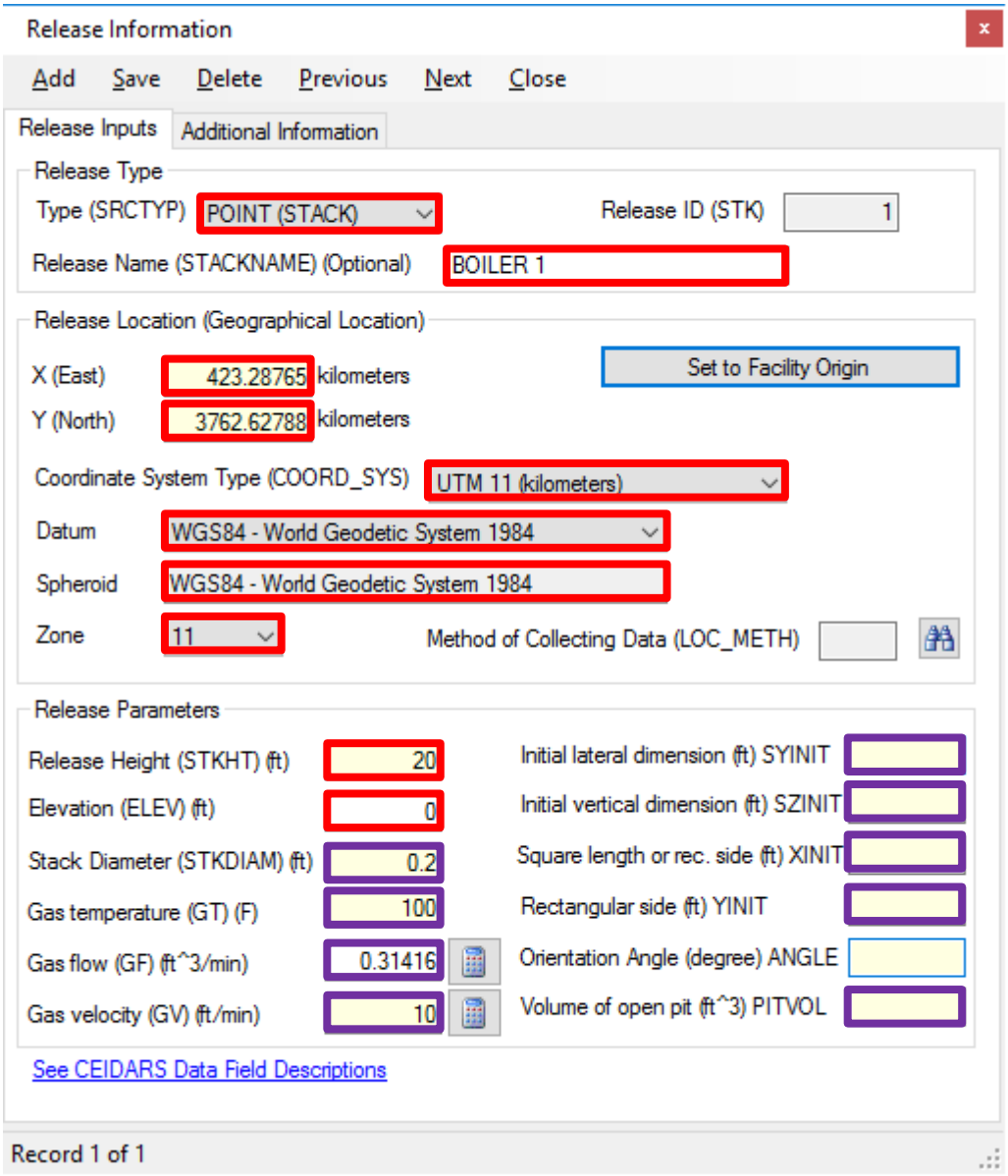


All fields shown with red outline on the EIM screenshot shown above must be completed.



The building locations and dimensions must be entered, along with the property locations and dimensions. The input should be verified against satellite imagery for correctness; this can be done by exporting the data as KML file and viewing in Google Earth.

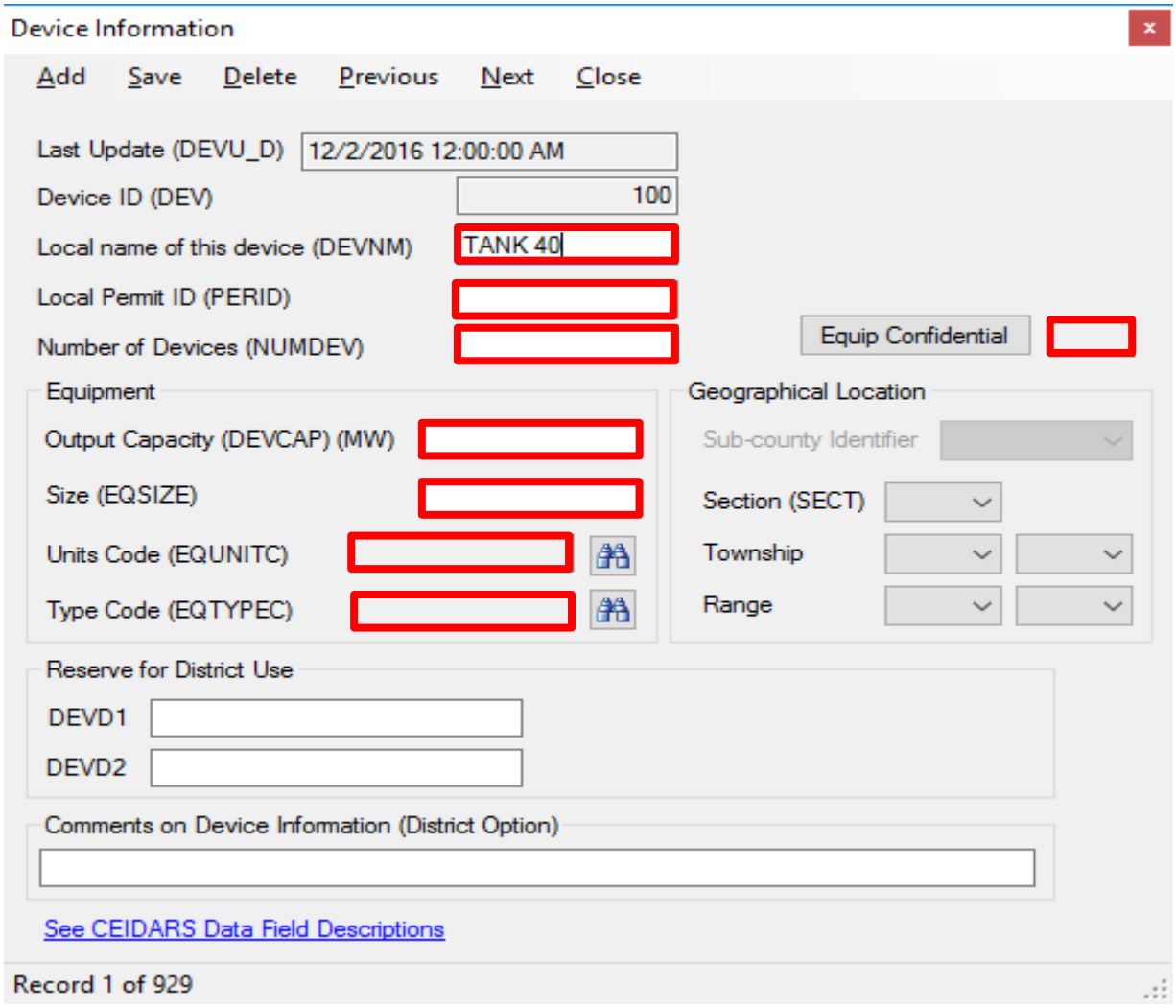
2. Release Information Entry



All fields shown with red outline on the EIM screenshot shown above must be completed**.**

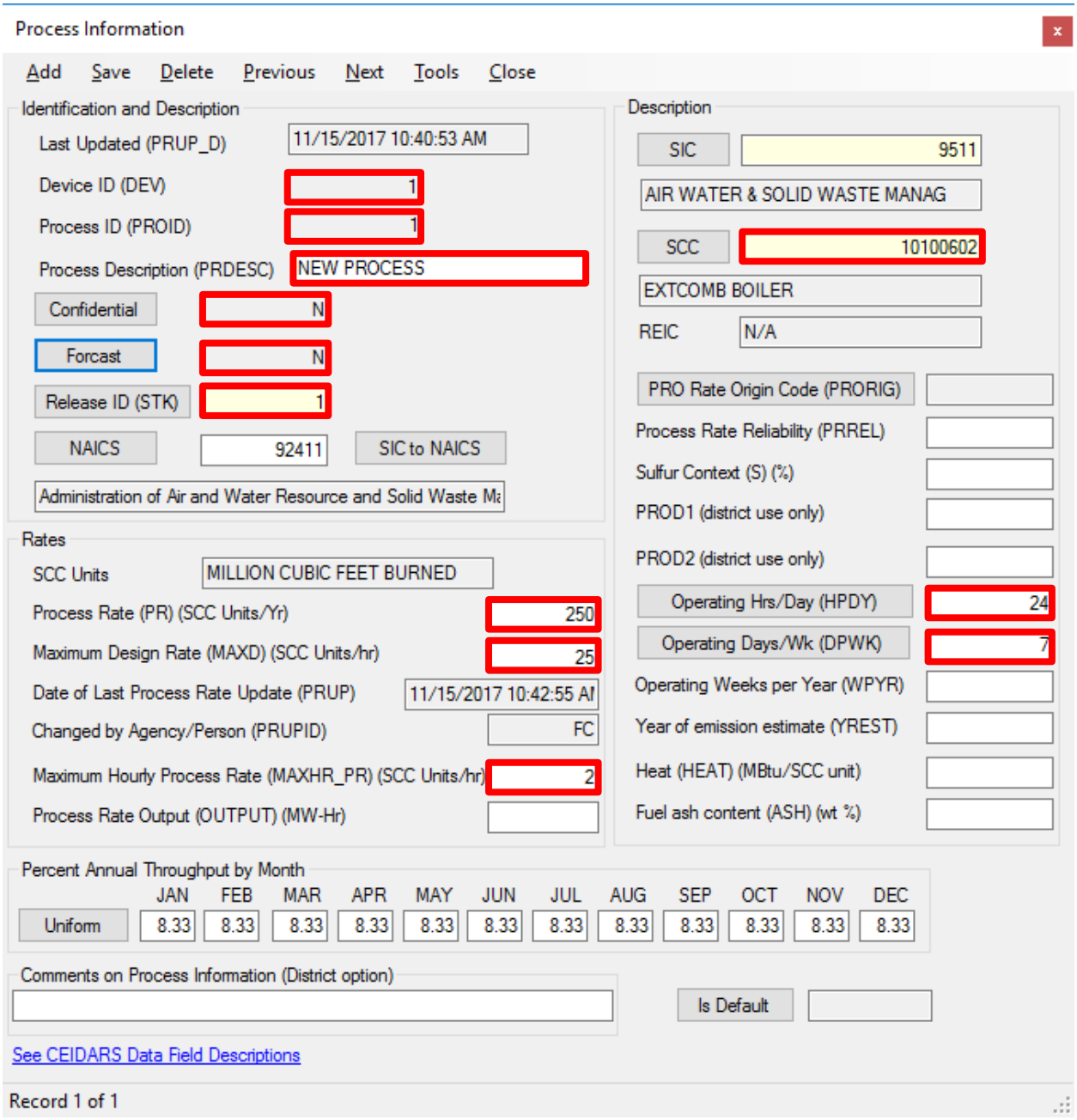
For **point sources**, additional mandatory information are: stack diameter, gas temperature, gas flow, and gas velocity must be completed.
For **volume sources**, additional mandatory information are: initial lateral and vertical dimensions.
For **area sources**, additional mandatory information are: initial vertical dimension, square or rectangular dimensions.
For **open pits**, additional information is the volume of the open pit.

3. Device Information Entry



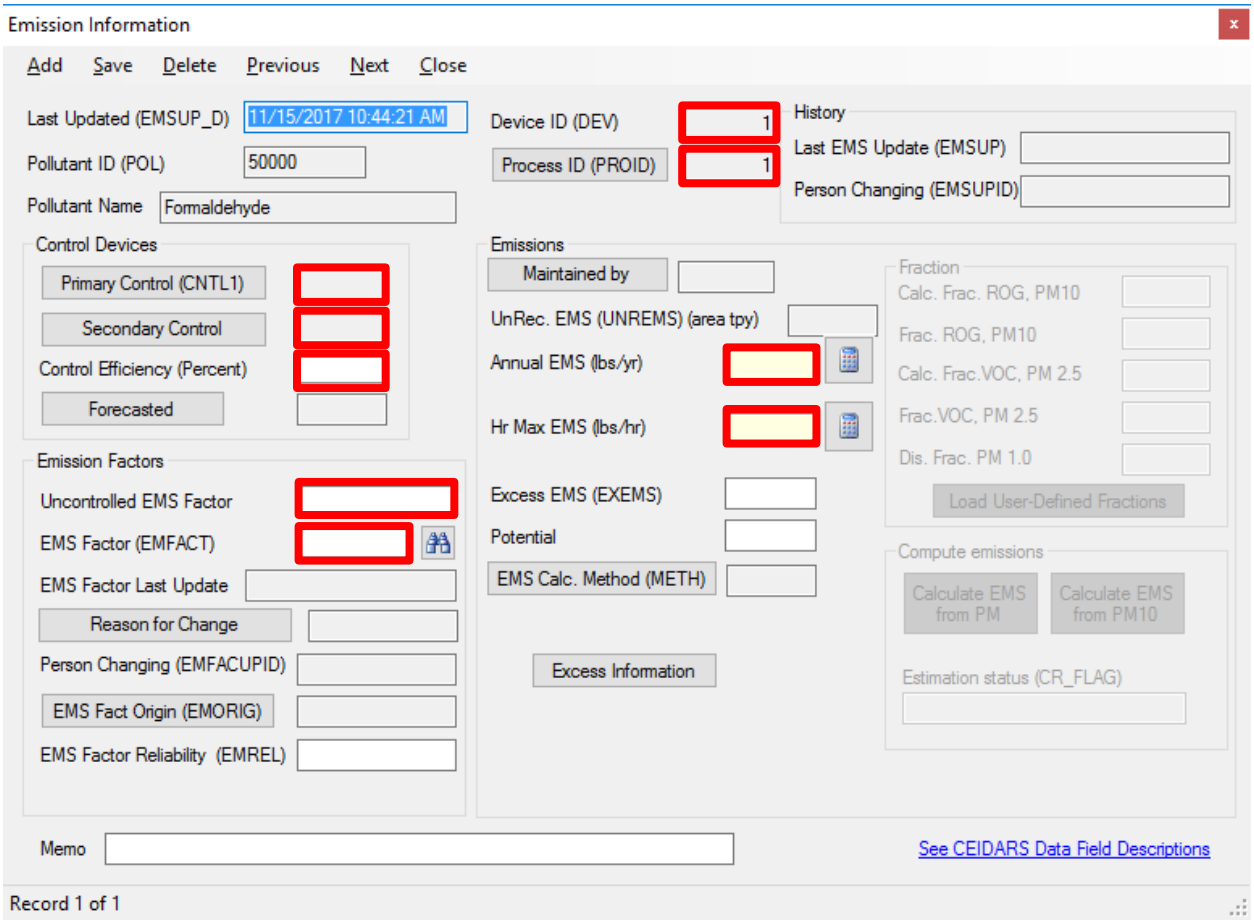
All fields shown with red outline on the EIM screenshot shown above must be completed.

4. Process Information Entry



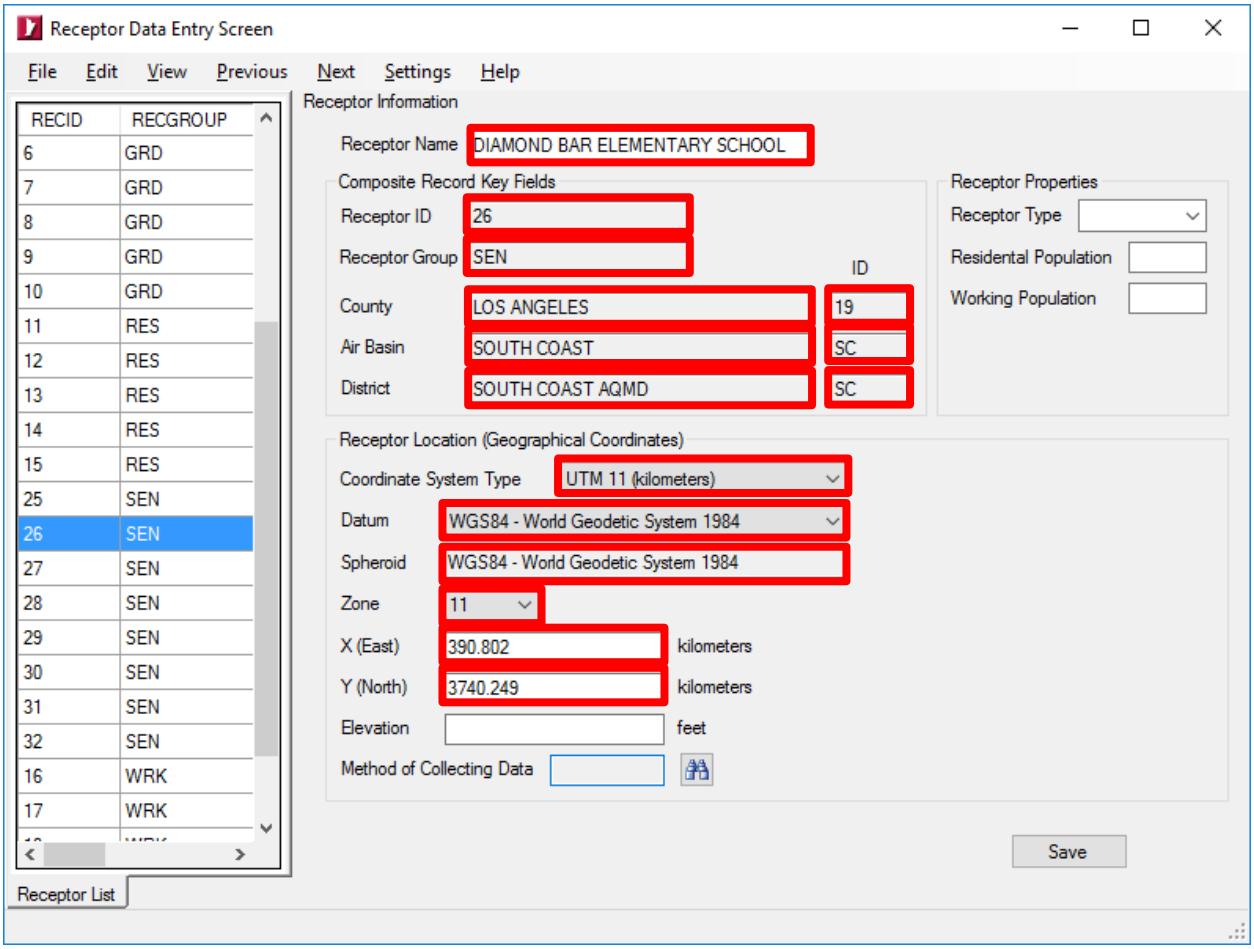
All fields shown with red outline on the EIM screenshot shown above must be completed.

5. Emission Information Entry



All fields shown with red outline on the EIM screenshot shown above must be completed.

6. Receptor Information Entry



All fields shown with red outline on the EIM screenshot shown above must be completed in order to provide the following information:

- The coarse grid used to define the zone of impact
- The refined grid used to identify the point of maximum impact and maximum exposed individuals
- Identify all appropriate receptors (i.e. residential, commercial, or sensitive)

Appendix B – ACRONYMS, ABBREVIATIONS AND REFERENCE OF TERMS

AB 2588	Air Toxics "Hot Spots" Information and Assessment Act of 1987
Action Risk Level	MICR of twenty-five in one million (25×10^{-6}), cancer burden of one half (0.5), a total acute or chronic HI of three (3.0) for any target organ system at any receptor location, or the National Ambient Air Quality Standard (NAAQS) for lead.
ATIR	Air Toxics Inventory Report
CAS Number	Chemical Abstract Service Number
HI	Hazard Index
HRA	Health Risk Assessment
MICR	Maximum Individual Cancer Risk
NAICS	North American Industry Classification System
Notification Risk Level	A maximum individual cancer risk of ten in one million (10×10^{-6}), a total acute or chronic HI of one (1.0) for any target organ system at any receptor location, or the more stringent of either the NAAQS for lead or applicable ambient lead concentration limit in a SCAQMD rule.
OEHHA	California Office of Environmental Health Hazard Assessment
RRP	Risk Reduction Plan
Rule 1402	SCAQMD Rule 1402 – Control of Toxic Air Contaminants from Existing Sources
SCAQMD	South Coast Air Quality Management District
SCC	Source Classification Code
SDS	Safety Data Sheet
SIC	Standard Industrial Classification
Significant Risk Level	A maximum individual cancer risk of one hundred in one million (100×10^{-6}) or a total acute or chronic HI of five (5.0) for any target organ system at any receptor location.
TAC	Toxic Air Contaminant

UTM	Universal Transverse Mercator
Voluntary Risk Threshold	A maximum individual cancer risk of ten in one million (10×10^{-6}), a total acute or chronic HI of one (1.0) for any target organ system at any receptor location, or the more stringent of either the NAAQS for lead or applicable ambient lead concentration limit in a SCAQMD rule.

ATTACHMENT 5

AB 2588 Toxic Hot Spots
2017 Annual Report
And
Updates to Guidance Documents

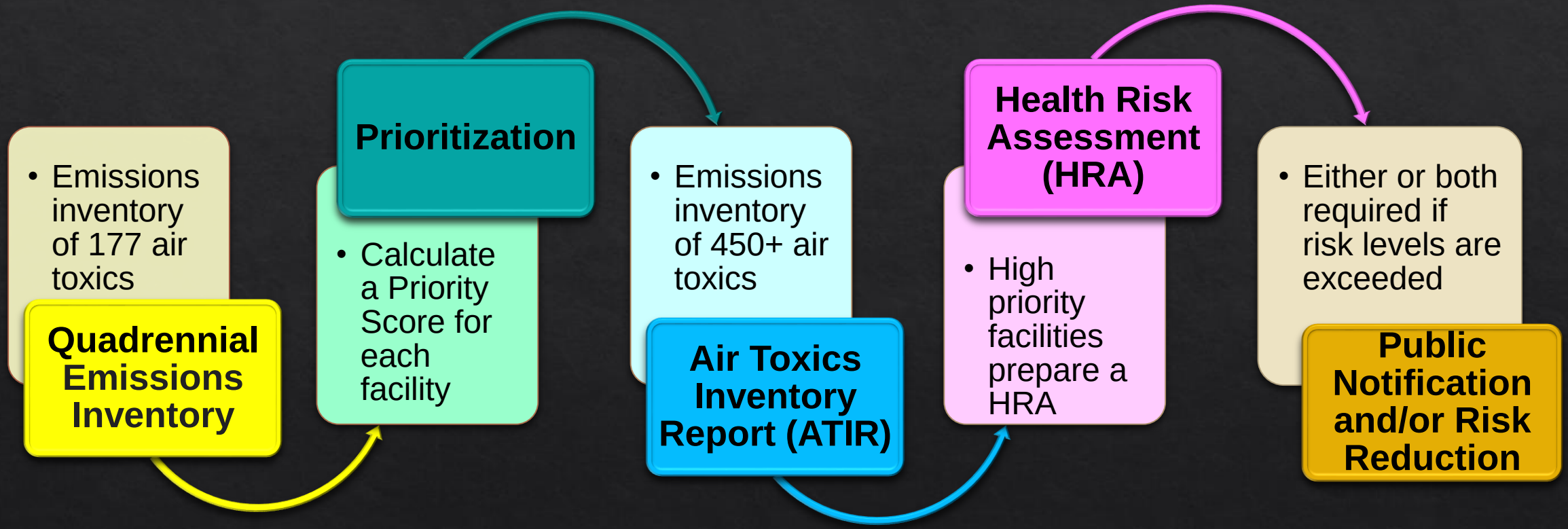
Governing Board Meeting
September 7, 2018

South Coast AQMD

Introduction

- AB 2588 Program Annual Report summarizes
  - Activities implemented under AB 2588 “Hot Spots Act” consistent with state law
  - Summarizes SCAQMD activities to reduce toxic air contaminants
  - Satisfies H&S Code §44363 requirement of a public hearing to present results of Annual Report
- Staff is also proposing updates to the following guidance documents:
  - Facility Prioritization Procedure for the AB 2588 Program
  - AB 2588 and Rule 1402 Supplemental Guidelines
  - Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program

AB 2588 Traditional Process for ‘Core’ Facilities



Pathways for Facilities in Rule 1402

Traditional Approach

Cancer risks <100 per million

- Air Toxics Inventory Report
- Health Risk Assessment
- Risk Reduction Plan (if cancer risks >25 per million)

Voluntary Risk Reduction Program

Cancer risks <25 per million based on previously approved HRA

- Air Toxics Inventory Report
- Voluntary Risk Reduction Plan committing to reduce cancer risks below 10 per million

Potentially High Risk Level

Cancer risks >100 per million

- Early Action Reduction Plan
- Air Toxics Inventory Report
- Health Risk Assessment
- Risk Reduction Plan

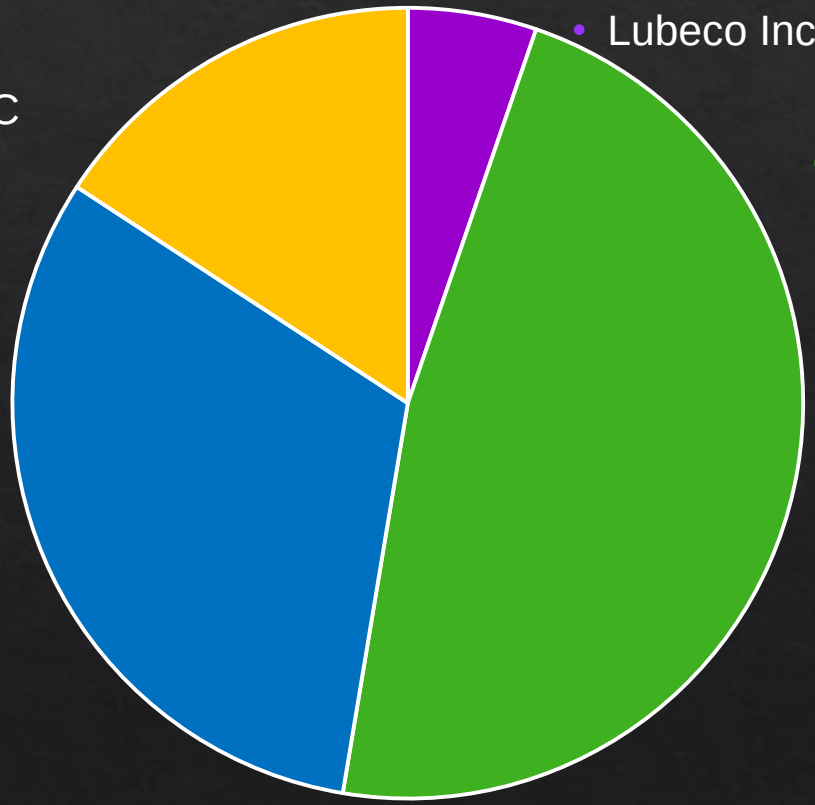
Summary of Rule 1402 Facility Actions in 2017

Revised Priority Score <10

- Anadite Inc.
- LA City, Bureau of Streets
- Universal City Studios, LLC
- UC Irvine

Potentially High Risk Level

- Lubeco Inc.



Voluntary Risk Reduction Program

- OCSD, Fountain Valley
- OCSD, Huntington Beach
- Phillips 66, Carson Refinery
- Tesoro Calciner
- Torrance Refining Company
- Ultramar Valero Refinery

Traditional AB 2588 Program

- Boral Roofing, LLC
- Equilon Enterprises, LLC, Shell
- Glendale City Water & Power
- Matrix Oil Corp
- MM West Covina, LLC
- Philips 66, Wilmington Refinery
- So Cal Gas, Playa del Rey Storage Facility
- So Cal Holding, LLC
- Triumph Processing, Inc.

Documents Reviewed In 2017

76
Documents Reviewed

4 Documents

Revised Priority Score
- 4 Revised Priority Score < 10 (No further action)

55 Documents

Traditional AB 2588
- 40 Quadrennial Emission Reports
- 11 Air Toxics Inventory Reports
- 1 Health Risk Assessments
- 3 Risk Reduction Plans

10 Documents

Voluntary Risk Reduction Program
- 10 Voluntary Risk Reduction Plans

7 Documents

Potentially High Risk Level Facilities
- 1 Early Action Risk Reduction Plan
- 2 Air Toxics Inventory Reports
- 2 Health Risk Assessments
- 2 Risk Reduction Plans

Total No. of Documents Reviewed in 2017 = 76*

* *Some facilities could have multiple documents*

Other Key Activities in 2017

Rulemaking

Adopted Rules (1430 and 1466)

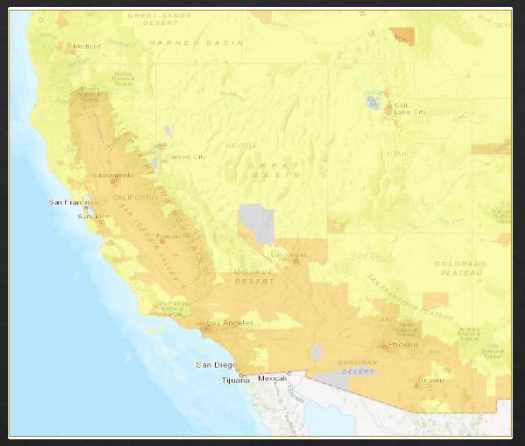
Amended 3 Rules (1401, 1420, and 1466)

Special Monitoring

Continued air monitoring in Paramount

Began air monitoring in Compton

Other



Completed review of the 2014 National Air Toxics Assessment emissions data from U.S. EPA

Updates to Guidance Documents

- **Facility Prioritization Procedure for the AB 2588 Program** – Incorporates the most recent meteorological data & adjusts the calculation of non-cancer acute score
- **AB 2588 and Rule 1402 Supplemental Guidelines** – Provides more clarity for implementation of the AB 2588 Program and Rule 1402, ensures consistency with guidance in other AB 2588 documents
- **Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program** – Provides more clarity on requirements for participation

Public Process

- **June 15, 2018** – AB 2588 Annual Report and Guidance Document updates presented to Stationary Source Committee
- **July 3, 2018** – AB 2588 Annual Report and Updated Guidance Documents made available to public
- **July 31, 2018** – Public Consultation Meeting

Staff Recommendations

- Receive and file
  - 2017 Annual Report on the AB 2588 Program
- Approve updates to the following guidance documents:
  - Facility Prioritization Procedure for the AB 2588 Program
  - AB 2588 and Rule 1401 Supplemental Guidelines
  - Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program