BOARD MEETING DATE: October 2, 2020 AGENDA NO. 29

PROPOSAL: Receive and File 2019 Annual Report on AB 2588 Program and Approve Updates to Facility Prioritization Procedure for the AB 2588 Program, Public Notification Procedures, and AB 2588 and Rule 1402 Supplemental Guidelines

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 South Coast AQMD programs to reduce emissions of toxic air contaminants. This annual update describes the various activities in 2019 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 South Coast AQMD activities related to air toxics. Staff is also seeking approval of updates to the Facility Prioritization Procedure for the AB 2588 Program, Public Notification Procedures, and the AB 2588 and Rule 1402 Supplemental Guidelines to correct typographical errors and to provide additional information and clarification. These actions are to receive and file the 2019 Annual Report on the AB 2588 Air Toxics “Hot Spots” Program and approve revisions to the Facility Prioritization Procedure for the AB 2588 Program, Public Notification Procedures, AB 2588 and Rule 1402 Supplemental Guidelines.

COMMITTEE: Reviewed: Stationary Source Committee, September 18, 2020

RECOMMENDED ACTIONS:

1. Receive and File:
    a. 2019 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. Public Notification Procedures; and
    c. AB 2588 and Rule 1402 Supplemental Guidelines.

Wayne Nastri
Executive Officer

PF:SR:TG:VM

Introduction

The California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) enacted in 1987, is a statewide program implemented by local air districts to address health risks from air emissions associated with existing permitted facilities. One of the main goals of AB 2588 is to provide the public with information regarding potential health effects from toxic air contaminants emitted from existing facilities, and to develop plans to reduce associated risks. The South Coast AQMD implements AB 2588 requirements through Rule 1402 – Control of Toxic Air Contaminants from Existing Sources, which includes additional requirements beyond the state law, including a program to encourage facilities to voluntarily reduce risk, and to compel high risk facilities to reduce toxic emissions much more quickly than previously required.

The AB 2588 Program as implemented under Rule 1402 is only one part of South Coast AQMD's comprehensive program in regulating air toxics. Other elements include South Coast AQMD's permitting program, requirements of Rule 1401 – New Source Review of Toxic Air Contaminants and Rule 1401.1 – Requirements For New and Relocated Facilities Near Schools, rules adopted to address air toxic emissions from certain equipment and processes, enforcement efforts to ensure facilities comply with all applicable air quality requirements, and the Multiple Air Toxics Exposure Study, a study measuring the amount of regional toxic air contaminants and their risks throughout the air basin. Additionally, South Coast AQMD has performed ambient air monitoring in many neighborhoods and found high levels of air toxics. This monitoring has helped to identify high risk facilities, which have then been required to implement risk reduction measures under Rule 1402. Additional reductions have occurred through voluntary measures, enforcement actions, Orders for Abatement, and rule development.

As required under the California Health and Safety Code Section 44363, staff has prepared the "2019 Annual Report on the AB 2588 Program." This annual report summarizes South Coast AQMD's air toxics program activities in 2019, including AB 2588 activities and other air toxic related programs as explained below. The annual report will be available on South Coast AQMD'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).

There are two broad classes of facilities within the AB 2588 Program: larger facilities (core facilities) are subject to individual reporting requirements while facilities that are generally small businesses are in the industrywide source categories and have fewer requirements under the AB 2588 Program than core facilities. Industrywide source category facilities are generally small businesses with relatively similar emission

profiles (such as gas stations and auto-body shops). Some industrywide categories have requirements in source-specific rules to address toxic air contaminants.

Larger facilities (core facilities) are required to report their air toxic emissions to South Coast AQMD, such as hexavalent chromium, nickel, benzene, formaldehyde, and diesel particulate matter (DPM), every four years through the web-based Annual Emissions Reporting (AER) Program. This quadrennial emissions reporting is staggered so that not all facilities report their toxics emissions at the same time. Of the 471 facilities in South Coast AQMD's core AB 2588 Program, 68 facilities were required to submit their reports in 2019 for reporting year 2018.

On October 7, 2016, Rule 1402 was amended to add requirements for Potentially High Risk Level facilities. Potentially High Risk Level facilities are facilities that South Coast AQMD staff believes may pose significant health risk to the local community. Potentially High Risk facilities must implement Early Action Reduction Plans to immediately reduce risk and to submit ATIRs, HRAs and RRPs under expedited timelines. So far, three facilities in Paramount (Anaplex Corp, Aerocraft Inc. and Lubeco Inc.) have been designated as Potentially High Risk Level facilities under Rule 1402.

The AB 2588 Program requires air districts to categorize each facility using the reported emissions as either high, intermediate, or low priority to determine if a facility needs to conduct a Health Risk Assessment (HRA). Once a facility is designated as high priority, they may be required to submit a Health Risk Assessment to assess the risk to their surrounding community. From the beginning of the AB 2588 Program in 1987 through the end of 2019, staff has reviewed and approved 349 HRAs from 339 facilities. Of these, 61 facilities were required to perform public notification activities and 28 facilities were required to implement risk reduction measures.

2019 Accomplishments

The attached report summarizes staff activities in 2019 for the AB 2588 Program, implementation of Rule 1402, air toxic monitoring performed in conjunction with the AB 2588 Program and Rule 1402, analysis of toxic program impacts from the addition of new or revised health risk values for air toxics, and future activities.

Summary of Activities for Specific AB 2588 Program Facilities

In 2019, 68 facilities filed quadrennial emission reports. Additionally, 48 facilities were subject to AB 2588 review. These include facilities that were notified in prior calendar years and are in various stages of review in 2019. Staff reviewed 31 ATIRs, 11 HRAs, five RRPs, five VRRPs, and three revised priority scores from 48 facilities in 2019. Approximately 8,600 residences were notified that they were exposed to risks above the AB 2588 thresholds, and staff held three public notification meetings. Table 1 lists the facilities that submitted documents required by the AB 2588 Program in 2019. The attached Annual Report provides detailed information regarding the AB 2588 Program activities at each facility.

Table 1 – AB 2588 Program Facilities in 2019

Facility Name	ID No.	Facility Name	ID No.
Aerocraft Heat Treating Co. Inc.	23752	Pac Rancho, Inc.	140871
Air Liquide Large Industries U.S., LP	148236	Pacific Clay Products, Inc.	17953
All American Asphalt - Irwindale	114264	Pasadena Department of Water and Power [b]	800168
All American Asphalt - Perris	148146	Phillips 66 Co/LA Refinery Wilmington Plant *	171107
Anaplex Corp	16951	Phillips 66 Company/Los Angeles Refinery *	171109
Arconic Global Fasteners & Rings, Inc.	134931	Plains West Coast Terminals	800417
Chevron Products Co. (El Segundo Refinery)	800030	Robertson's Ready Mix – Redlands	42623
City of Cerritos, Water Division	74396	Robertson's Ready Mix – Gardena	134112
Eco Services Operations Corp.*	180908	San Diego Gas & Electric	4242
Eisenhower Medical Center	3671	SFPP, L.P*	800278
Elite Comfort Solutions*	182610	So Cal Edison Co*	4477
Equilon Enter. LLC, Shell Oil Prod. US*	800372	So Cal Gas Co./Playa del Rey Storage Facility	8582
Evonik Corporation*	183926	So Cal Holding, LLC	169754
Gerdau/TAMCO	18931	Tesoro Refining & Marketing Co., LLC, Calciner*	174591
Glendale City, Glendale Water & Power*	800327	Tesoro Refining & Marketing Co., LLC, Los Angeles Refinery*	800436 174655 174694 174703
Hixson Metal Finishing	11818	Tesoro Refining & Marketing Co., LLC (Sulfur Recovery Plant)*	151798
Holliday Rock Co., Inc.	41580		
Kirkhill Inc*	187823		
LA City, Sanitation Bureau (Hyperion Treatment Plant)*	800214		
LA City, Street Maintenance Bureau Department of Public Works	25196	Torrance Refining Co. LLC.	181667
Light Metals*	83102	TST, Inc.*	43436
Los Angeles By-Products	60384	Ultramar, Inc.*	800026
Lubeco, Inc.	41229	Vista Metals Corporation*	14495
MM West Covina LLC*	113873	Vorteq Pacific	191677
Motion Picture & Television Fund	16211	Whittier Fertilizer	511
PABCO Bldg Products LCC	45746		

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

Air Monitoring and Source Testing Activities to Support the AB 2588 Program
Based on monitoring for hexavalent chromium in Paramount, three facilities were designated as Potentially High Risk Level Facilities in 2016 and 2017. High levels of hexavalent chromium were discovered, in some instances affecting nearby communities. Efforts then followed to identify and address the sources of these emissions. As a result, several facilities made a range of improvements, some voluntary and some through rule changes and enforcement actions. South Coast AQMD's ongoing air monitoring results indicate substantial progress in reducing ambient levels of hexavalent chromium due to these actions. As a result, South Coast AQMD has modified air monitoring efforts in Paramount to focus on conducting studies to evaluate other potential sources of hexavalent chromium and also monitoring other areas that may have higher potential for air toxics exposure.

In June 2019, staff began air monitoring in the West Rancho Dominguez area at 14 different locations. The West Rancho Dominguez area is mostly industrial with concrete batch plants, hexavalent chromium metal finishing facilities, and hexavalent chromium spray coating facilities within close proximity to each other. Staff have been investigating potential sources in the vicinity of these monitors and working with the facilities to identify voluntary actions that could be implemented to reduce hexavalent chromium emissions. Staff continues to work with facilities in the area to identify and address additional potential sources of hexavalent chromium.

HRA Modeling Projects
In 2019, staff supported permitting and enforcement activities by reviewing air dispersion modeling to determine compliance with Rules 1420.2 – Emission Standards for Lead from Metal Melting Finishing, and 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants.

Rule 1420.2 establishes standards for lead emissions from metal melting facilities. Air dispersion modeling is used to identify the appropriate location for placement of ambient air monitors. In 2019, staff reviewed compliance plans with air dispersion modeling for three facilities under this rule: two involve siting of ambient air monitors, and one for relief from future monitoring requirements.

Rule 1466 establishes limits for particulate matter emissions from soils with toxic air contaminants. In 2019, staff reviewed one request from a facility requesting an alternate limit for particulate matter emissions under this rule. Staff reviewed the request to ensure the alternate limit remains health protective to the public.

Rules Adopted or Amended in 2019
On October 4, 2019, Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Chromium Metal Melting Operations, was amended to further reduce emissions of arsenic, cadmium, and nickel by establishing new requirements such as control efficiency requirements and mass emissions limits.

On December 6, 2019, Rule 1480 – Ambient Monitoring and Sampling of Metal Toxic Air Contaminants, was adopted to require facilities designated as a Metal Toxic Air Contaminant Monitoring Facility to conduct air monitoring and sampling.

Program Impacts from New or Revised Health Risk Values for Air Toxics
OEHHA adopted risk values for hexamethylene diisocyanate (HDI) (monomer and polydiisocyanates) and proposed risk values for toluene in 2019. Chronic Reference exposure levels (RELs), 8-hour chronic RELs, and acute RELs were adopted for HDI, and chronic RELs, 8-hour chronic RELs, and acute RELs were proposed for toluene. In reviewing 2015 through 2018 reporting data, 21 facilities reported emissions of HDI monomers but did not previously have risk values. HDI polyisocyanates are newly added pollutants with no prior reporting requirements and are not currently required to be reported by AB 2588 facilities. However, facilities required to submit inventory reports under Rule 1402 will be required to report HDI polyisocyanate emissions beginning in 2020.

Staff will continue to monitor the status of the proposed RELs for toluene. Adoption of the proposed RELs for toluene has a potential to affect most if not all facilities due to the widespread use of toluene as a solvent and as a byproduct from combustion of fuels.

Future Activities
In 2020, AB 2588 staff will:

- Audit quadrennial emissions inventories for approximately 125 facilities;
- Conduct public notification and public meetings, as necessary; and
- Update AB 2588 guidance documents including Facility Prioritization Procedures for the AB 2588 Program, AB 2588 and Rule 1402 Supplemental Guidelines, South Coast AQMD Public Notification Procedures for Facilities under AB 2588 and Rule 1402, and AB 2588 Quadrennial Air Toxics Emission Inventory Reporting Procedures.

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

- Track development of potential REL revisions by OEHHA;
- Notify seven asphalt aggregate plants to prepare ATIRs or VRRPs if warranted;
- Continue to provide support to rulemaking staff;
- Work with CARB and through the CAPCOA Toxics and Risk Managers Committee (TARMAC) to update CARB AB 2588 Guidelines, including review of draft list of chemicals;
- Continue to work with CARB and through the TARMAC to develop HRA guidelines for the industrywide categories of gasoline dispensing facilities, autobody shops, and diesel internal combustion engines, and to provide training to South Coast AQMD staff and the regulated community; and
- Train new staff on the expanded emissions reporting under amended Rule 301 and upcoming AB 617.

Updates to the Facility Prioritization Procedure, Public Notification Procedures, and the AB 2588 & Rule 1402 Supplemental Guidelines

AB 2588 staff reviews these guidance documents to ensure they contain updated information and additional clarification on the requirements and procedures of the AB 2588 Program.

Facility Prioritization Procedures

In June 2016, the Board adopted revisions to the Facility Prioritization Procedure in conjunction with amendments to Rule 1402 that incorporated the 2015 OEHHA Risk Assessment Guidelines update. The Board also adopted revisions to the Facility Prioritization Procedures in November 2016 which incorporated updates from the August 2016 CAPCOA Facility Prioritization Procedures.

In September 2018, the Board adopted revisions to update the Facility Prioritization Procedure to incorporate the most current meteorological dataset (Version 9) and adjusting the calculation of the non-cancer acute score to account for short-term exposure at the facility fenceline. Staff updated the Facility Prioritization Procedure to correct minor transcription errors from the September 2018 version in September 2019. Staff is proposing to update the Facility Prioritization Procedure to correct the equation for calculation of cancer and non-cancer chronic score for workers and to provide additional clarification on the Worker Adjustment Factor (WAF).

Public Notification Procedures

In November 2016, the Board adopted revisions to incorporate modified public notification procedures for facilities that elect to participate in the Voluntary Risk Reduction Program and to require South Coast AQMD staff to conduct the public notification meeting. Staff is proposing to update the Public Notification Procedures to provide additional clarification on the requirements for conducting public notification and public meetings.

AB 2588 & Rule 1402 Supplemental Guidelines

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 in November 2016. 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.

Attachments

1. Annual Report on AB 2588 Air Toxics “Hot Spots” Program
2. Facility Prioritization Procedure for the AB 2588 Program
3. Public Notification Procedures
4. AB 2588 and Rule 1402 Supplemental Guidelines
5. Board Meeting Presentation

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2019
Annual Report on AB 2588 Air Toxics "Hot Spots" Program

October 2020

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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

October 2020

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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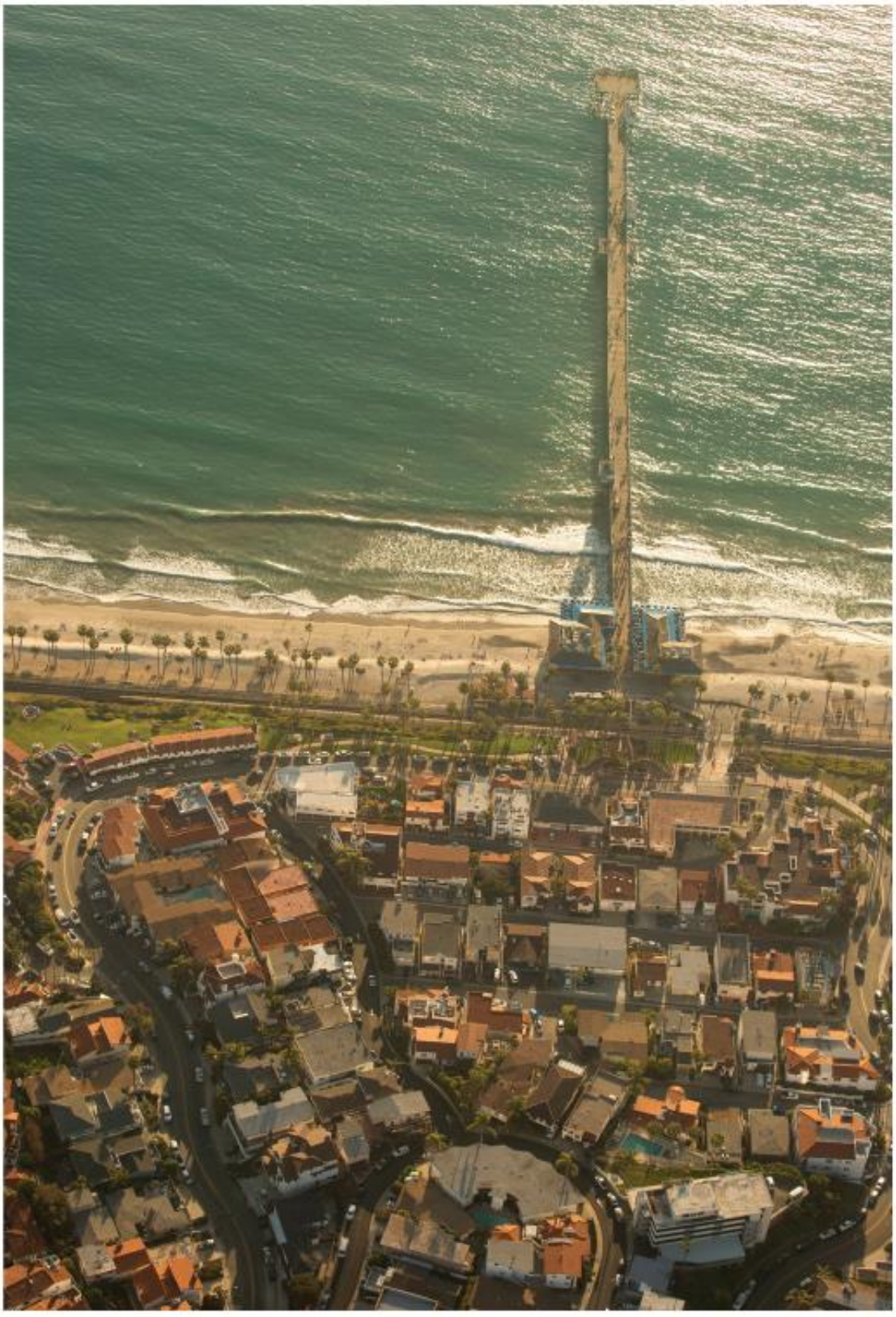
Executive Summary



South Coast AQMD implements the California Air Toxics "Hot Spots" Information Act through Rule 1402 and includes requirements beyond the state law. The AB 2588 Program as implemented under Rule 1402 is only one part of South Coast AQMD's comprehensive program in regulating air toxics. Other elements include permitting, rule development, enforcement efforts, and the Multiple Air Toxics Exposure Study.

Executive Summary

The California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) was enacted in 1987. It is a key statewide program implemented by local air districts to address health risks from air emissions associated with existing permitted facilities. One of the main goals of AB 2588 is to provide the public with information regarding potential health effects from toxic air contaminants emitted from existing permitted facilities, and to develop plans to reduce associated risks. The South Coast Air Quality Management District (South Coast AQMD) implements AB 2588 requirements through Rule 1402, which includes additional requirements beyond the state law, including a program to encourage facilities to voluntarily reduce risk, and to compel high risk facilities to reduce toxic emissions much more quickly than previously required.

The AB 2588 Program as implemented under Rule 1402 is only one part of South Coast AQMD's comprehensive program in regulating air toxics. Other elements include South Coast AQMD's permitting program and Rule 1401 requirements, enforcement efforts to ensure facilities comply with all applicable air quality requirements, and the Multiple Air Toxics Exposure Study, a study measuring the amount of regional toxic air contaminants and their risks throughout the air basin. Additionally, within the past five years, South Coast AQMD has performed ambient air monitoring in many neighborhoods and found high levels of air toxic contaminants. This monitoring has helped to identify high risk facilities, thereby requiring them to implement risk reduction measures under Rule 1402. Monitoring will also be an important component for implementation of the AB 617 program that targets air pollution reductions in environmental justice communities.

Under state law, South Coast AQMD is required to prepare an Annual Report of activities. This report fulfills that requirement and describes the South Coast AQMD's ongoing efforts to regulate and reduce air toxic emissions.

The following summaries highlight key AB 2588 activities in 2019:

AB 2588 and Rule 1402 Implementation Activities	Prioritized 68 facilities based on their quadrennial toxic emission inventory updates
	Initiated 49 audits based on prioritization scores
	Reviewed 31 ATIRs, 11 HRAs, 5 RRPs, and 5 VRRPs, and 3 revised priority scores from 48 facilities
Streamlining and Program Improvement Activities	Updated AB 2588 Facility Prioritization Procedures
	Provided support to rulemaking and AB 617 staff
	Provided support in implementation of Rules 1420.2 and 1466

Chapter 1

California's Air Toxics "Hot Spots" Program

The California Air Toxics "Hot Spots" Information Act was adopted in 1987 under Assembly Bill 2588. This chapter will cover the elements and requirements of the program including emissions reporting, prioritization, health risk assessments, public notification, risk reduction plans, and industry wide sources.

California's Air Toxics "Hot Spots" Program

Background

In 1987, the California legislature adopted the Air Toxics "Hot Spots" Information and Assessment Act. The "Hot Spots Act" was proposed under Assembly Bill 2588 and therefore is commonly referred to as AB 2588. Since exposure to toxic air contaminants may produce various adverse health impacts, AB 2588 incorporated certain goals such as to collect emissions data of toxic air contaminants from stationary sources, identify facilities having localized impacts, determine health risks, and notify affected individuals. The California Air Resources Board (CARB) has developed the AB 2588 Program requirements of the "Hot Spots" Act; however, local air districts are required to implement and enforce the requirements. This chapter describes the state requirements of the AB 2588 Program.

Emissions Reporting

Facilities are subject to AB 2588 reporting requirements if they emit any toxic air contaminants listed by CARB in the *Emission Inventory Criteria and Guidelines for the Air Toxics "Hot Spots" Program* (CARB Emission Inventory Guidelines).[1] Under the AB 2588 Program, larger facilities (core facilities) are subject to individual reporting requirements while facilities that are generally small businesses are in the industrywide source (IWS) categories, which are described later in this chapter. CARB Emission Inventory Guidelines provides both criteria and direction for facilities to compile and submit air toxic emission data. The requirements within the CARB Emission Inventory Guidelines have been incorporated by reference into title 17 of the California Code of Regulations and thus are enforceable.

Prioritization

Core facilities in the AB 2588 Program submit an air toxics inventory once every four years. The AB 2588 Program requires air districts to categorize each facility using the reported emissions as either high, intermediate, or low priority to determine if a facility needs to conduct a Health Risk Assessment (HRA) and to determine appropriate program fees. The California Air Pollution Control Officers Association (CAPCOA) *Facility Prioritization Guidelines* (CAPCOA Prioritization Guidelines) provides state-wide guidance to local air districts for prioritizing facilities.[2]

The CAPCOA Prioritization Guidelines presents two procedures for prioritizing facilities. The emission and potency procedure relies on three parameters to prioritize facilities: emissions, potency or toxicity, and the proximity of potential receptors; the dispersion adjustment procedure relies on four parameters: emissions, potency or toxicity, dispersion, and receptor proximity. While

[1] *Emission Inventory Criteria and Guidelines for the Air Toxics "Hot Spots" Program*, September 26, 2007, California Air Resources Board https://www.arb.ca.gov/ab2588/final/reg.pdf

[2] *Facility Prioritization Guidelines*, August 2016, California Air Pollution Control Officers Association http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf

there are two procedures, both are similar in nature and involve calculating scores for separate health effects in order to derive a final score.

Using the procedures, a facility first receives separate scores for carcinogenic (cancer) effects and non-cancer chronic and acute effects. The facility is then given a Total Facility Score (TS) which is the higher of these scores. The Total Facility Scores are separated into three categories: high priority are those with TS greater than 10, intermediate priority for less than or equal to 10 but greater than one, and low priority for TS less than or equal to one. Once a facility is designated as high priority, they may be required to submit a Health Risk Assessment to assess the risk to their surrounding community. Facilities ranked with intermediate priority are considered to be District Tracking facilities and must continue to submit toxics emissions reports on a quadrennial basis. Facilities ranked with low priority may be eligible to be exempted from the AB 2588 Program altogether.

Priority Score	Category	Action
TS > 10	High Priority	Submit HRA
1 < TS ≤ 10	Intermediate Priority	No HRA required; continue toxics emissions reports
TS ≤ 1	Low Priority	May be eligible to be exempt from AB 2588 Program

Health Risk Assessments

AB 2588 requires that the Office of Environmental Health Hazard Assessment (OEHHA) develop risk assessment guidelines for the program. The most recent version of these guidelines is the February 2015 version of *The Guidance Manual for Preparation of Health Risk Assessments*[3] (OEHHA HRA Guidelines). The 2015 OEHHA HRA Guidelines incorporated age sensitivity factors which resulted in increased cancer risk estimates by approximately three times. The OEHHA HRA Guidelines contains a description of the algorithms, recommended exposure variates, cancer and non-cancer health values, and the air modeling protocols needed to perform a HRA in accordance with the state AB 2588 Program. The entire risk assessment process can be characterized in four steps described below:

Hazard Identification

Hazard Identification involves identifying all toxic air contaminants emitted from a facility and whether these pollutants are potential human carcinogens or non-carcinogens containing other types of adverse health effects. A facility must identify all substances that are listed in the CARB Emissions Inventory Guidelines.

Exposure Assessment

The purpose of the exposure assessment is to estimate extent of public exposure of emitted toxic air contaminants, and estimating exposures for which potential health effects will be evaluated.

[3] https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

Evaluating exposure involves emission quantification, air dispersion modeling, and identifying exposure routes and exposure durations.

Dose Response

Dose-response assessment is the process of characterizing the relationship between exposure to a toxic air contaminant and the incidence of an adverse health effect in exposed populations. For dose-response, OEHHA has compiled cancer potency factors and non-cancer reference exposure levels (RELs) for certain toxic air contaminants. By using these factors along with the estimated exposure information for the toxic air contaminants identified during the hazard identification process, potential cancer and non-cancer risks can be evaluated during risk characterization.

Risk Characterization

Risk characterization is the final step of the risk assessment process. Modeled concentrations and exposure information determined through the exposure assessment process are used with cancer potency factors and non-cancer RELs to assess total cancer risk and noncarcinogenic health effects. An HRA shows the combined cancer risk and non-cancer risk for all toxic air contaminants emitted from a specific facility.

Public Notification

Public notification is a core element of the AB 2588 Program requirements. California Health and Safety Code (H&S Code), Section 44362(b) requires the operator of the facility to provide notice to all exposed persons regarding the results of the HRA if the local air district finds there is significant health risk from the facility. The public notification procedures are specified by the local air districts.

Risk Reduction Plans

In 1992, the California legislature added a risk reduction component, the Facility Air Toxic Contaminant Risk Audit and Reduction Plan (SB 1731), which required each air district to specify the significant risk level, above which risk reduction would be required. The requirements of SB 1731 are found in California H&S Code, Sections 44390 through 44394. The requirements are for facilities to audit and identify the source of toxic emissions and risk, then develop and carry out a plan to reduce the emissions and risk. This state law also presents an implementation timeline for risk reduction plans; however, local air districts may create more stringent timelines in their respective programs.

Industrywide Sources

Under the AB 2588 Program individual air districts may designate separate IWS categories. Facilities falling into this category are generally small businesses where individual compliance would impose economic hardship. The advantage to industrywide categories is that compliance may be handled collectively for each category rather than each individual facility. For each IWS category, a district may prepare an industrywide emission inventory and HRA. The California Air Pollution Control Officers Association (CAPCOA), in cooperation with OEHHA and CARB

develop IWS risk assessment guidelines.[4] These guidelines provide a cost-effective and uniform method for calculating facility emissions and estimating toxic risks for these facilities under each air district's jurisdiction.

The requirements for designating individual IWS categories are:

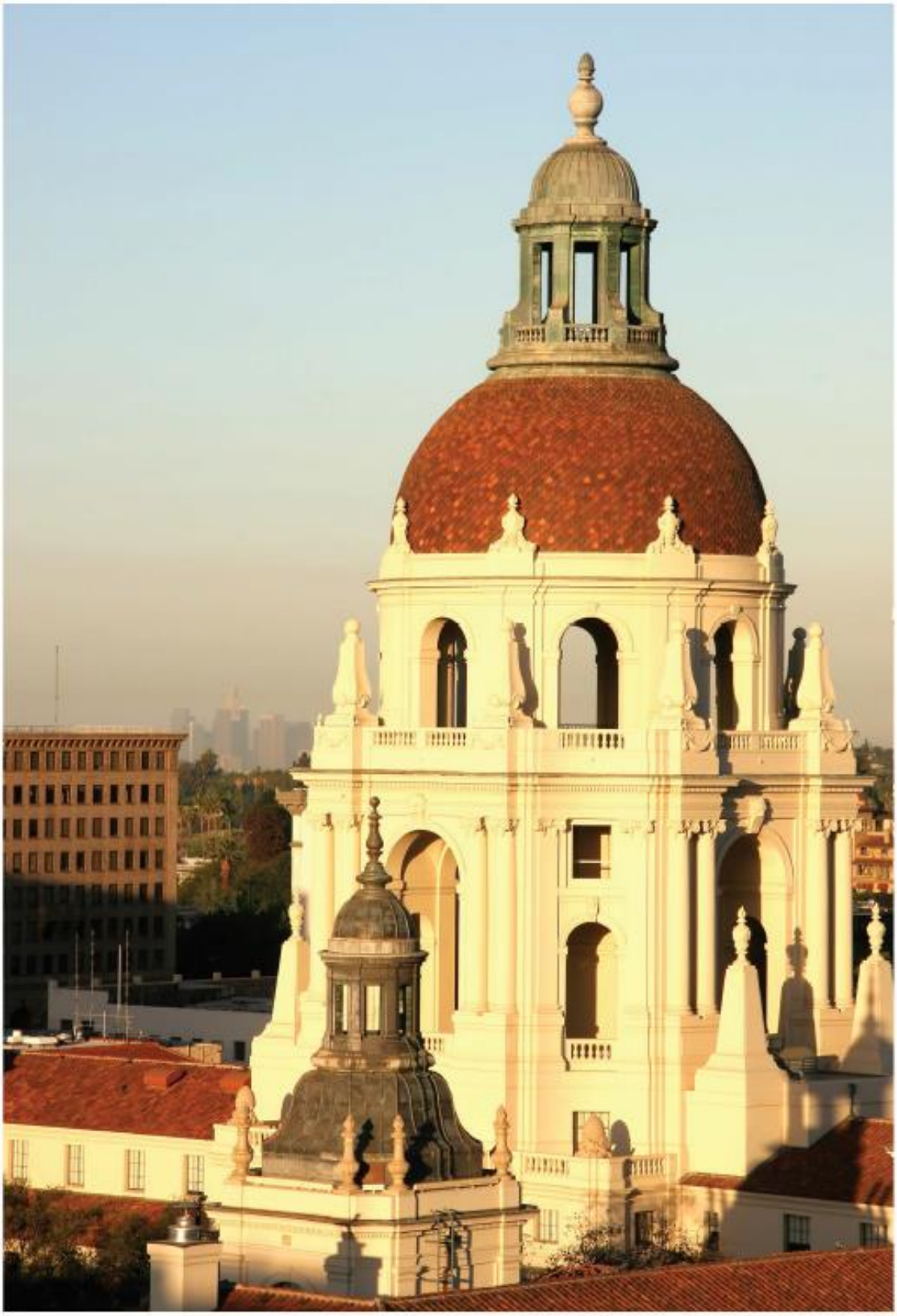
- facilities must emit less than 10 tons per year of criteria pollutants;
- facilities share a common Standard Industrial Classification (SIC) code;
- the majority of the class are small businesses;
- individual compliance would impose severe economic hardships; and
- emissions are easily and generically characterized.

Periodic Updates to the AB 2588 Guidelines

The AB 2588 Air Toxics "Hot Spots" Emissions Inventory Criteria and Guidelines Regulation (EICG) provides direction and outlines the requirements for quantifying and reporting air toxics emissions required by the "Hot Spots" Program. The current regulation was approved by the Office of Administrative Law on August 27, 2007. CARB is currently working on updating the EICG which includes updating the list of chemicals required to be quantified and reported to CARB. The updated EICG is expected to be published in late 2020.

[4] Three IWS risk assessment guidelines have been published: autobody shops, dry cleaners, and retail gasoline stations https://ww3.arb.ca.gov/ab2588/riskassess.htm

Chapter 2
South Coast AQMD's Air Toxics "Hot Spots" Program



South Coast AQMD's Air Toxics "Hot Spots" Program incorporates the requirements of the state AB 2588 program through Rule 1402. South Coast AQMD has achieved significant reductions in air toxics in the Basin. This chapter covers the elements and requirements of the South Coast AQMD Air Toxics "Hot Spots" Program and outlines the AB 2588 staff activities in 2019.

South Coast AQMD's Air Toxics "Hot Spots" Program

Background

The South Coast AQMD's Air Toxics "Hot Spots" Program incorporates the requirements of the state AB 2588 program, as well as additional and/or more stringent requirements. Despite being one of the smoggiest urban areas in the U.S., South Coast AQMD has achieved significant reductions in air toxics in the Basin. For example, monitoring studies have shown that cancer risks have decreased by more than 50 percent in the past decade alone.[5] While these reductions were primarily attributable to reductions in diesel particulate matter, there have also been a significant reduction in risks from stationary source facilities. The AB 2588 Program as implemented by South Coast AQMD has played a significant role in achieving those reductions, by improving public awareness thereby leading many businesses to voluntarily reduce their toxic emissions, and through mandatory risk reductions triggered by facilities exceeding health risk thresholds. Figure 2-1[6] below demonstrates the reductions in risk that have been achieved despite the substantial number of facilities located within our district.

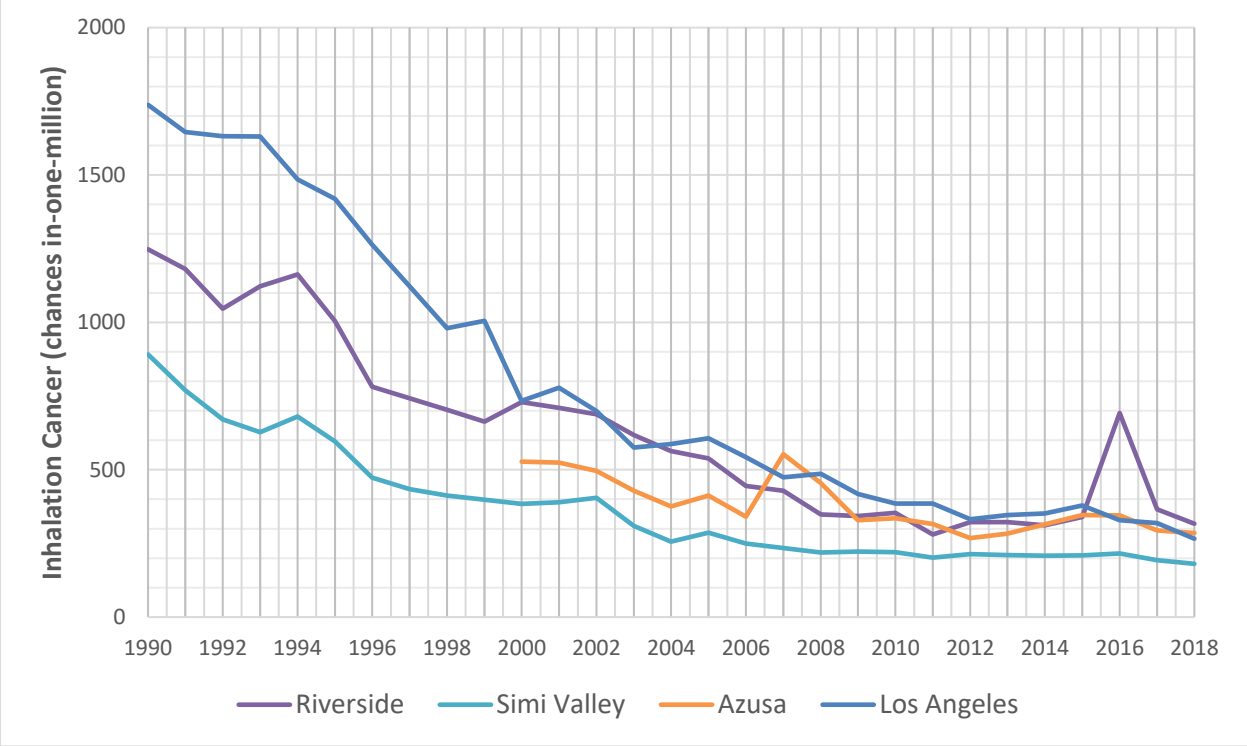


Figure 2-1: Trends in Inhalation Cancer Risks[7] in the Basin (1990-2018)

[5] Reductions measured between the Multiple Air Toxics Exposure Studies (MATES) versions III and IV: https://www.aqmd.gov/docs/default-source/default-document-library/mates-v-admin-comm-presentation-060917final_jg.pdf

[6] See Appendix B for more information on the monitoring stations and monitoring network within the Basin.

[7] Calculated with 2015 OEHHA Risk Assessment Guidelines, excluding cancer risks from DPM.

There was an increase in risk in 2016 due to elevated methylene chloride readings in Riverside county. However, the readings from 2016 were not consistent with historical trends, and readings have since decreased. Additional details are provided in Appendix B.

South Coast AQMD *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. Rule 1402 adopts health risk thresholds and implementation schedules that are above what are specified in AB 2588 and SB 1731. Rule 1402 was most recently amended in October 2016. This most recent amendment included a new provision beyond what is required under state law. This provision created a Voluntary Risk Reduction Program that allows facilities to implement early risk reduction measures that go beyond the normal risk reduction thresholds in exchange for an alternative public notification process. At the same time, a Potential High Risk Level facility category was also created. Facilities designated under the Potential High Risk Level category must comply with expedited schedules for submitting an Air Toxics Inventory Report (ATIR) and HRA reports and for reducing risk. Both the Voluntary Risk Reduction Program and the new Potential High Risk Level category result in facilities evaluating and reducing their associated air toxics risks faster than would occur under the state AB 2588 program alone.

Program Implementation Elements

Under South Coast AQMD's AB 2588 Program, core facilities are categorized into four groups, or phases. Phases are assigned to discrete reporting years with each phase reporting once every four years. Currently, there are over 400 core facilities as categorized in Table 2-1 that are subject to the following main components of the South Coast AQMD's AB 2588 Program:

- **Emissions Reporting** – Since the FY 2000-01 reporting cycle, toxics emissions reporting for the AB 2588 Program was incorporated into South Coast AQMD's Annual Emissions Reporting (AER) Program. Core facilities must report emissions of any toxic air contaminants or ozone depleting compounds (ODC) specified in South Coast AQMD's Rule 301(e) through the AER Program. Since there are four phases, each core facility is required to submit a more detailed inventory by reporting 177 toxic air contaminants during the quadrennial reporting year. This detailed inventory serves as a foundation for an ATIR, if required.

- **Prioritization** – South Coast AQMD uses a refined method for prioritizing facilities based on CAPCOA Guidelines. The current South Coast AQMD Procedure incorporates the revised risk calculation methodologies from the 2015 OEHHA HRA Guidelines. The South Coast AQMD Prioritization Procedure is described in more detail in the *Streamlining Activities* chapter.

  In 2019, 68 facilities were required to report their quadrennial toxic emission inventory updates. Based on emissions inventory submittals, South Coast AQMD staff calculated priority scores for these facilities.

- **Health Risk Assessment** – High priority facilities (those with priority scores greater than ten), including those that qualify for the Voluntary Risk Reduction Program, are required

to prepare an ATIR, a complete and detailed inventory of approximately 450 toxic air contaminants, along with detailed information about the processes and release points using the Emissions Inventory Module from the latest CARB Hotspots Analysis and Reporting Program (HARP). For facilities participating in the traditional pathway, if the ATIR indicates that the facility is still considered a high priority, the facility must prepare an HRA that conforms to the OEHHA HRA Guidelines. Specific instructions for the South Coast AQMD are also available in the *AB 2588 and Rule 1402 Supplemental Guidelines, (Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act).*[8] This document is commonly referred to as the AB 2588 Supplemental Guidelines.

- **Public Notification** – If the health risk reported in the HRA exceeds the Notification Risk Levels of Rule 1402, then the facility is required to provide public notice to the affected community. The Notification Risk Levels of Rule 1402 are triggered when cancer risk from the facility exceeds 10 chances in-one-million, or when the acute or chronic hazard indices are greater than 1. The requirements for public notification are described in the *South Coast AQMD Public Notification Procedures for Facilities Under the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402*, October 2016 (South Coast AQMD Public Notification Procedure).[9] These requirements emphasize transparency in communicating risk to the affected community in the following ways:

    - The notice must clearly identify the area above the notification thresholds.
    - The notice must be distributed to all addresses (individual residences and workplaces), and to parents of children attending school in the area of impact.
    - The approved HRA must also be provided to all schools in the area of impact.
    - South Coast AQMD conducts a public meeting to describe the HRA results to the affected community and to answer questions from community members.

- **Risk Reduction** – Rule 1402 adopts stringent health risk thresholds and aggressive implementation schedules that are beyond the traditional AB 2588 and SB 1731 state requirements (see Table 2-2 for associated categories). Under state requirements, facilities exceeding a significant risk threshold must reduce risk within five years. Under Rule 1402, Potential High Risk Level facilities must submit an Early Action Reduction Plan to immediately reduce risk, followed by a detailed Risk Reduction Plan designed to comprehensively reduce risk. The Risk Reduction Plan under Rule 1402 must be implemented as quickly as feasible, but no later than two years after approval. Facilities exceeding the Action Risk Level under Rule 1402 must also implement risk reduction plans no later than two and a half years after risk reduction plan approval.[10] Rule 1402 also

[8] *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, South Coast AQMD.

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

[10] Rule 1402 allows extensions but only for those facilities that meet certain requirements. Extensions are not allowed for facilities exceeding the Significant Risk Level. Even with extensions, the implementation timelines are shorter than state requirements.

includes an optional Voluntary Risk Reduction Program provision that is designed to achieve risk reductions that are not otherwise required under state program requirements. In order to qualify for the Voluntary Risk Reduction Program, a facility must have a previously approved HRA and must not be designated as a Potentially High Risk Level facility.

- **Fees** – State and local costs of implementing the Act are recovered through annual fees. As described previously, AB 2588 requires each district to recover state and district program costs. These fees are specified in South Coast AQMD Rules 307.1.

Table 2-1: AB 2588 Facilities by Source Category

Facility Categories	Number of Facilities
Airports	1
Amusement Parks	2
Entertainment	5
Harbors	1
Hospitals and Health-Related	30
Military Base	4
Office Buildings	1
Schools and Educational Institutions	16
Other Institutional/Commercial	19
Other Service/Commercial	5
Dairy/Poultry Farms	9
Other Agricultural Processing	2
Fermentation and Brewing (Breweries/Distilleries/Wineries)	1
Food flavoring manufacturing	1
Pharmaceuticals	4
Other Food Processing Facility	1
Bulk Plants	19
Terminal Depots	13
Electricity Generation	35
Petroleum Refinery	10
Crude Oil Production	35
Aerospace	41
Building/Construction/Mineral Products	44
Cement Production	1
Chemical Plants	12
Electronic	4
Furniture/Household Products	2
Glass Production	1
Hydrogen Production	3
Iron and Steel Production	7
Metal and Alloys Products	27

Facility Categories	Number of Facilities
Printing/Publishing	2
Pulp and Paper Manufacturing	5
Other Industrial/Manufacturing	63
Landfill – Industrial Waste	1
Landfill - Municipal Solid Waste	20
Wastewater Treatment – Industrial	1
Wastewater Treatment – Municipal	21
Other Waste Disposal	2
Total Facilities	**471**

Table 2-2: Rule 1402 Risk Categories

Rule 1402 Levels	Thresholds	Requirements	RRP Implementation Timeline
Notification Risk Level	Cancer risk of 10 chances in-one-million or greater Acute or chronic HI of 1.0 or greater Exceeding lead National Ambient Air Quality Standard (NAAQS)	Public notification	No risk reduction required
Voluntary Risk Level	Cancer risk of 10 chances in-one-million or greater Acute or chronic HI of 1.0 or greater Exceeding lead National Ambient Air Quality Standard (NAAQS)	Public notification (modified) and implement VRRP	No later than 2.5 years after approval of plan (an additional 2.5 years extension may be requested)
Action Risk Level	Cancer risk greater than 25 chances in-one-million Cancer burden of 0.5 or more Acute or chronic HI of 3.0 or more Exceeding lead NAAQS	Public notification and implement RRP	No later than 2.5 years after approval of plan (an additional 2.5 years extension may be requested)
Significant Risk Level	Cancer risk of 100 chances in-one-million or greater Cancer burden of 0.5 or more Acute or chronic HI of 5.0 or more	Public notification and implement RRP	No later than 2 years after approval of plan for facilities designated as Potentially High Risk Facilities

Figure 2-2 below shows the process used by South Coast AQMD to implement AB 2588 under Rule 1402.

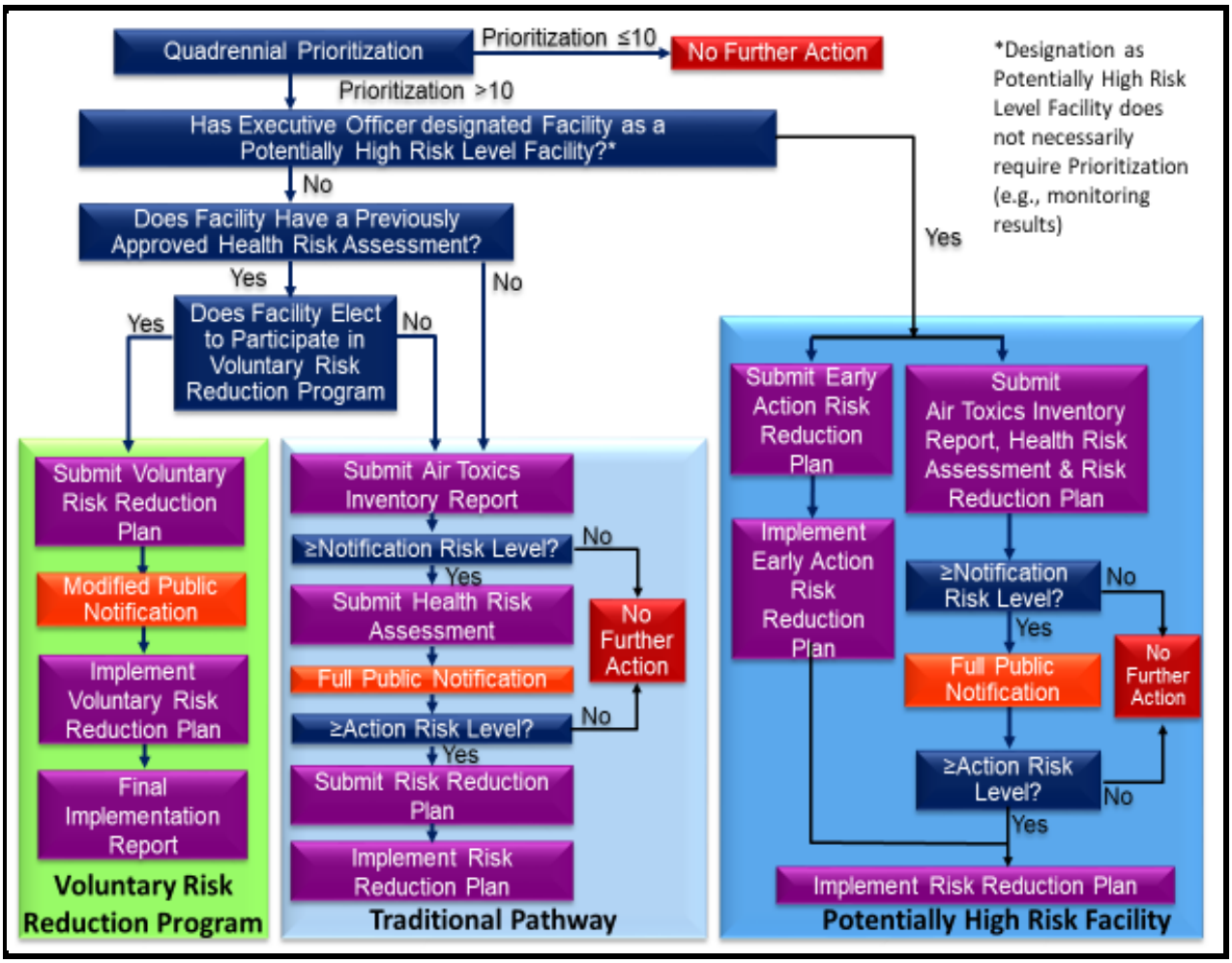


Figure 2-2: Overview of the AB 2588 Program

Progress in Implementing the AB 2588 Program

From the beginning of the AB 2588 Program in 1987 through the end of 2019, staff has reviewed and approved 349 HRAs from 339 facilities. There are more approved HRAs than facilities as some facilities have prepared more than one HRA. Of these 339 facilities, 28 were required to implement risk reduction measures, 61 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 chances in-one-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 summary of risks from approved HRAs illustrated in Figure 2-3 is based on the information in Appendix C, which lists the core facilities and the health risks from their approved HRAs. Table C-1 in Appendix C lists the facilities in order of their cancer

risks and Table C-2 in Appendix C lists the same facilities ordered by facility ID. Table D-1 in Appendix D lists facilities which have prepared a Risk Reduction Plan (RRP) for the AB 2588 Program and their corresponding health risks [H&S Code 44363(a) (2) and (3)] and Table D-2 in Appendix D lists facilities which have successfully participated in the Voluntary Risk Reduction Program. Appendix E contains a list of acronyms and abbreviations used in this report.

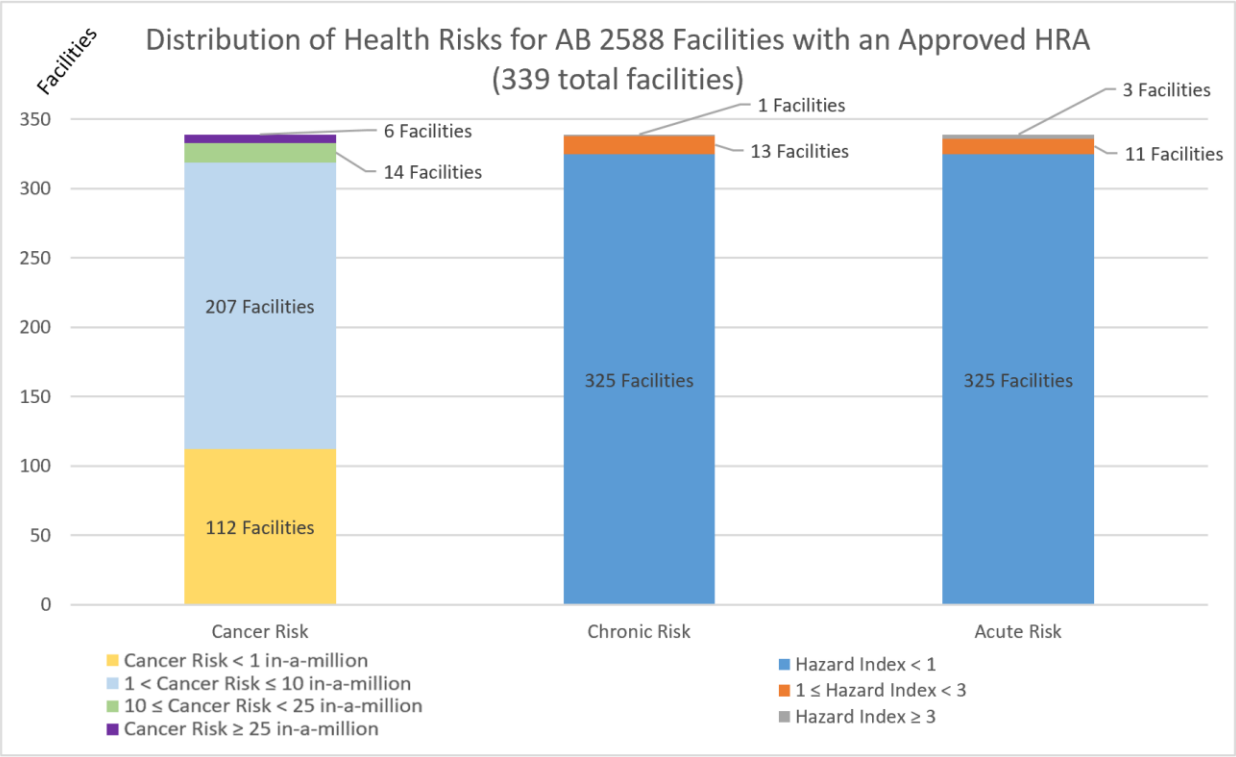


Figure 2-3: Distribution of Risks for AB 2588 Facilities with an Approved HRA

Summary of South Coast AQMD Staff Activities for AB 2588 Facilities in 2019

In 2019, staff addressed facilities in various stages of the AB 2588 process and initiated audit activities on 49 facilities with priority scores greater than 10. Key activities conducted include review of 31 ATIRs, 11 HRAs, five RRPs, five Voluntary Risk Reduction Plans (VRRPs), and three revised priority scores. Many of these key activities were for facilities that tend to have more sources and are more complex such as refineries and other industrial facilities. Overall, a total of 212 documents were reviewed in 2019 from 48 facilities, with some facilities having multiple documents submitted for South Coast AQMD staff review. Table 2-3 presents a summary of key activities for facilities participating in the traditional AB 2588 Program and Table 2-4 presents a summary of key activities for facilities participating in the Rule 1402 Voluntary Risk Reduction Program.

Table 2-3: Actions Taken in 2019 for Facilities in the Traditional AB 2588 Program

Facility Name	ID #	ATIR		HRA		RRP		Status
		R	A	R	A	R	A	
Aerocraft Heat Treating Co. Inc. [a]	23752						X	See Appendix A.2
Air Liquide Large Industries U.S., LP	148236	X						
All American Asphalt - Irwindale	114264							See Appendix A.4
All American Asphalt - Perris	148146							See Appendix A.5
Anaplex Corp [a]	16951					X		RRP initially rejected on 04/24/2019. See facility entry in Appendix A.6
Arconic Global Fasteners & Rings, Inc.	134931							See Appendix A.7
City of Cerritos, Water Division	74396							See Appendix A.10
Eco Services Operations Corp. [b]	180908							See Appendix A.11
Eisenhower Medical Center	3671	X	X					
Equilon Enter. LLC, Shell Oil Prod. US [b]	800372			X				
Evonik Corporation [b]	183926							See Appendix A.15
Gerdau/TAMCO	18931							See Appendix A.16
Glendale City, Glendale Water & Power [b]	800327				X	X		Public notification meeting on 06/26/2019.
Hixson Metal Finishing	11818							See Appendix A.18
Holliday Rock Co., Inc.	41580	X	X					
Kirkhill Inc [b]	187823			X	X			Public notification meeting on 11/13/2019.
LA City, Sanitation Bureau (Hyperion Treatment Plant) [b]	800214		X					VRRP approved as ATIR
LA City, Street Maintenance Bureau Department of Public Works	25196							See Appendix A.23
Light Metals [b]	83102	X						
Los Angeles By-Products	60384							See Appendix A.25
Lubeco Inc [a]	41229				X	X		
MM West Covina LLC [b]	113873			X				

Facility Name	ID #	ATIR		HRA		RRP		Status
		R	A	R	A	R	A	
Motion Picture & Television Fund	16211							See Appendix A.28
PABCO Bldg Products LCC	45746							See Appendix A.29
Pac Rancho, Inc.	140871							See Appendix A.30
Pacific Clay Products, Inc.	17953							See Appendix A.30
Pasadena Department of Water and Power [b]	800168	X	X					
Phillips 66 Co/LA Refinery Wilmington Plant [b]	171107		X	X				
Phillips 66 Company/Los Angeles Refinery [b]	171109		X					VRRP approved as ATIR
Plains West Coast Terminals	800417							See Appendix A.35
Robertson's Ready Mix – Redlands	42623							See Appendix A.36
Robertson's Ready Mix – Gardena	134112							See Appendix A.37
San Diego Gas & Electric	4242							See Appendix A.38
SFPP, L.P [b]	800278							See Appendix A.39
So Cal Edison Co [b]	4477		X	X				
So Cal Gas Co./Playa del Rey Storage Facility	8582				X	X	X	Modified public notice posted on 01/02/2019. See facility entry in Appendix A.41.
So Cal Holding, LLC	169754				X			
Tesoro Refining & Marketing Co., LLC, Calciner [b]	174591		X					VRRP approved as ATIR
Tesoro Refining & Marketing Co., LLC (Sulfur Recovery Plant) [b]	151798		X					VRRP approved as ATIR
TST, Inc. [b]	43436	X	X					
Vista Metals Corporation [b]	14495							See Appendix A.50
Vorteq Pacific	191677							See Appendix A.51
Whittier Fertilizer	511	X	X	X				

Notes:

For ATIRs, HRAs, and RRPs: R=Report Received; A=Report Approved.

[a] Classified as Potentially High Risk Level Facility and under an Order for Abatement during 2018.

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

Table 2-4: Actions Taken in 2019 for Facilities in the Voluntary Risk Reduction Program

Facility Name	ID #	VRRP		Status
		R	A	
Chevron Products Co. (El Segundo Refinery)	800030		X	
Elite Comfort Solutions	182610	X		
Tesoro Refining & Marketing Co., LLC, Los Angeles Refinery	800436			See Appendix A.44
	174655			
	174694			
	174703			
Torrance Refining Company LLC	181667			See Appendix A.46
Ultramar Inc	800026			See Appendix A.49

Notes:

For VRRPs: R=Report Received; A=Report Approved.

A description of these activities for each facility in Tables 2-3 and 2-4 is listed in Appendix A

Air Monitoring Activities

In addition to the AB 2588 Program, South Coast AQMD also conducts other activities to address air toxics, including special monitoring projects. In 2013, South Coast AQMD staff began conducting an investigation into local sources of emissions, including initiating a local air sampling study after receiving a series of metallic odor complaints from local community members in the City of Paramount (Paramount) and surrounding areas. The purpose of these activities was to determine the source of emissions and potential air pollution control strategies. This investigation focused on two toxic metals of concern: nickel and hexavalent chromium. Monitoring efforts have been expanded and now includes West Rancho Dominguez.

Paramount

In July 2016, a larger number of samplers were deployed to allow South Coast AQMD to better measure spatial and temporal variations of hexavalent chromium in the area and identify its potential sources. In October 2016, South Coast AQMD initiated an extensive air monitoring campaign to assess levels of hexavalent chromium in the industrialized sections of Paramount. Highly elevated levels were found initially and additional efforts were conducted to identify and address sources of hexavalent chromium that were impacting nearby communities. Once potential sources were identified, the sampling strategy was adjusted to focus on specific facilities and on characterizing hexavalent chromium levels in the adjacent communities. As a result, several facilities made a range of improvements, some voluntary and some through rule changes and enforcement actions. These changes have substantially reduced ambient hexavalent chromium levels in Paramount and surrounding areas. As a result, South Coast AQMD is updating its air monitoring efforts in Paramount to focus on conducting studies to evaluate other potential sources of hexavalent chromium and also monitoring other areas of the Basin that may have higher potential for air toxics exposure.

Throughout this period, air monitoring in Paramount has occurred at a total of 38 locations as shown in Figure 2-4, and 12 schools. School sampling has been supported by CARB. Currently, South Coast AQMD collects air samples for hexavalent chromium analysis at 16 locations in the City of Paramount. Among these active monitoring locations, six are adjacent to facilities that are operated under an Order of Abatement during 2018 with South Coast AQMD's independent Hearing Board ("Compliance" sites; see Figure 2-4). The remaining monitoring sites are close to other potential sources or near residential areas and sensitive receptors of Paramount. Because hexavalent chromium levels in Paramount have been declining steadily and are now within the typical levels, the size of this monitoring network can be reduced to focus on other areas that have higher potential for air toxics exposure.

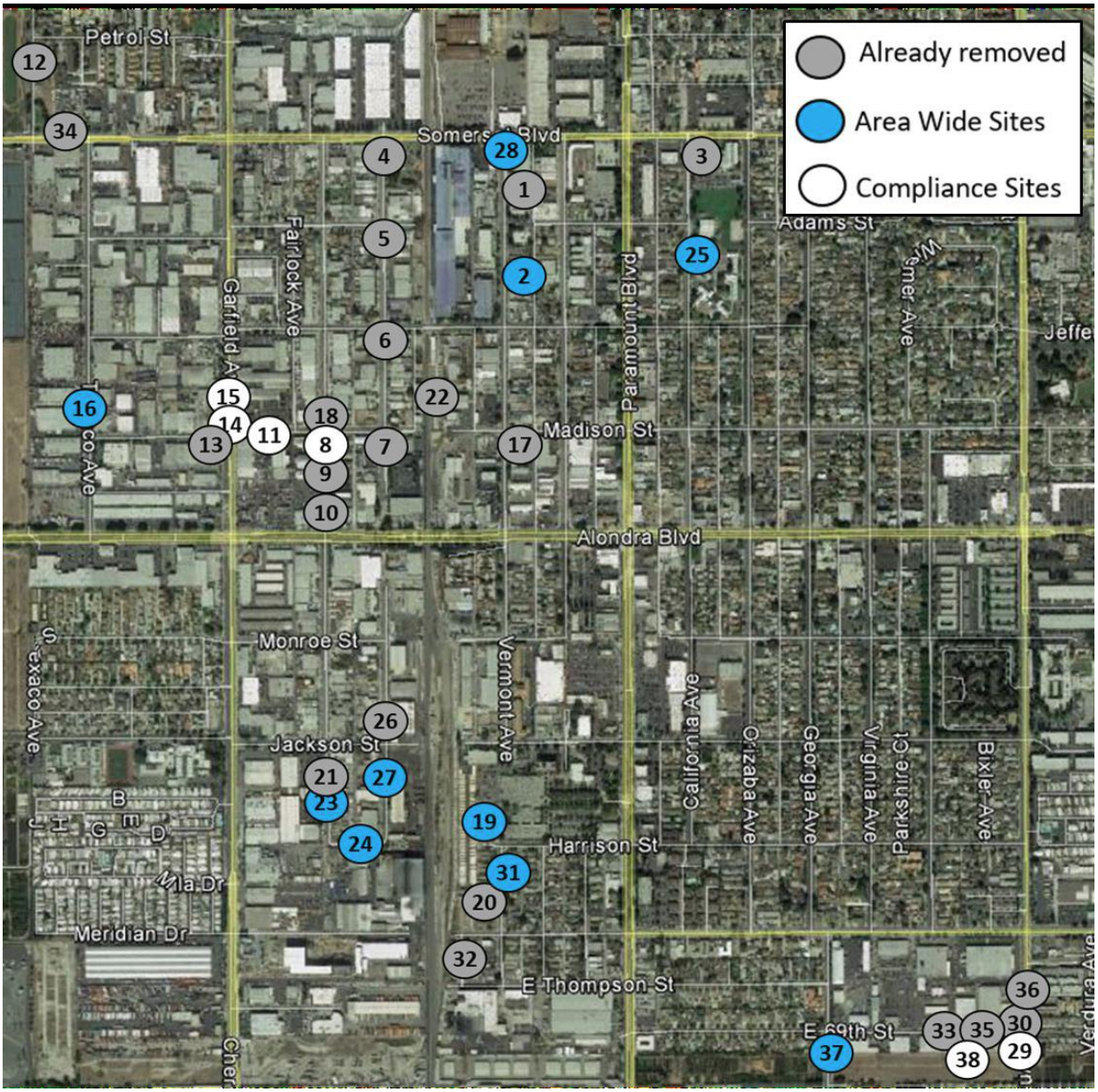


Figure 2-4: Location of the monitoring sites in the City of Paramount

Continued Air Toxics Monitoring in Communities

As a result of lessons learned during South Coast AQMD's investigation into air monitoring for sources of toxic metal emissions in Paramount and other areas, staff continues to investigate, identify and remediate any additional sources across our four-county region that may emit high levels of toxic air contaminants. South Coast AQMD will systematically identify and prioritize high-risk facilities, then use the latest air monitoring technology to confirm specific sources causing high emissions associated with metal-processing facilities. If identified, South Coast AQMD may seek Orders for Abatement from the independent South Coast AQMD Hearing Board to require these facilities to reduce their emissions to a level that does not pose an immediate threat to public health quickly. South Coast AQMD may also designate facilities as Potentially High Risk Level Facilities under Rule 1402.

The goal is to eliminate or minimize the release of hexavalent chromium into the environment associated with metal-processing facilities. This program is expected to be a seven-year, labor-intensive effort with the air monitoring portion costing approximately $6 million to $7 million annually. It will focus on a variety of metal processing facilities across South Coast AQMD's four-county jurisdiction with the potential to emit toxic metal contaminants including hexavalent chromium, lead, arsenic, cadmium and nickel.

As with the process in Paramount, South Coast AQMD staff will engage and communicate regularly about its work with residents, community groups, local governments and their elected officials, partner regulatory agencies, affected facilities and industry groups. South Coast AQMD will seek to leverage the regulatory authorities of other agencies to assist in swiftly curtailing emissions from high-emitting facilities.

West Rancho Dominguez

In June 2019, the South Coast AQMD staff began collecting hexavalent chromium air monitoring samples in West Rancho Dominguez, which is an industrial area within the AB 617 Wilmington, Carson, West Long Beach community. Sampling equipment was installed at 14 different locations within a two-block area and data collected from these locations showed elevated levels of hexavalent chromium. Figure 2-5 below shows the location of the various air monitors. South Coast AQMD has been collecting air samples at Sites #1 through Site #10 since June 5, 2019, while monitoring for Sites #11 through #14 began at the end of July.

South Coast AQMD has been investigating potential sources in the vicinity of these monitors and working with the facilities to identify voluntary actions that could be implemented to reduce hexavalent chromium emissions. These actions include improvements to building enclosures, operational changes, add-on controls, housekeeping measures in addition to new requirements under amended Rule 1469 for chromic acid anodizing and chrome plating facilities requiring additional pollution controls on certain tanks that were previously unregulated resulting in additional hexavalent chromium emissions reductions. South Coast AQMD continues to work with facilities in the area to identify and address additional potential sources of hexavalent chromium.

Monitoring efforts have continued in this area while investigation of potential sources within the vicinity of the monitoring network continues.

Figure 2-5: Location of the monitoring sites in the West Rancho Dominguez

Assembly Bill 617 (AB 617)

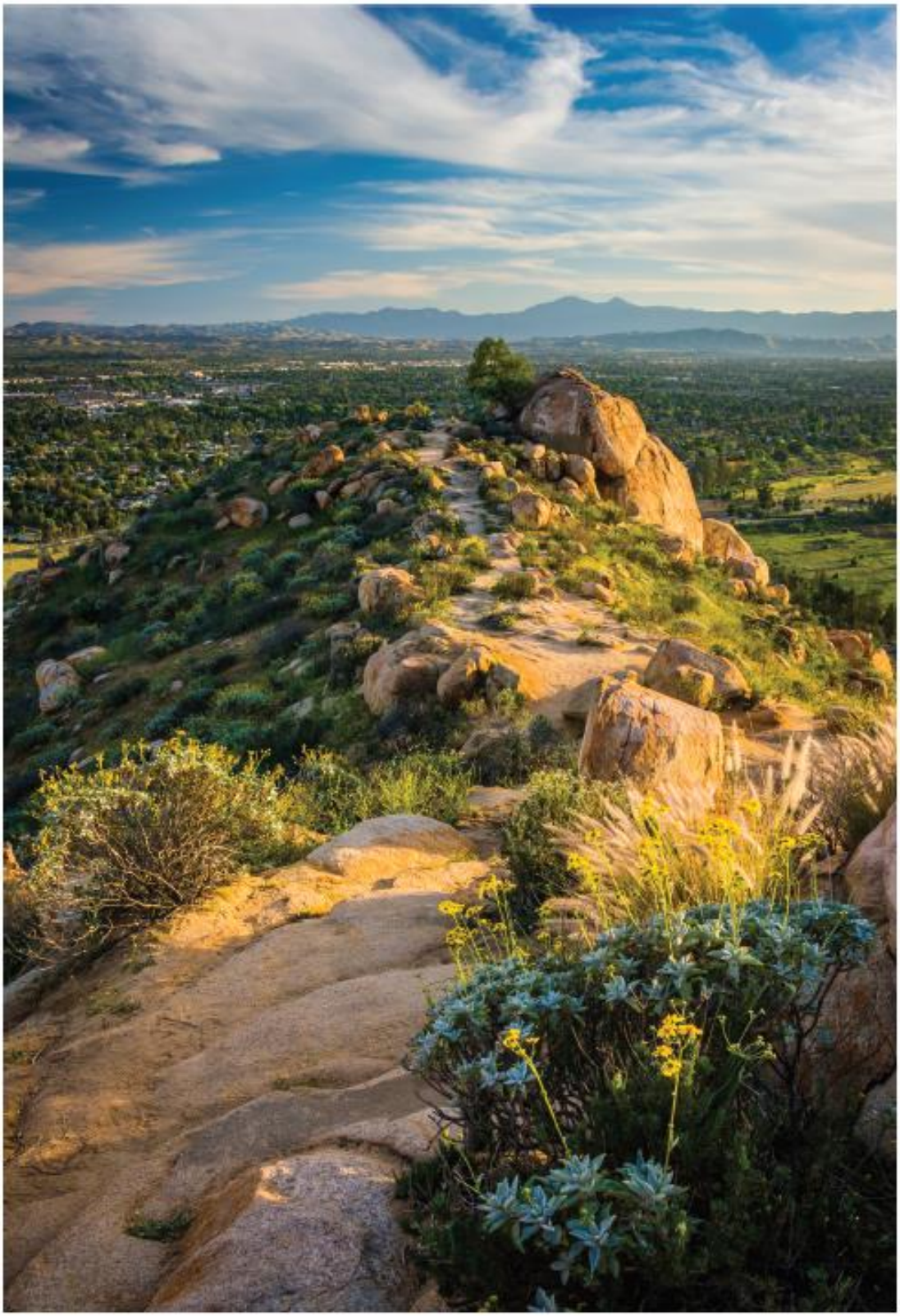
AB 617 was passed by the California legislature in 2017 and focuses on improving air quality and public health in environmental justice communities. This law first allows local residents to provide recommendations for the selection of the environmental justice communities. South Coast AQMD will use updated data to assess the communities most affected, to identify key sources of pollution and develop targeted emissions reduction plans to reduce community exposures to air pollution. Five communities have been selected for the first two years and other communities will be added over time.

For each selected community, South Coast AQMD will work with local stakeholders to evaluate their greatest air pollution concerns. Depending on the needs of each community, South Coast AQMD may conduct targeted community air monitoring and develop a tailored community air plan. South Coast AQMD will work with CARB, other agencies, and all stakeholders to implement these community air plans to reduce local air pollution emissions and benefit public health. CARB approved three communities in September 2018. In December 2019, CARB approved the following two communities in our region for the second year of this program:

- Southeast Los Angeles (including the cities of Bell Gardens, Huntington Park, Cudahy, and South Gate).
- Eastern Coachella Valley (including the cities of Mecca, Coachella, Indio, Thermal, North Shore, and Oasis).

South Coast AQMD has convened a Community Steering Committee in each of the two communities with the purpose of identifying specific community air quality concerns, discussing resolutions, and developing recommendations for improving the local air quality. These committees work closely with South Coast AQMD and CARB to discuss emissions reductions targets and strategies to inform a tailored community air plan that addresses the community's highest priority concerns. South Coast AQMD will deploy systems to monitor air quality in selected communities where this information is most needed. The analysis of the data collected will inform future community emissions reduction plans and will be used to track progress. This information will also be shared with the public and CARB.

Chapter 3
Streamlining Activities



AB 2588 staff continually aim to improve South Coast AQMD's AB 2588 program and to help affected facilities comply with rule requirements. This chapter covers streamlining efforts implemented by South Coast AQMD for the AB 2588 program as well as other streamlining activities to assist other departments within the South Coast AQMD.

Streamlining Activities

Background

South Coast AQMD has undertaken several efforts to help affected facilities comply with rule requirements and to interact with the public regarding general air quality-related issues. This chapter describes these efforts along with the services created to advance these efforts.

South Coast AQMD Guidelines and Procedures for AB 2588

Consolidated Emissions Reporting

As described earlier, core AB 2588 facilities are required to provide an update of their toxics emissions inventory to South Coast AQMD on a quadrennial basis. Beginning with the fiscal year 2000-01 reporting cycle, toxics emission reporting was incorporated into South Coast AQMD's Annual Emissions Reporting (AER) Program. This was the first step towards streamlining emissions reporting between criteria pollutants and toxics. In 2008, South Coast AQMD created a web-based reporting system for facilities. The reporting tool automatically identifies if a facility is in the AB 2588 Program and also informs a facility if a particular year is subject to a quadrennial update. These upgrades and consolidation efforts have made for a much more efficient system that benefits both facilities and South Coast AQMD staff.

Prioritization Procedures

South Coast AQMD has taken various steps over the years in streamlining prioritization procedures for the AB 2588 Program while maintaining consistency with the CAPCOA guidelines. In 2016, South Coast AQMD adopted the use of local meteorological stations and evaluated risks at actual closest receptor locations in addition to evaluating receptors in the worst case wind direction. Most recently in July 2018, the procedures were updated to incorporate the most recent meteorological data set and to simplify the calculation of a facility's non-cancer acute priority score. By using the South Coast AQMD Prioritization Procedure, fewer facilities are incorrectly categorized as high priority. [11] This streamlining is highly effective since less facilities are immediately notified each year.

The AB 2588 group also conducts a detailed audit of those facilities that are initially categorized as high priority to ensure proper designation. Certain steps may include confirming the correct use of emission factors, control efficiencies, source test methods, and relative proportions of toxic air contaminants. Additionally, staff confirms the correct distances to residential and worker receptors as well as any modifications to any equipment for the given quadrennial year and contacts the facility as needed for additional clarification. This additional information obtained through priority score auditing will often negate the need to require an ATIR and HRA. This process and use of this refined priority scoring methodology serves to reduce the number of facilities that are required to be notified and overall reduces unnecessary workload for the facilities and for staff.

[11] http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-facility-prioritization-procedure-201809.pdf

Hotspots Analysis and Reporting Program (HARP)

The Hotspots Analysis and Reporting Program, commonly known as HARP, is a software suite developed by CARB that assists with the technical requirements of the AB 2588 Program. HARP consists of three independent modules: the Emissions Inventory Module, Air Dispersion Modeling and Risk Tool, and Risk Assessment Standalone Tool. South Coast AQMD requires the use of HARP for Rule 1402 related work such as ATIRs, VRRPs, and HRAs. The use of HARP by facility operators, and other individuals promotes consistency and a more efficient and cost-effective way to develop inventories and conduct HRAs.

General Supplemental Guidelines

The OEHHA HRA Guidance defers to local air districts for specific or additional requirements. The AB 2588 Supplemental Guidelines lists the specific instructions for preparing AB 2588-related documents in South Coast AQMD. By clearly indicating what is required from facilities and by periodically updating the document as needed, South Coast AQMD ensures that facilities have a clear and up to date understanding of all requirements. This will also minimize the amount of general inquiries and preliminary discussions, provided for a more efficient process.

Voluntary Risk Reduction Program

Another element streamlining the South Coast AB 2588 Program is the provision for the Voluntary Risk Reduction Program. We amended Rule 1402 to provide this option in response to industry interest in a mechanism to voluntarily reduce health risks from their facilities in return for modified public notification requirements. A facility may participate in the Voluntary Risk Reduction Program only if it has a previously approved HRA that is below the Action Risk Level and is not a Potentially High Risk Level facility. This program provides a more expeditious risk reduction program than the traditional pathway under state requirements, and also reduces notification requirements and other process for participating facilities. Under the traditional program, facilities are required to reduce cancer risk below 25 chances in-one-million. To successfully participate in the Voluntary Risk Reduction Program, risks from the participating facility must be reduced below 10 chances in-one-million, which is up to 60% reduction in cancer risk. To further expand the use of the Voluntary Risk Reduction Program and assist facilities, the AB 2588 staff developed guidelines that describe the requirements of a VRRP in September 2018.[12]

Air Dispersion Modeling

Modeling Guidance

The United States Environmental Protection Agency's (U.S EPA) air quality dispersion model AERMOD is required for use to estimate concentrations of toxic air contaminants for risk assessments conducted pursuant to Rules 1401 and 1402. The AERMOD model is a steady-state Gaussian plume model capable of estimating pollutant concentrations from a wide variety of

[12] *South Coast AQMD Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program*, September 2018. http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-vrrp-guidelines-201809.pdf

sources that are typically present at a facility. It is a stand-alone application, but has also been incorporated into the CARB-developed HARP program as well as other programs from third party developers. South Coast AQMD has developed guidance regarding the use of AERMOD to assist modelers such as the use of regulatory defaults, averaging times, receptor grids and elevation data.[13] The AB 2588 Program staff has provided specific guidance regarding the required parameters in the HARP program. This guidance not only increases the quality of submissions but also decreases the amount of time spent by staff to answer basic questions.

Meteorological Data

South Coast AQMD has prepared meteorological data from 24 stations throughout the South Coast Air Basin for download. The South Coast AQMD website includes a map showing the locations of each of these meteorological stations along with the corresponding most recent five years of meteorological data for each station. The meteorological station that best represents the facility's meteorological conditions (such as prevailing winds), terrain, and surrounding land use should be used in all modeling analyses. In many cases, this would be the nearest located station. South Coast AQMD staff are available to provide assistance to modelers to ensure the most representative station is used.

Other Streamlining Activities

Rule 1401 Guidance

Rule 1401 requires any new, modified, or relocated permit units which emit toxic air contaminants to comply with certain allowable limits. South Coast AQMD has developed the Rule 1401 Risk Assessment Procedures[14] to assist applicants as well as staff to evaluate Rule 1401 and 1401.1 compliance. The guidance document provides four tiers to determine health risk for Rule 1401 risk assessment, ranging from a quick look up table that uses very conservative health-protective values, to instructions to conduct detailed risk assessments involving air quality dispersion modeling analysis. By allowing permit applicants to utilize this tiered option to demonstrate compliance with risk limits, this often times leads to an expedited analysis since detailed risk assessments often are not necessary for most permit applications. The document also provides detailed sample calculations and instructions for each tier, allowing facilities to have a more thorough understanding of the risk assessment process associated with Rule 1401.

Web Tools

South Coast AQMD has also developed web tools such as the Facility Information Detail (F.I.N.D) tool that allows a user to search for public information about South Coast AQMD-regulated facilities. Some of the facility information that can be found using F.I.N.D include: general facility

[13] South Coast AQMD modeling guidance is available at: http://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance

[14] *Risk Assessment Procedures for Rules 1401, 1401.1 and 212, Version 8.1*, September 1, 2017, South Coast AQMD http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf

details, equipment lists, compliance history, emissions inventory (including toxic pollutants), and hearing board information. There are several existing web-based applications on South Coast AQMD's website that provide similar information, however, F.I.N.D makes the data available in a much more consolidated and user friendly way. Updates to the database are made at least once per week and the tool also includes a very useful interactive map with aerial imagery from the U.S Geological Service. [15]

Small Business Assistance

South Coast AQMD has a team of engineers and inspectors that are specifically designated to help small businesses (100 or fewer employees or an annual gross revenue up to $5 million) understand and comply with air quality rules and regulations. Whether it is assistance in understanding regulations that may apply to a facility, identifying equipment that may need a permit, assistance with permit applications, or even scheduling a no fault on-site inspection, the small business assistance unit act as advocates for these small businesses. Offering these services to smaller businesses serves to streamlines efforts to regulate air quality while also creating a positive open working relationship with small local businesses.

Public Assistance

The South Coast AQMD's AB 2588 Program provides public assistance services that includes both a hotline at (909) 396-3610 and email address (ab2588@aqmd.gov) to answer any program-related questions. Our website also includes a section specifically dedicated to the AB 2588 Program that provides up to date activities, including approved HRAs, RRPs, and public notices, and information on air toxics monitoring in local communities, such as in Paramount.

South Coast AQMD also provides several other services, such as a telephone number to answer fee-related questions, an online complaint system and telephone number where members of the public can notify staff of air quality problems, such as odor and visible emissions.[16] These services help to maintain good working relationships with facilities and to protect air quality and public health.

State Level Air Toxics Related Activities

OEHHA Updates

Toxic Program Impacts with New or Proposed Toxic Air Contaminants

As described previously, OEHHA is required to develop guidelines for conducting HRAs under the AB 2588 Program. In implementing this requirement, OEHHA develops new, revised, or proposed risk factors for many toxic air pollutants. South Coast AQMD staff monitor the progress for these changes closely. For any finalized changes in risk factors, staff performs a preliminary

[15] http://www.aqmd.gov/nav/FIND/facility-information-detail

[16] http://www3.aqmd.gov/webappl/complaintsystemonline/NewComplaint.aspx;
Telephone hotline: 1-800-CUT SMOG® (1-800-288-7664)

estimate of potential Rule 1402 program impacts. Notice is provided to the Governing Board and affected industries annually through this and other AB 2588 annual reports.

Toxic Air Contaminants with New or Proposed Health Values

OEHHA adopted new Reference Exposure Levels (RELs) for Hexamethylene Diisocyanate (HDI) (Monomer and Polydiisocyanates) in September 2019.[17] RELs are airborne concentrations of a chemical that are not anticipated to result in adverse non-cancer health effects for specified exposure durations in the general population, including sensitive subpopulations. HDI is used in hardeners for polyurethane paints, primers, sealers, and clear coats. HDI is also used in outdoor furniture, architectural finishing, adhesives, polyurethane foams, and home thermal insulators.

OEHHA also proposed new RELs for Toluene in May 2019.[18] Toluene is a solvent that is used in various industries including the production of coatings, cosmetics, cleaning agents, inks, adhesives, pharmaceuticals, and cosmetics. Toluene also occurs naturally as a component of crude oil and is produced in petroleum refining. Toluene is also a byproduct from combustion of fuels.

The proposed and adopted values are summarized in Table 3-1. The previous values are shown in parentheses below the current values; N/A within parentheses indicate no previous value existed.

Table 3-1: New or Proposed Health Values in 2019 from OEHHA

CAS #	Name	Chronic REL µg/m^3	8-Hour Chronic REL µg/m^3	Acute REL µg/m^3
822-06-0	Hexamethylene Diisocyanate Monomer	0.03 (N/A)	0.06 (N/A)	0.3 (N/A)
3779-63-3 4035-89-6	Hexamethylene Diisocyanate Polyisocyanate (Isocyanurate) (Biuret) (Uretidone)	0.4 (N/A)	0.8 (N/A)	4.5 (N/A)
108-88-3	Toluene	420 (300)	830 (N/A)	5000 (37,000)

Assessment of Impacts to Existing Facilities

HDI monomer is a previously listed pollutant and is subject to reporting by AB 2588 facilities every four years. Data from the 2015-2018 reporting years was used to account for facilities reporting HDI monomer in different reporting phases. 21 facilities reported annual emissions of

[17] https://oehha.ca.gov/air/crnr/notice-adoption-reference-exposure-levels-hexamethylene-diisocyanate

[18] https://oehha.ca.gov/air/crnr/draft-document-summarizing-toxicity-and-derivation-reference-exposure-levels-rels-toluene

HDI monomer. A breakdown of the types of facilities and the number of those types of facilities that reported HDI monomer emissions are presented in Table 3-2.

Table 3-2: 2015-2018 Summary of HDI Emitting Facilities

Facility Description	Number of Facilities
Aerospace	7
Entertainment	1
Military Base	1
Other Industrial/Manufacturing	4
Petroleum Refinery	1
Schools and Educational Institutions	2
Airports	1
Furniture/Household Products	1
Other Institutional/Commercial	1
Harbors	1
Metals and Alloys Products	1
Total:	21

Fourteen of the 21 facilities have previously approved HRAs. The HRAs for these facilities were approved between 1993 and 2019. Although not reported in every HRA (no HRA approved before 2000 had HDI reported), HDI monomer did not have significant risk factors when reported in a HRA. HDI monomer is required to be reported on a quadrennial cycle and therefore is examined when screening and prioritization occurs in accordance with program requirements.

HDI polyisocyanates are newly added pollutants with no prior reporting requirements and are not currently required to be reported by AB 2588 facilities

Staff will continue to monitor the status of the proposed RELs for toluene. Adoption of the proposed RELs for toluene has a potential to affect most if not all facilities due to the widespread use of toluene as a solvent and as a byproduct from combustion of fuels.

Chapter 4
Future Activities

AB 2588 staff will conduct AB 2588 related activities such as prioritizing facilities, review and approval of Air Toxic Inventory Reports, Health Risk Assessments, host public notification meetings, and continue to review and update guidance documents. AB 2588 staff will also continue to provide support to other South Coast AQMD departments and work with CARB to improve the implementation of the AB 2588 program.

Future Activities

AB 2588 Activities

In 2020, staff will prioritize approximately 128 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 2020. Public notification, and public meetings as necessary, will also occur for multiple facilities including Lubeco, Inc. (ID 41229), Phillips 66 Company, Los Angeles Refinery – Wilmington Plant (ID 171107), Equilon Enterprises (ID 800372), MM West Covina (ID 113873), and Southern California Edison, Pebbly Beach (ID 4477). Staff will also update AB 2588 guidance documents to provide additional clarification on the process and requirements of the AB 2588 program including the following:

- Facility Prioritization Procedures for the AB 2588 Program
- AB 2588 and Rule 1402 Supplemental Guidelines
- South Coast AQMD Public Notification Procedures for Facilities under AB 2588 and Rule 1402
- AB 2588 Quadrennial Air Toxics Emission Inventory Reporting Procedures

Other Support Activities

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

- Continue to provide support to rulemaking staff;
- Work with CARB and through the CAPCOA Toxics and Risk Managers Committee (TARMAC) to update CARB AB 2588 Guidelines, including review of draft list of chemicals;
- Continue to work with CARB and through CAPCOA-TARMAC to develop HRA guidelines for the industry-wide categories of gasoline dispensing facilities, diesel internal combustion engines, auto body shops, and providing training to South Coast AQMD personnel and the regulated community;
- Train new staff on the expanded emissions reporting under amended Rule 301 and AB 617; and
- Track development of potential REL revisions by OEHHA.

Appendix A — Description of Facilities/Projects

A.1. ACE Clearwater Enterprises (ID 17325) – Paramount

ACE Clearwater Enterprise (ACE) manufactures aerospace parts and is located in the city of Paramount. ACE currently operates two melting furnaces which are vented to a Donaldson Torit dust collector equipped with High Efficiency Particulate Air (HEPA) filters to control particulate matter and toxic emissions.

The facility had an approved Rule 1420.2 Monitoring and Sampling Plan from August 2017. The facility conducted ambient air monitoring for a year and demonstrated that the 30 consecutive day average ambient air lead concentration was 0.07 mg/m3 for the entire duration of ambient air monitoring activities onsite which is below Rule 1420.2 concentration limits. The facility submitted a Rule 1420.2 Ambient Monitoring Relief Plan in December 2018 pursuant to Rule 1420.2 (o)(1). Upon review of the modeling files in January 2019, South Coast AQMD staff found that the original source test submitted with the plan was not conclusive. The facility conducted a new source test which was approved in December 2018 and submitted to South Coast AQMD staff in February 2019. South Coast AQMD completed review of the modeling files in April 2019 and found that the project complied with the limits of Rule 1420.2 (o)(1)(A).

A.2. Aerocraft Heat Treating Co. Inc. (ID 23752) – Paramount

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 Aeroccraft which showed elevatedlevels 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 Reduction Plan by March 14, 2017, an ATIR by May 16, 2017, aHRA 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 on South Coast AQMD's website.[19]

The Early Action Reduction Plan was received on March 13, 2017 and after South Coast AQMD'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 Reduction Plan was received.

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 Reduction Plan was granted on May 31, 2017. On February 9, 2018, South Coast AQMD staff provided Aerocraft with comments and recommendations on the submitted ATIR, HRA, and RRP, and requested revision and resubmittal of those respective documents. After technical

[19] Information regarding Aerocraft and compliance-related activities in Paramount can be found at the following link: https://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/facilities---order-for-abatement/aerocraft

conference calls with Aerocraft representatives, South Coast AQMD staff received the Revised ATIR on March 29, 2018. The Revised ATIR was approved on May 9, 2018.

The Revised HRA and Revised RRP were received on May 17, 2018. The Revised HRA was approved by South Coast AQMD staff and OEHHA on October 9, 2018. The revised HRA representing the 2016 inventory year indicated that Aerocraft posed a maximum cancer risk of 1,900 chances in-one-million for a residential receptor located at the corner of Madison Street and Illinois Avenue, based on a 30 year residential exposure, and 350 chances in-one-million for the worker receptor located immediately south of Aerocraft, based on a 25 year worker exposure. The cancer risk was mainly due to hexavalent chromium emissions from furnaces and rack welding operations. A cancer burden of 11 was estimated, based on a 70 year lifetime exposure.

The maximum non-cancer chronic hazard indices of 0.10 and 0.15 were projected for residential and non-residential receptors, respectively. The maximum non-cancer 8-hour chronic hazard index is less than 0.01 and the maximum non-cancer acute hazard index was 2.9 at Aerocraft's property boundary.

Since the HRA results were above the Significant Risk Level in Rule 1402, Aerocraft 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). Notices of the public notification meeting were sent out to over 35,000 people in the area of impact. South Coast AQMD staff held a public notification meeting at the Progress Park Community Center on December 1, 2018 to explain the impact of Aerocraft's emissions on public health and to discuss how risks will be reduced. South Coast AQMD conditionally approved the Revised RRP on April 24, 2019 requiring Aerocraft to construct permanent total enclosures with associated baghouses and Ultra Low Particulate Air (ULPA) filters for Buildings 2 and 3 by December 20, 2019. While these controls have been constructed and installed, source testing to confirm the control efficiency has not yet occurred at the end of 2019. The first annual progress report is due in April 2020. Staff continues to work with the facility to ensure the Revised RRP is fully implemented.

A.3. ***Air Liquide Large Industries U.S., LP (ID 148236) – El Segundo***

Air Liquide Large Industries U.S., LP (Air Liquide) is a hydrogen plant located within the Chevron El Segundo Refinery facility on land leased from Chevron. Air Liquide and Chevron are independent parties and share no common ownership or employees. The plant began operations in 2004 and was originally part of Chevron before separating in 2008. The plant produces up to 90 million standard cubic feet of hydrogen per day and 227,000 pounds of steam per hour. Air Liquide receives its feed streams which include refinery fuel gas and natural gas from Chevron and sends its products of hydrogen and steam back to Chevron. Hydrogen is used in various aspects of petroleum refining.

On January 25, 2019, South Coast AQMD staff sent a letter requiring Air Liquide to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2016 emissions. The main toxic air contaminants contributing to the priority score are arsenic and arsenic compounds, nickel and nickel compounds, and cadmium and cadmium compounds. The main sources of emissions are from the reformer heater.

Air Liquide submitted its ATIR on June 25, 2019. The ATIR was in review as of the end of 2019.

A.4. All American Asphalt (ID 114264) – Irwindale

All American Asphalt is an asphalt plant located in Irwindale, that blends various ingredients to manufacture hot mix asphalt, also known as asphaltic concrete. This asphalt is then transported out of the facility to support construction projects.

On August 23, 2019, South Coast AQMD staff sent a letter requesting All American Asphalt to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions, with hexavalent chromium being the main air toxic contributor to the high priority score. Hexavalent chromium emissions were due primarily to the Rotary Dryer. On September 19, 2019, All American Asphalt submitted the Initial Information for the ATIR. The ATIR is due on January 21, 2020.

A.5. All American Asphalt (ID 148146) – Perris

All American Asphalt is an asphalt plant located in Perris, that blends various ingredients to manufacture hot mix asphalt, also known as asphaltic concrete. This asphalt is then transported out of the facility to support construction projects.

On August 23, 2019, South Coast AQMD staff sent a letter requesting All American Asphalt to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions, with hexavalent chromium being the main air toxic contributor to the high priority score. Hexavalent chromium emissions were due primarily to the Rotary Dryer. On September 19, 2019, All American Asphalt submitted the Initial Information for the ATIR. The ATIR is due on January 21, 2020.

A.6. Anaplex Corp (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 on South Coast AQMD's website.[20]

Based on ambient monitoring in December 14, 2016, South Coast AQMD 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 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. South Coast AQMD staff provided comments on April 26, 2017 and requested revisions and resubmittal of the Early

[20] http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/facilities---order-for-abatement/anaplex-corp

Action Reduction Plan. Anaplex submitted a revised Early Action 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. South Coast AQMD staff provided written comments regarding all three documents on December 8, 2017, and requested revisions and resubmittal of each document. On December 8, 2017, South Coast AQMD staff provided Anaplex with comments and recommendations on the submitted ATIR, HRA and RRP, and requested revision and resubmittal of those respective documents. After numerous technical conference calls and meetings with Anaplex representatives, South Coast AQMD staff received the Revised ATIR on May 1, 2018 and the Revised HRA and RRP on May 17, 2018. After review, South Coast AQMD staff requested another revision and resubmittal of the HRA and RRP. Anaplex submitted the Revised HRA and Revised RRP on September 26, 2018. The revised ATIR was approved on October 9, 2018.

The Revised HRA submitted by Anaplex contained alternate HRA scenarios in the main HRA report, which was not consistent with South Coast AQMD's AB 2588 Supplemental Guidelines. In the interest of time and pursuant to Rule 1402 (e)(2)(D), South Coast AQMD staff modified the Revised HRA resubmitted on September 26, 2018 to follow Appendix B of South Coast AQMD's AB 2588 and Rule 1402 Guidelines[21]. The HRA relied upon results of one of the scenarios contained in Anaplex's resubmitted Revised HRA, and presented the information consistent with South Coast AQMD's AB 2588 Supplemental Guidelines. Anaplex's modified HRA was conditionally approved on October 9, 2018 and was submitted to OEHHA for their review. The HRA results representing the 2016 inventory year indicated that Anaplex posed a maximum cancer risk of 931 chances in-one-million for a residential receptor located at the corner of Madison Street and Illinois Avenue, based on a 30 year residential exposure, and 2,836 chances in-one-million for a worker receptor located immediately south of Anaplex, based on a 25 year worker exposure. The cancer risk was mainly due to hexavalent chromium emissions from spray booth operations. A cancer burden of 9.73 was estimated, based on a 70 year lifetime exposure.

The maximum non-cancer chronic hazard indices of 0.06 and 2.02 were projected for residential and non-residential receptors, respectively. The maximum non-cancer 8-hour chronic hazard index was 0.11 and the maximum non-cancer acute hazard index was 23.84 at Anaplex's property boundary.

Since the HRA results were above the Significant Risk Level in Rule 1402, Anaplex 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). Notices of the public notification meeting were sent out to over 35,000 people in the area of impact. South Coast AQMD staff held a public notification meeting at the Progress Park Community Center on December 1, 2018 to explain the impact of Anaplex's emissions on public health and to discuss how to reduce risks.

On April 24, 2019, South Coast AQMD rejected the September 26, 2018 Revised RRP. Anaplex submitted a set of revised risk reduction measures on July 12, 2019. A follow-up comment letter

[21] http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines-201809.pdf

was sent to Anaplex on September 6, 2019 which detailed remaining concerns on certain risk reduction measures. On October 31, 2019, Anaplex submitted a request letter for RRP approval that detailed the disputed risk reduction measures; however, South Coast AQMD staff required additional supporting documentation to complete the review. Anaplex submitted a revised RRP for approval on December 18, 2019, which was under review by South Coast AQMD as of the end of 2019.

A.7. ***Arconic Global Fasteners & Rings, Inc. (ID 134931) – Fullerton***

Arconic Global Fasteners & Rings, Inc. (Arconic) manufactures precision fastening systems and components for the aerospace industry. They operate plating lines, ovens and abrasive blasting equipment.

This facility has a HRA that was approved in November 1997 with elevated cancer risks requiring risk reduction. The RRP was submitted in February 2001 and approved March 2001. The RRP involved eliminating use of perchloroethylene as a cleaning solvent, and installing scrubbers to control emissions of various metals from plating operations. This RRP was fully implemented and approved in October 2003. However, the resulting acute hazard index was greater than 1.0 due to use of sodium hydroxide as part of the plating operations.

The facility voluntarily submitted an HRA to demonstrate that the acute hazard index is no longer greater than 1.0. Upon review of the HRA, South Coast AQMD staff found that certain emissions were not included in the HRA. In response, the facility indicated that some permitted sources were no longer operated at the facility, but still listed on the facility's Permits to Operate. Staff informed the facility that emissions from those sources cannot be excluded unless modifications to the facility permits are done and those sources are inactivated. Staff is currently working with the facility to resolve the outstanding issues.

A.8. ***Ascon Landfill (ID 43819) – Huntington Beach***

Ascon Landfill is a waste disposal site in the city of Huntington Beach that handled mostly waste from oil drilling operations as well as inert solid wastes until 1984 when the site stopped commercially receiving waste. In 2003 the California Department of Toxic Substances Control (DTSC) notified the site's responsible parties about cleanup responsibilities at Ascon Landfill. The responsible parties requested that South Coast AQMD staff review information to approve alternative Rule 1466 provisions for remedial activities including a proposed PM10 limit of 50 $\mu g/m^3$ instead of 25 $\mu g/m^3$ as required in subparagraph (d)(2).

Staff was required to evaluate the health risks associated with toxic air emissions which was calculated by multiplying PM10 speciation profiles from the facility by the proposed alternative Rule 1466 PM10 limits. To do so, staff reviewed a DTSC HRA prepared in 2013 and identified missing information needed to complete the review. This information was sent to South Coast AQMD staff on November 15, 2018 and additional missing information was submitted on January 16, 2019. Staff concluded there was no correlation between the submitted data and the proposed alternative Rule 1466 provisions based on the information submitted. Supplemental information was requested and received on February 14, 2019. Staff performed risk analysis on the toxic air emissions calculated with the new information and concluded that the alternative provisions were

approvable on March 6, 2019.

A.9. ***Chevron Products Co. (El Segundo Refinery) (ID 800030) – El Segundo***

Chevron Products Co. (Chevron) 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 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, South Coast AQMD staff sent a letter requiring Chevron 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. Reductions of diesel particulate matter (DPM) from unpermitted internal combustion engines along with reductions of hexavalent chromium from unpermitted welding are elements of the VRRP. In 2018, staff have worked with the permitting teams to evaluate options for incorporating these requirements so that they are enforceable. The VRRP was approved on April 24, 2019. Chevron will submit annual progress reports on the status of their voluntary risk reduction measures as well as a Final Implementation Report once all voluntary risk reduction measures are implemented.

A.10. ***City of Cerritos, Water Division (ID 74396) - Cerritos***

The City of Cerritos, Water Division draws groundwater from three deep wells. The facility operates two natural gas fired engines. The well on Artesia has one main engine that draws well water and one emergency engine for backup electricity.

On August 23, 2019, South Coast AQMD staff sent City of Cerritos, Water Division a notice to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory. Their primary pollutants and risk drivers are formaldehyde and 1,3-butadiene. The ATIR is due on January 21, 2020.

A.11. ***Eco Services Operations Corp. (ID 180908) – Carson***

Eco Services Operations in Carson regenerates spent sulfuric acid from refineries. In addition to the sulfuric acid plant, Eco Services Operations operates an alum manufacturing system and other equipment associated with storage and handling of spent sulfuric acid and other raw materials.

On December 10 2019, South Coast AQMD staff sent a letter requiring Eco Services Operations to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory with sulfuric acid as the main contributor to the high priority score. The main source of emissions is from their primary furnace. Eco Services Operations elected to submit an ATIR. The ATIR is due May 8, 2020.

A.12. Eisenhower Medical Center (ID 3671) – Rancho Mirage

Eisenhower Medical Center is a hospital based in Rancho Mirage, California serving the Coachella Valley region.

On June 12, 2018, South Coast AQMD staff sent a letter requiring Eisenhower Medical Center to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2014 annual emissions inventory, with formaldehyde from the cogeneration units as the main air toxics contributing to the high priority score.

On November 9, 2018, Eisenhower Medical Center submitted an ATIR. South Coast AQMD staff reviewed the submittal and worked with the facility to make some necessary revisions such as building and stack coordinates in addition to emission estimation methods. Based on results from preliminary analysis of the ATIR and discussion with the facility, Eisenhower Medical Center submitted a request to source test both cogeneration units for formaldehyde, 1-3 butadiene, and acetaldehyde.

Source testing of both cogeneration units took place starting on February 19, 2019. The source test report was approved by South Coast AQMD on June 27, 2019 and the results were initially determined to not be acceptable for emissions calculations. South Coast AQMD staff later received clarification that the source test results could indeed be used for emissions calculations. Eisenhower Medical Center submitted a revised ATIR on August 9, 2019. Upon review, South Coast AQMD determined that Eisenhower Medical Center's updated priority score was below one, and a letter was sent on August 16, 2019 informing the facility that it would be exempt from the AB 2588 program.

A.13. Elite Comfort Solutions (ID 182610) – Commerce

Elite Comfort Solutions (Elite) operates a facility in city of Commerce and manufactures polyurethane foam for bedding, furniture, packaging, automotive, and medical industries.

On January 31, 2018, South Coast AQMD staff sent a letter requiring Elite to either prepare an ATIR or VRRP due to the facility having a priority score greater than 10 based on 2015 annual emissions inventory, with toluene diisocyanates as the main air toxic contributor to the high priority score.

Elite elected to participate in the Voluntary Risk Reduction Program and submitted the VRRP on June 22, 2018. Following review, staff required Elite to provide missing information and to make several revisions. Elite provided information and a revised submittal on November 7, 2018. However, in reviewing this submittal, South Coast AQMD staff found that additional risk reduction measures were needed in order to meet the Voluntary Risk Reduction Threshold. In response, the facility had to submit revisions to the VRRP on December 3, 2018, and another one on December 17, 2018. After further review, staff discovered additional issues regarding receptor exposure, cost & feasibility of risk reduction measures and hours of operation and requested revision and resubmission of VRRP. Elite submitted several VRRP revisions from February 12 to November 27, 2019. A final revision addressing all staff comments is due on January 8, 2020.

A.14. ***Equilon Enter. LLC, Shell Oil Prod. 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, South Coast AQMD staff sent a letter requiring 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 naphthalene emissions as the main air toxics contributing to the high priority score. Equilon elected to prepare an ATIR and submitted it on March 9, 2018. After review and subsequent revisions, South Coast AQMD sent a letter to Equilon on May 30, 2018 approving the ATIR and requiring the preparation of an HRA.

On August 28, 2018, Equilon submitted an HRA. After review, staff discovered several discrepancies with the HRA such as variable emission rates, terrain characterization and risk values and subsequently required revision and resubmission. Equilon provided HRA revisions on September 14, 2018, April 4, 2019, and two more revisions on November 2019. A minor revision to the HRA Summary page was submitted on December 6, 2019. South Coast AQMD staff found no other issues with the HRA and is in the process of approving it.

A.15. ***Evonik Corporation (ID 183926) – Los Angeles***

Evonik Corporation is a facility in Los Angeles that is one of many locations for the multinational company Evonik Industries, a specialty chemicals company.

On December 6, 2019, South Coast AQMD staff sent a letter requesting Evonik Corporation to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2016 annual emissions with 4,4'-methylenedianiline (MDA). MDA emissions came primarily from fugitive components. The initial information submittal is due in January 2020.

A.16. ***Gerdau/TAMCO (ID 18931) – Rancho Cucamonga[22]***

Gerdau/TAMCO (Gerdau) is located in the City of Rancho Cucamonga and was acquired by 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.

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 based on the 2015 OEHHA Risk Assessment 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. South Coast AQMD staff held a public notification meeting on

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

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, South Coast AQMD 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. South Coast AQMD staff added these emissions which resulted in a projected potential maximum residential cancer risk of 8.7 chances in-one-million. The cancer burden and acute and chronic HI remain below 1, so after making these revisions, South Coast AQMD 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 South Coast AQMD on the status of its risk reduction measures. On January 25, 2018, Gerdau submitted an amendment to the RRP to specify plans to pave vehicle travel paths, which South Coast AQMD staff approved. On July 13, 2018, Gerdau submitted their second progress report indicating that they implemented seven of the ten risk reduction measures, while three of the measures are still in process. A public notice of risk reduction activities by Gerdau was mailed out to the notification area on September 18, 2018. South Coast AQMD staff continues to monitor the progress of the RRP and anticipates all risk reduction measures to be implemented within specified timeframes.

A.17. ***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 landfill gas from a Class III landfill.

On March 1, 2017, South Coast AQMD 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. On March 22, 2018, the ATIR was approved and the facility notified to prepare an HRA. The HRA was submitted on July 18, 2018. After requesting and receiving several revisions from GWP, South Coast AQMD staff approved the HRA on January 22, 2019. The HRA results representing the 2015 inventory year indicated that GWP posed a maximum cancer risk of 179.5 chances in-one-million and a maximum chronic hazard index of 1.69, based on a 30 year residential exposure. The cancer risk was mainly due to dioxins and furans from landfill gas combustion. A cancer burden of 4.97 was estimated, based on a 70 year lifetime exposure.

Since the HRA results were above the Notification Risk Level in Rule 1402, GWP was required to notify the public about the health risk. Notices of the public notification meeting were sent out to over 7,700 people in the area of impact. South Coast AQMD staff held a public notification

meeting at the Glendale Downtown Central Library on June 26, 2019 to explain the impact of GWP's emissions on public health and to discuss next steps.

Since the HRA results were above the Action Risk Level in Rule 1402, GWP was required to prepare a RRP, which was received on October 9, 2019. As of the end of 2019, South Coast AQMD staff was reviewing the RRP.

A.18. ***Hixson Metal Finishing (ID 11818) - Newport Beach*** [23]

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, South Coast AQMD staff required Hixson to prepare and submit a HRA and a RRP, in conjunction with a Stipulated Order for Abatement approved by South Coast AQMD'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 South Coast AQMD on November 13, 2014. Upon detailed review and use of the 2015 OEHHA Risk Assessment Guidelines, South Coast AQMD staff finalized the submitted HRA on May 8, 2015. The approved HRA found a maximum residential cancer risk of 1,502 chances in-one-million mainly from hexavalent chromium emissions. The estimated cancer risk was based on emissions occurring before the facility instituted various control measures and current 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 impact. South Coast AQMD 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, South Coast AQMD staff rejected Hixson's first RRP and required resubmittal. Hixson subsequently submitted a second RRP on June 5, 2015. On June 26, 2015, South Coast AQMD 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 South Coast AQMD 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

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

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. Ambient monitoring for hexavalent chromium continues in the vicinity of Hixson. As of the end of 2018, construction of the new Tank 70 and the new air pollution control system was complete, and the facility conducted a source test in June 2018. However, it was discovered that there were moisture problems and additional mesh pads were needed. The facility conducted another source test in December 2019 to demonstrate compliance.

A.19. ***Holliday Rock Co., Inc. (ID 41580) – Rialto***

Holliday Rock Co., Inc. (Holliday Rock) is a hot mix asphalt plant located in Rialto. There are multiple locations of Holliday Rock in the South Coast air basin. It is one of the largest independent producers of aggregate, ready mix concrete, and hot mix asphalt in the United States.

On December 20, 2018, South Coast AQMD staff sent a letter requiring Holliday Rock to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory. The main toxic air contaminants contributing to the priority score are manganese and manganese compounds, mercury and mercury compounds, and nickel and nickel compounds. The main sources of emissions were from cement silos and loadout hoppers.

Holliday Rock submitted its ATIR on May 21, 2019. Holliday Rock stated that several devices and emissions from Holliday Trucking (ID 12036), a nearby facility also owned by Holliday Rock, had been mistakenly included in the 2017 AER. The devices in question were permitted under Holliday Trucking and were therefore not included in Holliday Rock's ATIR. After requesting and receiving several revisions from Holliday Rock, South Coast AQMD staff approved the ATIR on December 6, 2019. Since Holliday Rock's revised priority score was less than 10, the facility was not subject to HRA requirements.

A.20. ***Industrial Battery Engineering Inc. (ID 3277) – Sun Valley***

Industrial Battery Engineering (IBE) operates a battery manufacturing plant in Sun Valley and manufactures large batteries for forklifts and other industrial equipment. They operate various equipment at the facility including a lead melting pot, spray booth, lead oxide mixing system, lead oxide storage bin, and associated air pollution control equipment such as baghouses.

South Coast AQMD staff received the request to review the modeling files for a 1420.2 Monitoring and Sampling Plan in February 2019. Staff completed review of the modeling files in June 2019 and concurred with the monitoring locations proposed by the facility. South Coast AQMD staff also proposed to add a sampling location to represent upwind or background concentrations.

A.21. ***Kirkhill Inc (ID 187823) – Brea***

Kirkhill Inc (Kirkhill) is a rubber manufacturing facility located in Brea. Kirkhill produces multiple types of rubbers for industries including aerospace and medical manufacturing. The rubber manufacturing process includes raw material mixing, milling, pressing, and various types of curing.

On January 31, 2018, South Coast AQMD staff sent a letter requiring Kirkhill 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 inventory. The main air toxic contributing to the priority score is hexavalent chromium from mixers, mills, presses, ovens, autoclave, and roto-curing devices.

Kirkhill elected to prepare an ATIR and submitted it on July 3, 2018. On October 19, 2018, South Coast AQMD staff sent a letter to the facility approving the ATIR and requiring the preparation of an HRA based on the approved ATIR. Kirkhill submitted the HRA on January 17, 2019. After requesting and receiving several revisions from Kirkhill, South Coast AQMD staff approved the HRA on September 19, 2019. The HRA results representing the 2015 inventory year indicated that Kirkhill posed a maximum cancer risk of 18.8 chances in-one-million based on a 30 year residential exposure and a maximum cancer risk of 15.9 chances in-one-million based on a 25 year worker exposure. The cancer risk was mainly due to hexavalent chromium from coloring dyes in the rubber manufacturing process.

Since the HRA results were above the Notification Risk Level in Rule 1402, Kirkhill was required to notify the public about the health risk. Notices of the public notification meeting were sent out to over 900 people in the area of impact. South Coast AQMD staff held a public notification meeting at Brea Junior High School on November 13, 2019 to explain the impact of Kirkhill's emissions on public health and to discuss actions taken by the facility to reduce risk.

Since the HRA results were below the Action Risk Level in Rule 1402, Kirkhill was not required to take action to reduce its health risks. However, Kirkhill voluntarily ceased usage of coloring dyes containing chromium in its rubber manufacturing process and submitted permit applications for several of its previously Rule 219 exempt devices to allow South Coast AQMD to enforce the reduction. By ceasing usage of coloring dyes containing chromium, Kirkhill reduced its risk even further to under the Notification Risk Level in Rule 1402.

A.22. ***LA City, Sanitation Bureau (Hyperion Treatment Plant) (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 publicly 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, South Coast AQMD staff sent a letter requiring 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 inventory 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. Throughout 2018, South Coast AQMD and Hyperion staff have been working to resolve various issues regarding electronic format of the emissions inventory, the use of unapproved source tests, the distribution of emissions, and receptor grid spacing. Comments were provided to Hyperion on February 9, 2018 and the facility submitted revisions to the EIM files on March 14, 2018. Upon review, South Coast AQMD staff found additional errors and requested revisions on September 4, 2018. Hyperion submitted revised EIM files on December 19, 2018. South Coast AQMD staff completed its review of the VRRP EIM files and provided comments to Hyperion on January 31, 2019. The facility made the requested changes and submitted revised EIM files on February 19, 2019. South Coast AQMD staff approved the VRRP as an ATIR on April 3, 2019.

A.23. ***LA City, Street Maintenance Bureau Department of Public Works (ID 25196) – North Hollywood***

LA City, Street Maintenance Bureau Department of Public Works (LA City, Street Maintenance) is an hot mix asphalt plant in North Hollywood. The facility is a city owned public utility that provides maintenance work on city streets in Los Angeles. The plant includes equipment such as silos, dryers, asphalt tanks, and associated air pollution control equipment.

On September 4, 2019, South Coast AQMD staff sent a letter requiring LA City, Street Maintenance to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory. The risk driver for this facility is polycyclic aromatic hydrocarbons (PAHs) from the hot mix asphalt plant.

LA City, Street Maintenance elected to submit an amendment to their 2017 quadrennial emissions report. As of the end of 2019, the amendment was under review. The ATIR is due in February 2020.

A.24. ***Light Metals (ID 83102) – City of Industry***

Light Metals Inc. (Light Metals) is located in the City of Industry and produces secondary aluminum alloy by processing recycled aluminum into ingot for the metal casting industry. On August 2, 2019, South Coast AQMD staff sent a letter requiring Light Metals to submit an ATIR or VRRP due to the facility having a priority score greater than 10 based on it's 2017 annual emissions inventory with polychlorinated dibenzofurans as the main air toxic contributing to the high priority score. Light Metals chose the ATIR option and submitted their ATIR on December 31, 2019.

A.25. ***Los Angeles By-Products (ID 60384) – Sun Valley***

Los Angeles By-Products (LA By-Products) operates a landfill gas collection system and flares for combustion of the landfill gas and is located in Sun Valley, California.

On August 23, 2019, South Coast AQMD staff sent a letter requiring LA By-Products to submit an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory, with polycyclic aromatic hydrocarbons (PAHs) and formaldehyde as the

main air toxics contributing to the high priority score. The ATIR is due in January 2020.

A.26. ***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, South Coast AQMD 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, South Coast AQMD staff conducted source tests for hexavalent chromium emissions from the sodium dichromate seal tank with the main objective of determining an emission factor to calculate emissions from such 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 South Coast AQMD ambient air monitors in the nearby south Paramount area. South Coast AQMD 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 South Coast AQMD 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, South Coast AQMD staff notified Lubeco on September 8, 2017 that the facility may be designated as a Potentially High Risk Level Facility. Lubeco representatives and South Coast AQMD 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 Action Reduction Plan was submitted on December 8, 2017. On March 29, 2018, 2018, South Coast AQMD sent Lubeco an approval letter for the Early Action Reduction Plan. On February 9, 2018, Lubeco submitted an ATIR followed by a HRA and RRP on March 27, 2018.

South Coast AQMD staff reviewed the submitted ATIR and HRA and determined that the meteorological data from the Compton station was more representative of the site conditions at Lubeco than that used in the facility's HRA. Lubeco submitted a revised HRA in March 2019. Staff also found that Lubeco used non-default assumptions in their emission calculations for the sodium dichromate seal tank and requested for supporting documentation which was submitted in July 2019. Upon review of the submitted information, Staff determined that the facility had

understated the operating hours and requested for an updated ATIR and HRA to reflect the increase in operating hours and emissions for the dichromate seal tank in August 2019.

Lubeco submitted a revised HRA on September 16, 2019. The Revised HRA representing the 2015 inventory year indicated that Lubeco posed a maximum cancer risk of 129 chances in-one-million for a residential receptor, based on a 30 year residential exposure, and 39 chances in-one-million for the worker receptor, based on a 25 year worker exposure. South Coast AQMD approved the ATIR and HRA on September 27, 2019.

Since the HRA results were above Rule 1402 Notification Risk Levels, a public meeting to notify the public about the health risk was required. Staff also reviewed the Risk Reduction Plan and found that some of the proposed risk reduction measures were inconsistent with recent permit applications. As a result, on October 24, 2019, staff requested revision and resubmission of the Risk Reduction Plan. On November 8, 2019, Lubeco submitted an updated Risk Reduction Plan on November 8, 2019 and a subsequent revised Risk Reduction Plan on December 20, 2019. A public notification meeting is scheduled to occur in 2020.

A.27. MM West Covina LLC (ID 113873) – WestCovina

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, South Coast AQMD staff sent a letter requiring 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 inventory 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. South Coast AQMD staff provided comments on August 17, 2017 requiring revisions to the ATIR which was provided on August 29, 2017. South Coast AQMD staff approved the ATIR on March 27, 2018, and notified the facility to prepare and submit a HRA by June 26, 2018.

MM West Covina submitted an HRA on July 2, 2018. After review, on August 1, 2018, South Coast AQMD staff informed the facility that HRA did not include all of the emissions, specifically dioxins and furans, from the approved ATIR and therefore rejected the HRA. MM West Covina opted to conduct a source test to address the accuracy of the inventory of dioxin and furans in the ATIR. A revised HRA was submitted on October 5, 2018 which again utilized an inventory that was not consistent with the approved ATIR. On July 9, 2019, South Coast AQMD sent a letter to MM West Covina requiring a revision of the HRA while allowing the source test results to be utilized in an alternate HRA. On August 16, 2019, MM West Covina submitted a revised HRA which also included an alternate HRA. At the end of 2019, South Coast AQMD had provided additional comments on the HRA and was working with MM West Covina to finalize the HRA.

A.28. Motion Picture & Television Fund (ID 16211) – Woodland Hills

Motion Picture & Television Fund (MPTF) is a service organization that provides healthcare and retirement living services to members of the entertainment industry community. MPTF operates a

facility in Woodlands Hills and has cogeneration units powered by internal combustion engines which generate formaldehyde, 1,3-butadiene, and benzene emissions.

On December 6, 2019, South Coast AQMD staff sent a letter requiring MPTF to prepare an ATIR due to the facility having a priority score greater than 10 based on 2017 annual emissions inventory. The high priority score was mostly due to internal combustion engine emissions.

A.29. ***PABCO Bldg Products LCC (ID 45746) – Vernon***

PABCO Bldg Products LLC (PABCO) is a paper mill operation located in Vernon that manufactures drywall board liner paper from recycled paper stock. The facility operates a paper conveying system, three boilers, one process unit hot air heater, a plasma arc cutter, and Rule 219 equipment including space heaters and a propane tank.

On December 6, 2019, South Coast AQMD staff sent a letter requiring PABCO to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2016 annual emissions inventory. The main toxic air contaminant contributing to the priority score was sodium hydroxide. The main sources of emissions were from boiler water treatment and from caustic felt wash processes.

On December 18, 2019, PABCO provided sodium hydroxide emission revisions along with documentation to substantiate their revisions. As of the end of 2019, South Coast AQMD staff was reviewing PABCO's sodium hydroxide emission revisions.

A.30. ***Pac Rancho, Inc. (ID 140871) – Rancho Cucamonga***

Pac Rancho Inc. located in the city of Rancho Cucamonga, manufactures highly-engineered components and sub-assemblies. The Company uses green sand, dry sand and permanent mold castings in aluminum and magnesium alloys, investment castings in numerous ferrous, non-ferrous, and super alloys.

On September 4, 2019, South Coast AQMD staff sent a letter requiring Pac Rancho, Inc. to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2018 annual emissions inventory. The facility submitted the Initial Information for the ATIR in November 2019. South Coast AQMD staff has reviewed the initial information. The ATIR is due in March 2020.

A.31. ***Pacific Clay Products, Inc. (ID 17953) – Lake Elsinore***

Pacific Clay Products in Lakes Elsinore manufactures bricks and other clay products. The facility operates various equipment including dryers, kilns, conveyors, silos, crushers, and other miscellaneous clay processing equipment and associated baghouses.

On August 23, 2019, South Coast AQMD staff sent a letter requiring Pacific Clay Products to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory. The main toxic air contaminant contributing to the priority score are polycyclic aromatic hydrocarbons which comes from the heating of diesel which is used as a non-stick lubricant to ease the bricks from their molds. The facility also operates dryers, kiln, conveyors, silos, screens, crushes, and other miscellaneous clay processing equipment and

associated baghouses. The facility provided the initial information for the ATIR on September 26, 2019. The ATIR is due on February 11, 2020.

A.32. Pasadena Department of Water and Power (ID 800168) - Pasadena

The City of Pasadena, Departments of Water and Power (Pasadena DWP) owns and operates a power plant in Pasadena, California. This facility operates several gas turbines to provide electricity to residents in the surrounding area.

On January 16, 2019, South Coast AQMD staff sent a letter requiring Pasadena DWP to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2016 annual emissions inventory with polycyclic aromatic hydrocarbons (PAHs) and formaldehyde as the main air toxics contributing to the priority score. Pasadena DWP elected to prepare a VRRP, and on April 2, 2019, conducted a source test on one of the gas turbines for the air toxics PAHs, formaldehyde, and benzene.

On June 14, 2019 Pasadena DWP submitted a VRRP. Upon review, South Coast AQMD notified Pasadena DWP of some preliminary issues with the submittal. A revised VRRP was then submitted on June 28, 2019. South Coast AQMD continued discussions with Pasadena DWP to correct any further errors with the VRRP and received an additional inventory revision on September 6, 2019. A final VRRP submittal was received on September 26, 2019. On November 5, 2019, South Coast AQMD approved the submittal as an ATIR since facility risks were below the Rule 1402 Voluntary Risk Thresholds.

A.33. Phillips 66 Co/LA Refinery Wilmington Plant (ID 171107) – Wilmington

The Phillips 66 Company, LA Willmington Plant (Wilmington Refinery) operates two linked facilities, five miles apart, in Carson and Wilmington. The Wilmington Refinery was built in 1919 and is situated on approximately 424 acres. 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, South Coast AQMD staff sent a letter requiring 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 inventory 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, South Coast AQMD staff found several deficiencies. Revisions were submitted by Wilmington Refinery staff on November 10, and December 20, 2017. Staff subsequently requested calculations and supporting data Wilmington Refinery submitted a revision on December 19, 2018.

Upon review of the revision, South Coast AQMD staff found issues with the facility's modeling of the wastewater treatment system. The facility was also required to conduct source testing that had not been completed at the time of review. Further, the facility's calculation methodology for

welding emissions were not consistent with South Coast AQMD's methodology. Wilmington Refinery submitted revised calculations in April 2019. The ATIR was conditionally approved in May 2019 provided that the facility completes the required source testing. Wilmington Refinery submitted the HRA and modeling files in September 2019 and source test protocols for the required source test in October 2019. The source tests were tentatively scheduled for December 2019. South Coast AQMD staff reviewed the HRA submittal and found that the facility did not utilize the most recent meteorological data in the model, and on November 22, 2019, requested that the HRA be revised using the updated meteorological dataset. South Coast AQMD staff review is pending results from the source test and a revised HRA submittal.

A.34. ***Phillips 66 Company/Los Angeles Refinery (ID 171109) - Carson***

The Phillips 66 Company operates two 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, South Coast AQMD 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 inventory 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, South Coast AQMD staff noted several deficiencies. Revisions and clarifications were provided by Carson Refinery staff on multiple instances in 2017 and 2018. South Coast AQMD staff reviewed the latest submittal from September 11, 2018 and requested the facility revise sulfuric acid emissions, modeling discrepancies, and arsenic emission calculations among other issues. The HRA was then modeled and South Coast AQMD staff determined that the facility health risks did not exceed the Rule 1402 Voluntary Risk Thresholds and approved the submittal as an ATIR instead of a VRRP. Approval was given on January 9, 2019.

A.35. ***Plains West Coast Terminals (ID 800417) - Compton***

Plains West Coast Terminals (Plains West Coast) is a petroleum storage facility located in Compton. On December 6, 2019, South Coast AQMD staff sent a letter requiring Plains West Coast to submit an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory, with benzene from storage tanks as the main air toxics contributing to the high priority score. South Coast AQMD staff was awaiting the submittal of the ATIR from Plains West Coast at the end of 2019.

*A.36. **Robertson's Ready Mix (ID 42623) – Redlands***

Robertson's Ready Mix (RRM Redlands) owns and operates several aggregate processing plants in Southern California and Nevada. RRM Redlands has a plant in the city of Redlands where arsenic, nickel, and manganese emissions are produced from crushing and screening operations as well as an on-site quarry.

On August 23, 2019, South Coast AQMD staff sent a letter requiring RRM Redlands to submit an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory. Staff's review of the Initial Information for the ATIR revealed that the facility was not using an approvable method for calculating speciated PM emissions. As a result, RRM Redlands proposed a sampling plan for speciating PM dust emissions on November 8, 2019. The plan was being reviewed by South Coast AQMD staff at the end of 2019.

*A.37. **Robertson's Ready Mix (ID 134112) – Gardena***

Robertson's Ready Mix (RRM Gardena) owns and operates several ready-mix concrete batch plants in California and Nevada. The Gardena plant utilizes fly ash and cement as well as aggregate delivered by train from a quarry in Cabazon.

On December 06, 2019, South Coast AQMD staff sent a letter requiring RRM Gardena to submit an ATIR due to the facility having a priority score greater than 10 based on its 2016 annual emissions inventory, with arsenic and manganese emissions as the main air toxics contributing to the high priority score. The facility's Initial Information for the ATIR was pending review at the end of 2019.

*A.38. **San Diego Gas & Electric (ID 4242) – Moreno Valley***

San Diego Gas & Electric (SDG&E) owns and Southern California Gas Company (SoCalGas) operates the Moreno Valley Compressor Station located at in Moreno Valley.

On September 12, 2019, South Coast AQMD staff sent a letter requiring SoCalGas to submit an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory, with formaldehyde emissions as the main air toxic contributing to the high priority score. The facility submitted the initial information on October 11, 2019. The ATIR is due on February 9, 2020.

*A.39. **SFPP, L.P (ID 800278) – Carson***

The SFPP facility in Carson is also known as the Kinder Morgan, Watson station. This tank farm receives and distributes various petroleum products through various pipelines.

On August 23, 2019, South Coast AQMD staff sent a letter requiring SFPP to submit an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory. The primary air toxic contributing to the high priority score is benzene which comes from the fugitive losses from their 25 storage tanks. Since the facility failed to provide a response by the specified deadline, SFPP was required to submit an ATIR. The ATIR is due on February 28, 2020.

A.40. ***So Cal Edison Co (ID 4477) – Pebbly Beach***

So Cal Edison Co (SCE Pebbly Beach) is the primary producer of electric power for Santa Catalina Island and is located approximately one mile southeast of the city of Avalon. Electricity is generated using six diesel-fired engines. There is also a diesel-fired backup generator and 23 microturbines. Diesel fuel and liquefied petroleum gas (LPG) are periodically shipped in and stored at the facility. LPG is vaporized to produce a petroleum gas and air mixture to form a natural gas surrogate, where it is sent to either local residents or combusted in the microturbines.

On June 13, 2018, South Coast AQMD staff sent a letter requiring SCE Pebbly Beach 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 inventory. The main air toxic contributing to the priority score is DPM from the six diesel-fired internal combustion engines.

SCE Pebbly Beach elected to prepare an ATIR and submitted it on November 13, 2018. On January 23, 2019, South Coast AQMD staff sent a letter to the facility approving the ATIR and requiring the preparation of an HRA based on the approved ATIR. SCE Pebbly Beach submitted the HRA on April 23, 2019. As of the end of 2019, the HRA is still in review.

A.41. ***So Cal Gas Co./Playa del Rey Storage Facility (ID 8582) – Playa del Rey***

Southern California Gas Company (So Cal 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. Transmission pipelines distribute natural gas to and from the facility. Primary equipment at the facility include three natural gas internal combustion engines driving air compressors to facilitate storage of natural gas.

On May 31, 2017, South Coast AQMD staff sent a letter requiring So Cal Gas to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2015 annual emissions inventory 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.

On March 22, 2018, the ATIR was approved and So Cal Gas was required to submit an HRA based on the approved ATIR. The HRA was submitted on June 7, 2018. Following review, South Coast AQMD staff noted some deficiencies and required revision and resubmission of the HRA. So Cal Gas provided revisions on July 17, August 17, and a final revision on October 16, 2018. January 2, 2019, the HRA was approved with a predicted acute non-cancer hazard index of 7.28 which exceeded the public notification and risk reduction thresholds of Rule 1402. Since the risk isopleths covered an area of the Ballona Wetlands which is normally restricted to individuals who obtain a permit from the California Department of Fish and Wildlife, a modified public notice was done in lieu of a regular public meeting on January 10, 2019. So Cal Gas submitted an RRP on April 26, 2019 which was approved on December 6, 2019. The RRP proposed rerouting natural gas venting and using carbon adsorbers to control emissions and permit applications were required to be submitted within 180 days after approval of the RRP. South Coast AQMD staff will continue to monitor the implementation of So Cal Gas' Risk Reduction Plan in 2020.

A.42. ***So Cal 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 microturbines or flared. The liquid product is stored in tanks linked to truck loading or pipeline.

On October 11, 2017, South Coast AQMD sent a letter requiring SoCal Holding to prepare an ATIR due to the facility having a priority score greater than 10 based on 2015 annual emissions inventory 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. The ATIR was received on March 13, 2018. Following review, staff found errors and requested corrections to the ATIR. The corrected ATIR was submitted on July 13, 2018. On July 25, 2018, the corrected ATIR was approved and South Coast AQMD staff directed So Cal Holding to prepare and submit an HRA. The HRA was submitted on October 23, 2018. South Coast AQMD staff requested corrections on the HRA forms on January 17, 2019. On January 25, 2019, So Cal Holding submitted a revised HRA report. The risks were found to be below the notification risk thresholds in Rule 1402 and the HRA was subsequently approved on February 14, 2019.

A.43. ***Tesoro Refining & Marketing Co., LLC, Calciner (ID 174591) – Wilmington***

Tesoro Refining & Marketing Co., LLC, Calciner (Tesoro Calciner) located in Wilmington, 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, South Coast AQMD staff sent a letter requiring 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 inventory 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, South Coast AQMD staff found several deficiencies and on January 31, 2018, a letter requesting revision and resubmittal of the VRRP was sent. Tesoro Calciner identified diesel particulate matter (DPM) emissions as another source of emissions and submitted a revised VRRP on February 26, 2018. South Coast AQMD staff subsequently reviewed the VRRP and requested information on calculations and supporting documentation. In addition, Tesoro Calciner had proposed to use a 2011 source test to estimate emissions of dioxins from the rotary kiln. However, since the source test was not acceptable, Tesoro Calciner was

required to use previously approved source tests to estimate emissions. After several discussions with staff and revisions to the VRRP, Tesoro submitted an updated VRRP addressing the DPM and rotary kiln emission calculations on September 7, 2018.

Upon further review of the submittal, South Coast AQMD staff found that the welding emissions were not estimated properly and requested welding emissions be recalculated following U.S.EPA guidance. Tesoro Calciner provided updated calculations to the welding emissions on April 11, 2019 and refined DPM calculations on April 16, 2019.

On May 8, 2019, Tesoro Calciner submitted the final emissions inventory files reflecting the changes in diesel and welding emissions. Staff found that all health risks were below both Notification Risk Levels and the Voluntary Risk Threshold in Rule 1402, and therefore risk reduction measures were not required. South Coast AQMD staff approved the VRRP as an ATIR for Tesoro Calciner on August 9, 2019. To ensure emissions of DPM from the engines and emissions from welding emissions are calculated accurately, Tesoro Calciner is required to maintain and provide thorough records for diesel and welding emissions during the next and future quadrennial reports as specified in the approval letter.

A.44. ***Tesoro Refining & Marketing Co., LLC, Los Angeles Refinery (ID 800436, 174655, 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 non-contiguous refineries but has been undergoing consolidation through the Los Angeles Refinery Integration and Compliance Project.[24] 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, South Coast AQMD staff sent a letter requiring 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 inventory 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, South Coast AQMD staff required Tesoro Refinery to make several revisions. Both South Coast AQMD staff and Tesoro Refinery representatives have met several times regarding the revisions and risk reduction measures proposed. South Coast AQMD staff is currently waiting for the necessary revisions to be submitted before continuing the review of the VRRP. At the end of 2018, South Coast AQMD staff identified heaters located at Carson for source testing with the intention of establishing a representative emission profile for heaters located at Carson.

On February 19, 2019, South Coast AQMD sent Tesoro Refinery a letter requesting for EIM files and identifying equipment that required source testing. Tesoro submitted EIM files on March 7,

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

2019 and the source test protocols for the three heaters on March 7, March 15, and April 11, 2019. South Coast AQMD staff approved these protocols on March 20, May 22, and May 29, 2019, respectively. Tesoro completed the source tests on June 28, 2019, and submitted the final report on August 20, 2019. The final source test report is currently under review.

A.45. ***Tesoro Refining & Marketing Co., LLC (Sulfur Recovery Plant) (ID 151798) – Carson***

Tesoro Sulfur Recovery Plant (Tesoro SRP) 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, South Coast AQMD staff sent a letter requiring Tesoro SRP 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 inventory with arsenic, polycyclic aromatic hydrocarbons, hexavalent chromium, and formaldehyde as the main air toxic contributors to the high priority score.

Tesoro SRP elected to participate in the Voluntary Risk Reduction Program, and submitted the VRRP on May 23, 2017. After review, on February 15, 2018, South Coast AQMD staff sent a letter requesting revisions and resubmittal of the VRRP. Ongoing communication with Tesoro SRP has occurred to develop the most representative emission estimation methodology. On November 9, 2018, a finalized emissions inventory was submitted by Tesoro SRP for South Coast AQMD staff review. On March 13, 2019, South Coast AQMD approved the VRRP submittal as an ATIR since facility risks were below the Rule 1402 Voluntary Risk Thresholds.

A.46. ***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 Refining 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. On January 11, 2017, South Coast AQMD staff sent a letter requiring 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 inventory with 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 prepared to submit the VRRP on August 24, 2017 for the 2015 inventory year. However, due to an explosion that had occurred at the facility's fluid catalytic cracking unit during 2015, the facility had limited operations during that year. As a result, South Coast AQMD staff decided that 2016 would be more representative of the facility's routine operations and, 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, South Coast AQMD staff sent a comment letter requesting revisions and resubmittal of the VRRP.

The revised VRRP was received on November 2, 2017. However, a few issues and information regarding calculations and reference documentation required more revisions. VRRP files were requested and received in various stages up to May 8, 2018.

Upon review, South Coast AQMD staff determined the VRRP to be sufficient. However, on July 12, 2018, Torrance Refining informed South Coast AQMD that the permit application for the first risk reduction measure was withdrawn and requested to submit another revised VRRP utilizing a change in operating condition instead of the previous risk reduction measure. The revised VRRP was submitted on August 3, 2018. This VRRP also included changes to the emission inventory for diesel particulate matter emissions. Based on a meeting on August 9, 2018 and subsequent review, the change in operating condition was found acceptable as a risk reduction measure. Policies on diesel particulate matter emissions were reviewed for all refineries, and subsequently the emissions inventory was also accepted.

South Coast AQMD staff instructed Torrance Refining to submit a permit application for a change in operating condition, which was submitted on November 9, 2018. South Coast AQMD also requested revisions to the VRRP language for the second and third risk reduction measure. The second measure was revised completely, incorporating an emission limit rather than a fuel usage limit. By December 5, 2018, Torrance Refining submitted language for risk reduction measures along with VRRP files incorporating the changes. South Coast AQMD staff confirmed that the measures would still reduce risk below 10 chances in-one-million. The VRRP then began pending approval, as South Coast AQMD staff needed to determine the logistics of compliance plans for the second and third risk reduction measures and whether fees would be charged for such plans.

Before the VRRP was approved, South Coast AQMD staff adopted a new methodology for calculating welding emissions. Staff requested all facilities with welding calculations that were inconsistent with the methodology to revise their emissions. Torrance Refining was notified on March 15, 2019. After an initial submittal on March 25, 2019, the facility's proposal of an alternative methodology on April 4, 2019, and a question regarding exemptions to welding done to repair an FCC unit, Torrance Refining submitted satisfactory calculations on April 24, 2019. An updated HARP database was submitted on April 26, 2019. South Coast AQMD staff requested Torrance Refining to model the new risk numbers and to begin incorporating additional measures in the VRRP to offset the increase in risk. Torrance Refining calculated the additional risk and submitted a VRRP with additional risk reduction measures on June 12, 2019. However, this submittal calculated risk by considering proposed emissions over a five-year period. Torrance Refining was required to revise the VRRP to calculate risk based on emissions over a one-year period only. This revised VRRP was submitted on June 26, 2019.

Upon review, staff had many questions regarding recordkeeping for diesel engines. A revision to risk reduction measure language was submitted on July 16, 2019. Staff submitted comments on this language on August 7, 2019, requesting that recordkeeping for diesel engines and welding emissions be described in better detail. After further discussion, Torrance Refining submitted another revision to risk reduction measure language on August 27, 2019. Staff provided comments on this revision on September 4, 2019. More discussion took place, and Torrance Refining submitted another revision to risk reduction measure language on September 13, 2019. Staff reviewed and discussed concerns again, then requested specific changes to the language on October 2, 2019. Torrance Refining again submitted risk reduction measure language on October

29, 2019. Staff identified a gap in diesel recordkeeping and discovered that language had been unintentionally removed, thus, revised reduction measure language was once again submitted on December 4, 2019.

During further discussion that occurred in November 2019, staff found that Torrance Refining was not open to suggestions regarding welding and also disagreed with the enforceability of the proposed risk reduction measures. Torrance Refining requested a face to face meeting, which was held on December 12, 2019. Torrance Refining explained their position regarding limitations on certain recordkeeping methods. Staff requested changes such as a standard method to record welding usage and more assurance for accurate fueling meters. A revised VRRP is expected in January 2020.

A.47. ***Trojan Battery Company (ID 21872) – Santa Fe Springs***

Trojan Battery Company (Trojan Battery) manufacturers, markets, and distributes industrial deep-cycle batteries for motive and stationary power markets. Trojan Battery operates two facilities in the city of Santa Fe Springs: The Ann Street facility (ID 21872) performs initial manufacturing activities and the Clark Street facility performs final product manufacturing activities. The Ann Street facility that performs metal melting operations of primary pure lead in quantities exceeding 100 tons per year and is therefore subject to Rule 1420.2 for ambient monitoring and reporting.

Trojan Battery had a previous 1420.2 Monitoring and Sampling Plan which was approved in August 2017. Several changes were made by the facility and the original plan was revised due to the changes on the stack parameters (e.g. increased stack height, re-orienting to vertical stacks, removal of rain caps, etc.) and relocation of existing monitors. Trojan Battery submitted a revised plan in March 2018. However, due to additional changes, an updated modeling report was submitted in March 2019 and a revised compliance plan was submitted in April 2019. Staff completed review of the modeling report and compliance plan in September 2019. South Coast AQMD staff found that exceedances of ambient air quality standards for lead were not expected based on normal operating conditions and source testing results. Further, existing monitor locations should be retained.

A.48. ***TST, Inc. (ID 43436) – Fontana***

TST Inc. (TST) located in Fontana, conducts secondary aluminum refining of scrap metal which consists of two primary operations: producing aluminum ingots from scrap metal and producing billets. Aluminum chips and borings are received in scrap barrels and bins and dumped into a receiving hopper. The chips and borings are crushed and, if necessary, passed through a dryer to remove any oils or coatings. The aluminum is then sent to furnaces where the dross is used to create the billets and ingots.

On April 20, 2018, South Coast AQMD staff sent a letter requiring TST to prepare either an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2014 annual emissions inventory with nickel and arsenic as the main air toxics contributing to the high priority score. On May 22, 2018, TST elected to prepare an ATIR and also submitted the initial information for the ATIR. In accordance with Rule 1402(d)(2)(A), TST was required to submit an ATIR within 150 days of the initial notification date. TST failed to meet the required deadline and was issued a Notice to Comply on October 10, 2018. In response, TST submitted an ATIR on October 24, 2018.

South Coast AQMD staff reviewed the ATIR and found errors and required resubmittal. A revised ATIR was submitted on November 30, 2018. TST submitted another revised ATIR on January 22, 2019 to address additional comments from South Coast AQMD Staff. After review, South Coast AQMD sent a letter to TST on March 22, 2019 to inform them that their priority score had been revised to be below 10 and no further action was required for the 2014 inventory year.

A.49. ***Ultramar Inc (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, South Coast AQMD staff sent a letter requiring 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 inventory 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 South Coast AQMD 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. However, review indicated that the VRRP still had an incomplete emissions inventory, among other issues. From March 22, 2018 thru the end of the year, staff provided comments to the facility regarding unaccounted emissions and continued deficiencies in the submitted files. Upon review of revised files received on December 13, 2018, South Coast AQMD staff determined that the facility once again failed to provide all the requested information and another resubmission was required.

Staff sent multiple emails and held conference calls with Ultramar regarding issues with the VRRP language, welding rod emission calculations, sulfuric acid emission calculations, and other various issues from January 3, until March, 2019. Although Ultramar indicated during a conference call on March 28, 2019 that all revisions would be submitted to South Coast AQMD, after multiple follow-ups in April, Ultramar still had not provided the revisions. Ultramar submitted the revisions on May 31, 2019 after South Coast AQMD staff notified the facility that the VRRP would be rejected since the facility had failed to submit the revisions. Issues remained with the welding emissions calculations and subsequent revisions were submitted on June 28, 2019 and November 5, 2019. South Coast AQMD staff found additional issues and worked with Ultramar to correct them for the rest of the year.

A.50. ***Vista Metals Corporation (ID 14495) – Fontana***

Vista Metals Corporation (Vista Metals) is a secondary aluminum smelter located in Fontana manufacturing specialty aluminum alloy ingots, plates, and slabs used primarily by aerospace and automotive manufacturers. The facility operates melting furnaces, homogenizing heat treat furnaces, chip dryers, a service station, and numerous Rule 219 exempt equipment.

On August 23, 2019, South Coast AQMD staff sent a letter requiring Vista Metals to prepare an ATIR or a VRRP due to the facility having a priority score greater than 10 based on its 2018 annual

emissions inventory. The main toxic air contaminants contributing to the priority score are dioxins and furans from furnace melting operations and rotary dryer processes. Vista Metals' ATIR is due on January 21, 2020.

A.51. ***Vorteq Pacific (ID 191677) – Rancho Cucamonga***

Vorteq Pacific is a producer of coated aluminum and steel products in Rancho Cucamonga. The facility coats metal sheets and slits metal coils made of aluminum, steel, and stainless steel. Major operations include metal surface preparation, coating, and wastewater treatment. The facility was previously known as Western Metal Decorating Co. (ID 17956) before being acquired by Vorteq Coil on October 18, 2019.

On August 23, 2019, South Coast AQMD staff sent a letter requiring Western Metal Decorating to prepare an ATIR due to the facility having a priority score greater than 10 based on its 2018 annual emissions inventory. The main toxic air contaminants contributing to the priority score are polycyclic aromatic hydrocarbons from coating operations. Western Metal Decorating's ATIR is due on January 21, 2020.

A.52. ***Whittier Fertilizer (ID 511) – Pico Rivera***

Whittier Fertilizer Co. (Whittier Fertilizer) is a fertilizer manufacturing and green waste composting facility located in Pico Rivera. The facility manufactures a variety of products such as fertilizers, composts, soil amendments, mulch, and decorative rocks. After receiving raw materials, these materials are further processed through grinders, screens, shredders, and bagging systems.

On January 25, 2019, South Coast AQMD staff sent a letter requiring Whittier Fertilizer to submit an ATIR due to the facility having a priority score greater than 10 based on its 2017 annual emissions inventory, with Polycyclic Aromatic Hydrocarbons (PAHs) from diesel engine combustion as the main air toxics contributing to the high priority score. Speciated diesel components, including PAHs, were appropriately grouped as diesel particulate matter (DPM) upon submittal of the ATIR. On June 20, 2019, Whittier submitted an ATIR to the South Coast AQMD. South Coast AQMD staff approved the ATIR on August 9, 2019 and notified the facility to prepare and submit a HRA by November 12, 2019.

Whittier Fertilizer submitted an HRA to the South Coast AQMD on October 29, 2019. During review of the submitted HRA, it was determined that emissions from the diesel engines were overestimated. On December 10, 2019, South Coast AQMD staff notified Whittier Fertilizer that a revision to the emissions inventory and subsequently the HRA was necessary. As of the end of 2019, South Coast AQMD staff was working on finalizing the HRA.

Appendix B — Summary of Toxic Air Contaminants in the South Coast Air Basin

In addition to South Coast AQMD's periodic Multiple Air Toxics Exposure Studies (MATES), CARB has maintained a long-term continuous toxics monitoring network since the late 1980's.[25] In this chapter, trends in cancer risks are illustrated for sites in the South Coast Air Basin. Health risk levels for the most recent three-year period (i.e., 2016 to 2018) 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 with the carcinogenic compounds identified with an asterisk.

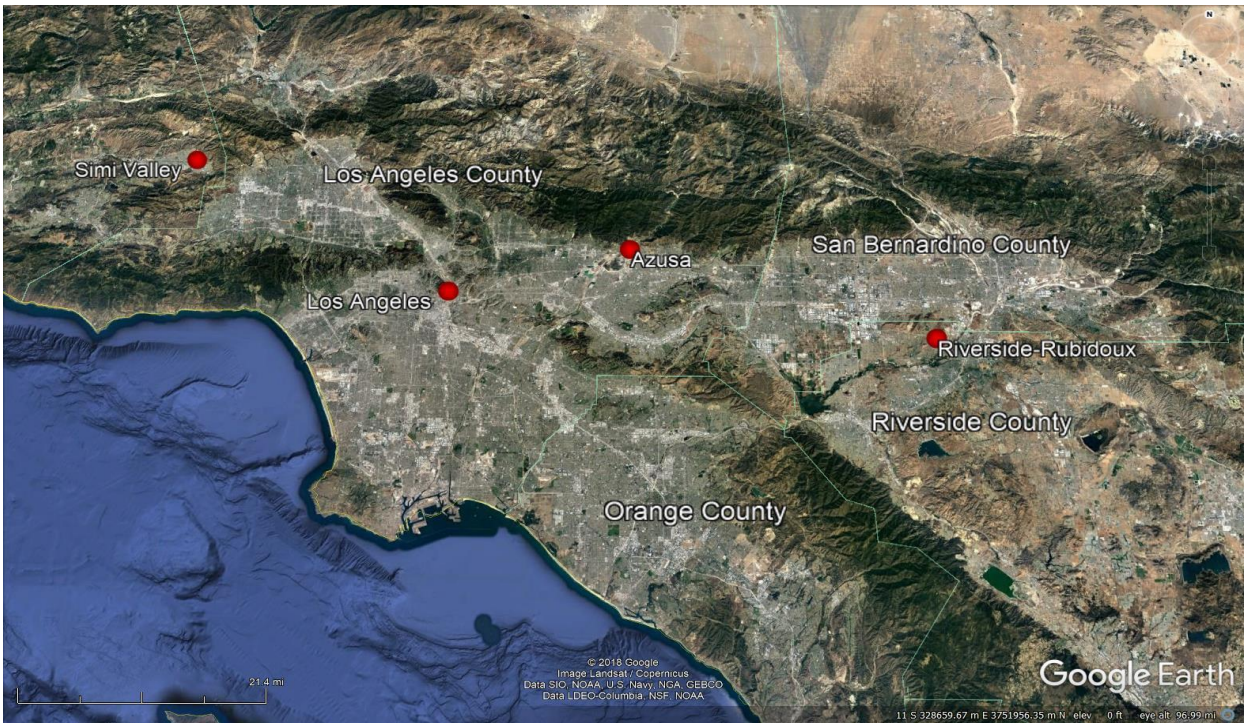


Figure B-1 — CARB toxic monitoring sites in the South Coast Air Basin

[25] 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 Risk Assessment Guidelines 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 Risk Assessment Guidelines, even though the toxic pollutant concentrations may not have increased, the estimated cancer risk to a residential receptor will increase.

Figure B-2 presents health risk trends using the 2015 OEHHA Risk Assessment Guidelines.[26] The inhalation cancer risk shown is estimated based on a 30-year exposure. Inhalation cancer health risks have decreased significantly at all stations since 1990. Cancer risks have decreased by 75, 85, and 80 percent at Riverside, Los Angeles, and Simi Valley, respectively.[27] Azusa station shows a decrease in cancer risk by 46 percent since 2000.

Note that the Riverside station showed an increase in cancer risk for 2016. This was solely due to higher measured concentrations of methylene chloride for 2016, which were more than 30 times higher than the previous year. The readings for 2017 and 2018, however, dropped to a level that is more consistent with 2015 and earlier data Figure B-3 shows the monitored methylene chloride concentrations at the Riverside station from 2000 to 2018, averaged by quarter.

Further, it was discovered that there were leaks in the VOC sampling manifolds for the Los Angeles and Riverside. Data for the Los Angeles station was impacted during the period of August 17, 2018 to April 25, 2019. Data for Riverside station was impacted during the period of September 22, 2017 to February 19, 2019. The leaks in the manifold resulted in atypical readings for acetaldehydes and formaldehyde. The data was ultimately invalidated, and insufficient data was available for 2018 for those two compounds. Therefore, readings from 2017 were used for acetaldehyde and formaldehyde. Although readings for other organic compounds were also invalidated when necessary, there was enough data to be representative of 2018.

[26] Excluding cancer risks from DPM.

[27] 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.

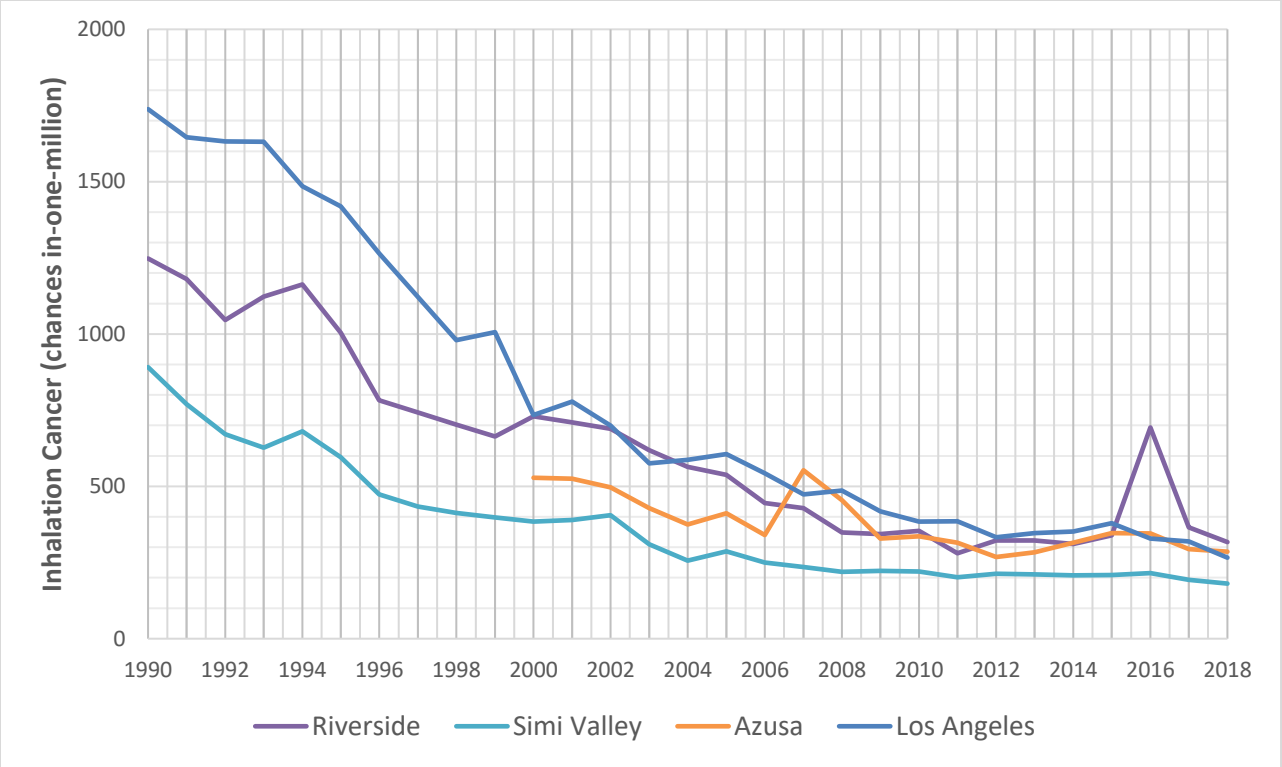


Figure B-2 — Trends in Inhalation Cancer Risks in the Basin (1990-2018)

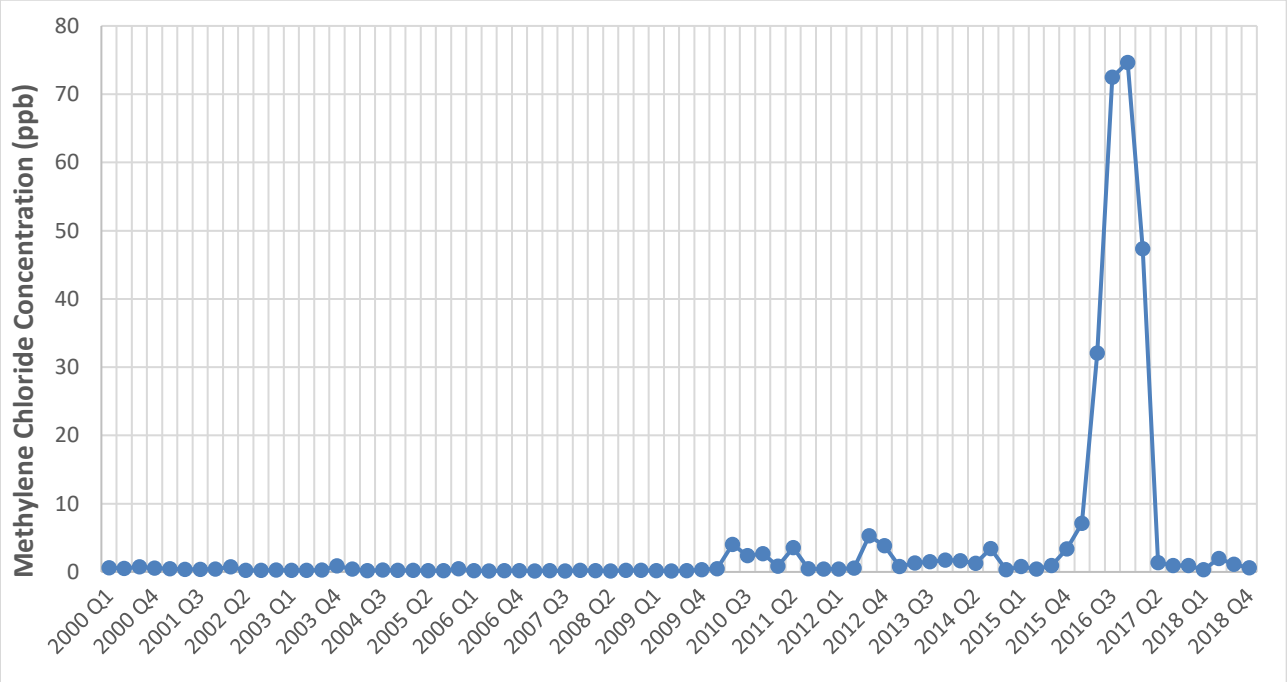


Figure B-3 — Methylene Chloride Monitored Concentrations at Riverside Station, Averaged by Quarter (2000 to 2018)

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 42 percent of the cancer risk reduction and 1,3-butadiene accounts for 45 percent of the cancer risk reduction.

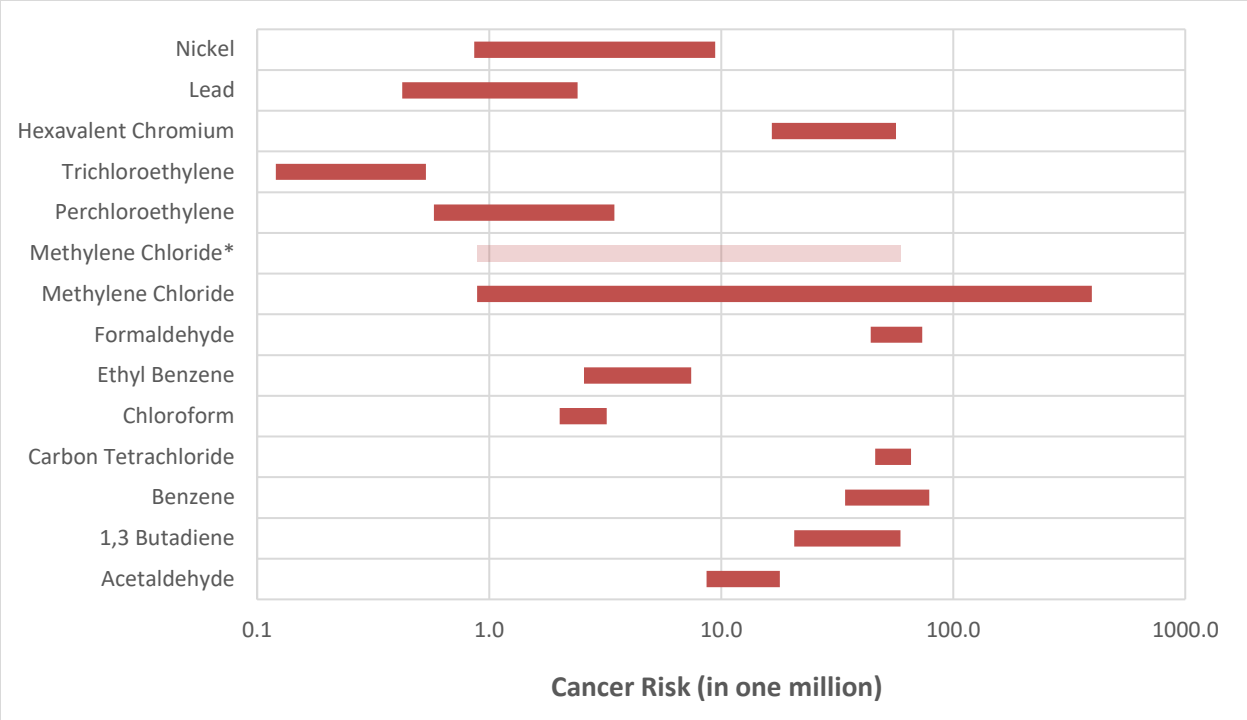
The cancer risk reductions shown in Figure B-2 occurred despite significant increases in population and vehicle activity. As shown in Table B-2, the population increased by 41 percent since 1990 and daily vehicle miles traveled), vehicle population, and daily fuel consumption increased by 45, 57, and 34 percent, respectively.

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

Activity Variable	1990	2019	Percentage Increase
Population	**13,083,594**	**18,458,605**	**41.1%**
Daily Vehicle Miles Traveled (1,000 mile per day)	**282,561**	**410,251**	**45.2%**
Vehicle Population	**7,547,354**	**11,833,320**	**56.8%**
Daily Fuel Consumption (1,000 gal per day)	**18,338**	**24,482**	**33.5%**

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-4 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 (2016 to 2018). As mentioned previously, the range of inhalation cancer risk includes the high measurements for methylene chloride from 2016 at the Riverside station that are inconsistent with all other readings taken at this station. To better demonstrate the effect, methylene chloride is shown in the charts twice: inclusive of all readings, and exclusive of the high Riverside readings.



* Excludes peak readings from Riverside station in 2016

Figure B-4 — Inhalation Cancer Risks in the Basin (2016 to 2018) (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 0.5 to 396 chances in-one-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-4. 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 0.6 and 9.4 chances in-one-million and trichloroethylene and lead contribute on average about two chances in-one-million to the inhalation cancer risks.

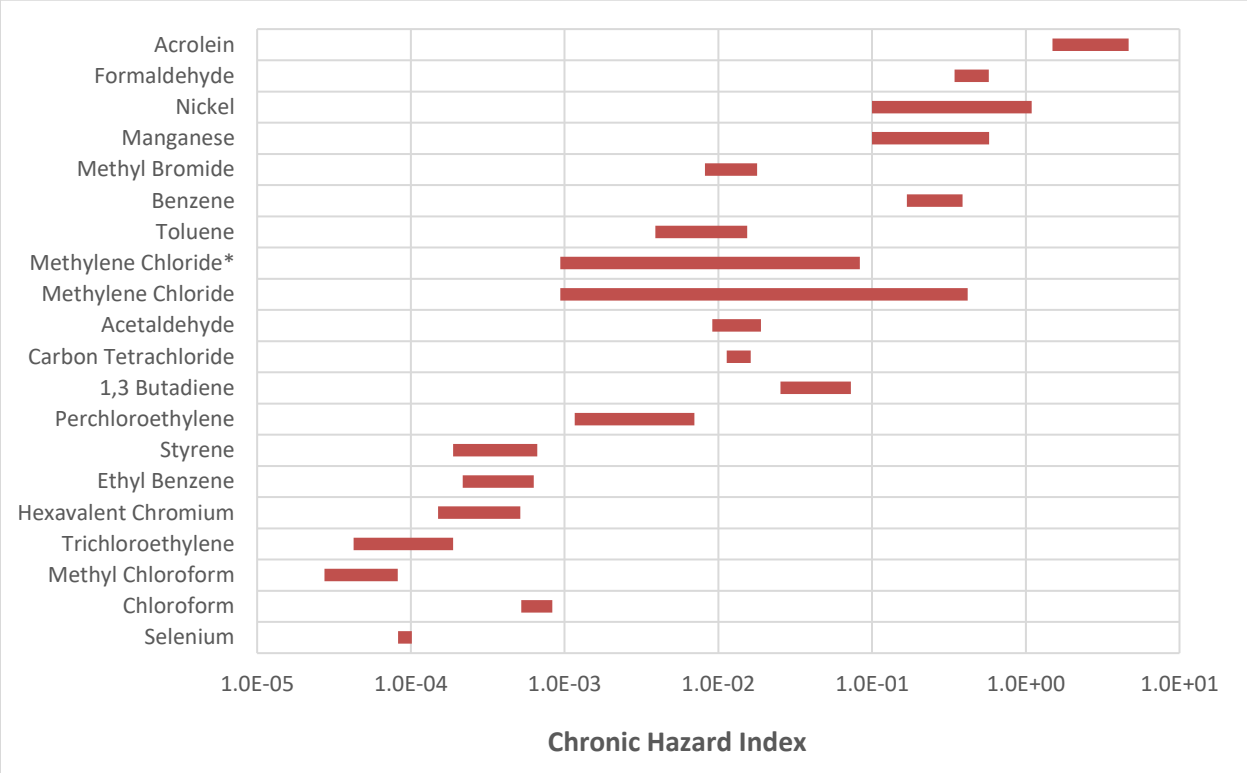
As demonstrated in the series of MATES conducted by South Coast AQMD staff, DPM is by far the largest contributor to inhalation cancer risks observed in the Basin. The MATES IV study attributed about 68 percent of the inhalation cancer risks to DPM based on emissions from 2012,[28] compared to 84 percent in MATES III based on emissions in 2005.[29] The total cancer risks shown

[28] See page ES-2 of the MATES IV 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

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

in Figures B-2 and B-4 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-5 for the most recently available three-year period (2016 to 2018). Similar to the cancer risk analysis, an additional Methylene Chloride data entry (denoted with an asterisk) was added to remove the high readings recorded at the Riverside monitor. 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. This concentration to REL ratio is also referred to as the Hazard Index (HI).



* Excludes peak readings from Riverside station in 2016

Figure B-5 — Non-cancer Chronic Risks in the Basin (2016 to 2018)

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.[30] 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.

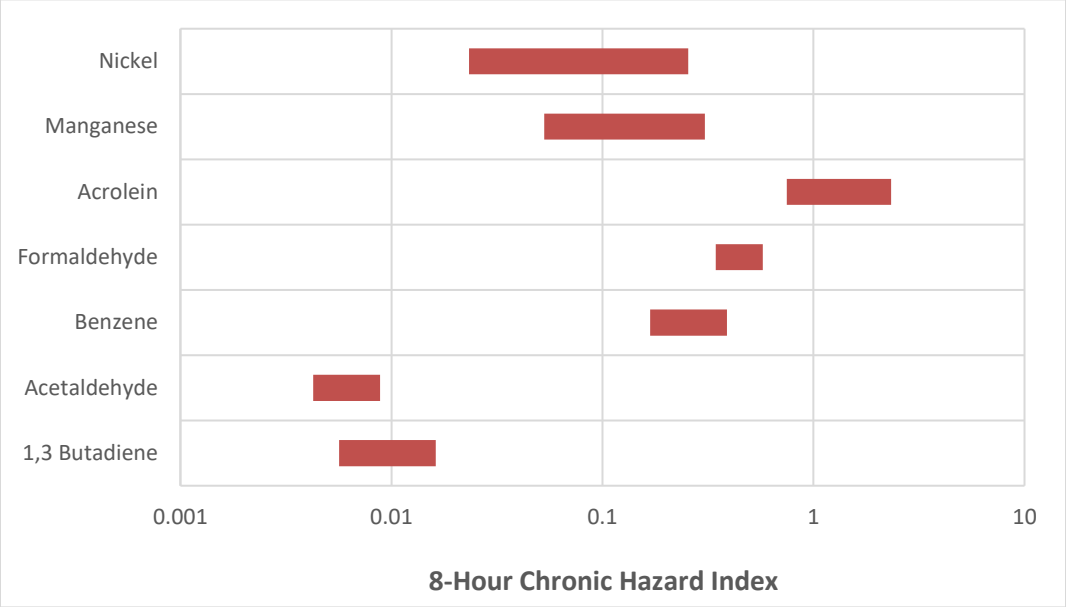


Figure B-6 — Non-cancer 8-Hour Chronic Risks in the Basin (2016 to 2018)

The 2015 OEHHA Risk Assessment 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-6 for the most recently available three-year period (2016 to 2018). Methylene chloride does not have an 8-hour REL as defined by OEHHA and does not affect the 8-hour chronic hazard index.

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.

[30] 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.

Appendix C — Health Risks from Facilities with an Approved HRA

The tables in Appendix C list the facilities and the health risks identified in their HRAs or RRPs as reviewed and approved by South Coast AQMD staff. Risks presented in these tables 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 Risk Assessment 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 South Coast AQMD staff in 2015 were recalculated to reflect the 2015 OEHHA Risk Assessment Guidelines. Additionally, facilities that have elected to participate in the Voluntary Risk Reduction Program and have an approved VRRP are listed in Table D-2.

Table C-1 lists the facilities in order of their cancer risks and Table C-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 D lists the status of the facility's RRP and is presented by facility ID. Attention should also be given to the footnotes for this appendix which denote facilities with updated HRAs pending approval and facilities with health risks including emergency diesel internal combustion engines. It also provides the last known status of each facility as follows:

"A" – Active (note that facilities with this status may not be in operation currently)

"O" – Out of business or inactive

"Out of business or inactive" facilities have been retained for historical purposes since staff occasionally receives public inquiries regarding these facilities. Facilities may undergo change of ownership could have different name and facility ID numbers. The following thresholds are identified in South Coast AQMD Rule 1402 — Control of Toxic Air Contaminants from Existing Sources:

Thresholds	Cancer Risk in MM	Acute, Chronic HI	Cancer Burden
Significant Risk Level	≥ 100	≥ 5.0	N/A
Action Risk Level	≥ 25	≥ 3.0	≥ 0.5
Notification Risk Level	≥ 10	≥ 1.0	N/A
Voluntary Risk Threshold	≥ 10	≥ 1.0	N/A
Exemption Level	< 1	< 0.1	N/A

Table C-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 (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
16951	A	ANAPLEX CORP	PARAMOUNT	2836.0	9.73	23.84	2.02	2018
23752	A	AEROCRAFT HEAT TREATING CO INC	PARAMOUNT	1900.0	11.00	2.90	0.15	2018
11818	A	HIXSON METAL FINISHING	NEWPORT BEACH	1502.0	1.09	0.20	0.10	2015
800327	A	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	179.5	4.97	0.80	1.69	2019
41229	A	LUBECO INC	LONG BEACH	128.6	0.08	0.18	0.45	2019
18931	A	TAMCO	RANCHO CUCAMONGA	52.7	3.08	3.04	3.19	2015
171107	A	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	23.2	0.29	0.10	0.70	2013
122822	O	CONSOLIDATED FILM INDUSTRIES, LLC	HOLLYWOOD	21.0	ND	0.10	0.40	2000
181426	A	OC WASTE & RECYCLING, COYOTE	NEWPORT COAST	20.1	0.18	0.60	0.30	2009
14495	A	VISTA METALS CORPORATION	FONTANA	19.8	0.06	0.00	0.30	2008
165192	A	TRIUMPH AEROSTRUCTURES, LLC	HAWTHORNE	19.7	ND	0.64	0.24	1999
187823	A	KIRKHILL INC	BREA	18.8	0.07	0.06	0.11	2019
11142	A	KEYSOR-CENTURY CORP	SAUGUS	17.0	ND	0.50	0.10	2000
18989	A	BOWMAN PLATING CO INC	COMPTON	17.0	0.00	0.01	0.01	2015
22911	A	CARLTON FORGE WORKS	PARAMOUNT	15.4	ND	1.76	1.04	2016
35302	A	OWENS CORNING ROOFING AND ASPHALT, LLC	COMPTON	14.0	0.02	0.10	0.10	2000
180631	A	STCDARA, LLC	LA PUENTE	13.8	0.02	0.01	0.74	2001
23907	A	JOHNS MANVILLE CORP	CORONA	13.0	ND	0.40	2.70	1999
18648	O	CROWN CITY PLATING CO.	EL MONTE	12.0	ND	0.40	0.10	2000
800436	A	TESORO REFINING AND MARKETING CO, LLC	WILMINGTON	10.7	0.37	0.30	0.40	2013
106797	A	SAINT-GOBAIN CONTAINERS, INC.	LOS ANGELES	9.9	ND	0.00	0.10	2000
101380	O	GENERAL DYNAMICS OTS (DOWNEY) INC	DOWNEY	9.8	ND	0.00	0.10	2000
148925	A	CHERRY AEROSPACE	SANTA ANA	9.7	ND	0.10	0.20	1999
800373	A	LAKELAND DEVELOPMENT COMPANY	SANTA FE SPRINGS	9.7	ND	0.30	0.10	2000
187165	A	ALTAIR PARAMOUNT, LLC	PARAMOUNT	9.6	ND	0.00	0.00	2002
15504	A	SCHLOSSER FORGE COMPANY	RANCHO CUCAMONGA	9.5	0.07	1.59	1.11	2002

Table C-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 (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
800149	A	US BORAX INC	WILMINGTON	9.5	ND	0.00	0.00	2000
800318	A	GRISWOLD INDUSTRIES	COSTA MESA	9.5	0.01	0.10	0.00	2001
10510	A	GREGG INDUSTRIES INC	EL MONTE	9.4	ND	0.60	0.60	2008
62897	A	NORTHROP GRUMMAN CORP, MASD	PICO RIVERA	9.4	ND	1.00	0.50	2000
155828	A	GARRETT AVN. SVCS. LLC DBA STANDARD AERO	LOS ANGELES	9.3	ND	0.19	0.25	2002
8582	A	SO CAL GAS CO/PLAYA DEL REY STORAGE FAC	PLAYA DEL REY	9.2	0.02	7.28	0.02	2019
42922	A	CMC PRINTED BAG INC	WHITTIER	9.0	ND	0.00	0.00	1995
174710	A	TESORO LOGISTICS, VINVALE TERMINAL	SOUTH GATE	9.0	ND	0.00	0.00	1994
169990	A	SPS TECHNOLOGIES, LLC	GARDENA	8.9	ND	0.10	0.10	1999
800184	A	GOLDEN WEST REF CO	SANTA FE SPRINGS	8.8	ND	0.20	0.10	1997
175124	A	AEROJET ROCKETDYNE OF DE, INC.	CANOGA PARK	8.7	ND	0.00	0.00	1995
2680	A	LA CO., SANITATION DISTRICT	WHITTIER	8.6	ND	0.00	0.00	1999
44454	A	STRUCTURAL COMPOSITES IND	POMONA	8.6	0.00	0.00	0.20	2002
7203	A	HESSCO IND INC	LA HABRA	8.6	ND	0.00	0.00	1995
15736	A	HENRY CO	HUNTINGTON PARK	8.5	ND	0.00	0.00	2000
800057	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	CARSON	8.5	ND	0.00	0.10	1999
800079	A	PETRO DIAMOND TERMINAL CO	LONG BEACH	8.3	ND	0.00	0.20	1998
125281	O	ALCO CAD-NICKEL PLATING, MODERN PLATING	LOS ANGELES	8.2	ND	0.10	0.00	1995
21615	O	PERKINELMER OPTOELECTRONICS SC, INC	AZUSA	8.1	ND	0.20	0.10	1998
800054	A	GATX RAIL CORP	SAN PEDRO	8.0	ND	0.30	0.50	1997
7730	A	CARPENTER CO	RIVERSIDE	8.0	ND	0.03	1.34	2003
3609	A	AL'S PLATING CO INC	LOS ANGELES	7.8	ND	0.30	0.20	1999
37603	A	SGL TECHNIC LLC	VALENCIA	7.8	ND	0.00	0.40	1998
800182	A	RIVERSIDE CEMENT CO	RIVERSIDE	7.8	0.11	0.10	0.10	2001
13920	A	SAINT JOSEPH HOSPITAL	ORANGE	7.7	0.00	0.80	0.30	2008
181667	A	TORRANCE REFINING COMPANY LLC	TORRANCE	7.7	0.15	0.20	0.50	2013
169754	A	SO CAL HOLDING, LLC	HUNTINGTON BEACH	7.6	0.02	0.02	0.04	2019

Table C-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 (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
18294	A	NORTHROP GRUMMAN SYSTEMS CORP	EL SEGUNDO	7.6	ND	0.13	0.05	1999
113170	A	SANTA MONICA - UCLA MEDICAL CENTER	SANTA MONICA	7.6	0.14	0.20	0.00	1997
800214	A	LA CITY, SANITATION BUREAU (HTP)	PLAYA DEL REY	7.6	ND	0.10	0.00	1999
20197	A	LAC/USC MEDICAL CENTER	LOS ANGELES	7.5	ND	0.70	0.40	2007
800032	A	CHEVRON USA INC	MONTEBELLO	7.5	0.14	0.00	0.20	1999
800150	A	US GOVT, AF DEPT, MARCH AIR RESERVE BASE	RIVERSIDE	7.4	0.02	0.30	0.00	2008
108701	A	SAINT-GOBAIN CONTAINERS, INC.	EL MONTE	7.3	ND	0.10	0.10	2000
800117	A	SHELL OIL CO (EIS USE)	WILMINGTON	7.3	ND	0.00	0.10	1998
174655	A	TESORO REFINING & MARKETING CO, LLC	CARSON	7.3	ND	0.30	0.10	2000
800026	A	ULTRAMAR INC	WILMINGTON	7.2	0.18	0.70	0.20	2012
800113	A	ROHR, INC.	RIVERSIDE	7.2	0.01	0.90	0.00	2007
800236	A	LA CO. SANITATION DIST	CARSON	7.2	ND	0.20	0.10	2007
8547	A	QUEMETCO INC	CITY OF INDUSTRY	7.1	0.45	0.09	0.69	2016
27343	O	CON AGRA INC, GILROY FOODS DBA	SANTA ANA	7.1	ND	0.20	0.10	1995
49387	A	UNIV CAL, RIVERSIDE	RIVERSIDE	7.1	ND	0.00	0.00	2018
166587	A	THE BOEING COMPANY	HUNTINGTON BEACH	7.0	ND	0.00	0.00	1995
800209	A	BKK CORP (EIS USE)	WEST COVINA	6.9	ND	0.00	0.10	2000
800372	A	EQUILON ENTER. LLC, SHELL OIL PROD. US	CARSON	6.9	ND	0.40	0.10	2001
20280	A	METAL SURFACES INTERNATIONAL, LLC	BELL GARDENS	6.8	0.00	0.90	0.30	2011
5723	A	DUCOMMUN AEROSTRUCTURES INC	ORANGE	6.7	ND	0.00	0.10	1999
118998	O	CYTEC FIBERITE INC	CULVER CITY	6.6	ND	0.00	0.20	1997
171109	A	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	6.6	0.11	0.00	0.30	2011
186519	A	EMBEE PROCESSING	SANTA ANA	6.6	ND	0.21	0.58	2000
6643	A	TECHNICOLOR INC	NORTH HOLLYWOOD	6.5	ND	0.00	0.10	2007
11726	A	GE ENGINE SERVICES	ONTARIO	6.5	ND	0.10	0.60	1999
34764	A	CADDOCK ELECTRONICS INC	RIVERSIDE	6.5	ND	0.00	0.10	2002
168088	A	POLYNT COMPOSITES USA INC	LYNWOOD	6.5	ND	0.10	1.60	1995

Table C-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 (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
1073	A	BORAL ROOFING LLC	CORONA	6.4	0.00	0.51	2.72	2018
2852	A	THE WALT DISNEY COMPANY	BURBANK	6.4	0.03	0.00	0.00	1997
16660	A	THE BOEING COMPANY	HUNTINGTON BEACH	6.4	0.02	0.01	0.08	2015
800066	A	HITCO CARBON COMPOSITES INC	GARDENA	6.4	ND	0.30	0.00	1995
183567	A	GS II, INC.	WILMINGTON	6.3	0.04	1.82	0.19	2018
4477	A	SO CAL EDISON CO	AVALON	6.3	0.02	0.00	0.00	2012
1226	A	HYATT DIE CAST & ENGINEERING CORP	CYPRESS	6.2	ND	0.00	0.10	1996
45262	A	LA COUNTY SANITATION DIST SCHOLL CANYON	GLENDALE	6.2	ND	0.00	0.10	1998
800180	A	UNOCAL CORP, UNOCAL CHEM DIV (EIS USE)	LA MIRADA	6.2	ND	0.50	0.80	1999
800067	A	THE BOEING COMPANY	EL SEGUNDO	6.2	ND	0.00	0.10	2000
140961	A	GKN AEROSPACE TRANSPARENCY SYS INC	GARDEN GROVE	6.0	ND	0.00	0.50	1996
800022	A	CALNEV PIPE LINE, LLC	BLOOMINGTON	5.9	ND	0.00	0.10	1999
800047	O	FLETCHER OIL & REF CO	CARSON	5.9	ND	0.00	0.00	1998
800198	A	ULTRAMAR INC	WILMINGTON	5.9	ND	0.00	0.10	1999
800279	A	SFPP, L.P. (NSR USE ONLY)	ORANGE	5.9	ND	0.00	0.20	1999
8578	A	ASSOCIATED CONCRETE PROD. INC	SANTA ANA	5.8	ND	0.10	0.60	1999
800129	A	SFPP, L.P.	BLOOMINGTON	5.8	ND	0.00	0.00	1996
136148	A	E/M COATING SERVICES	NORTH HOLLYWOOD	5.8	ND	0.30	0.60	1998
164864	A	ARROWHEAD BRASS & PLUMBING	LOS ANGELES	5.7	ND	0.30	0.00	1995
22410	O	PALACE PLATING	LOS ANGELES	5.6	ND	0.73	0.38	2004
38971	A	RICOH ELECTRONICS INC	IRVINE	5.6	ND	0.00	0.40	1995
800288	A	UNIV CAL IRVINE (NSR USE ONLY)	IRVINE	5.6	ND	0.00	0.10	1996
14146	A	MAC GREGOR YACHT CORP	COSTA MESA	5.5	ND	0.00	0.10	1998
185352	A	SNOW SUMMIT, LLC.	BIG BEAR LAKE	5.5	ND	0.20	0.00	2007
54424	A	L&L CUSTOM SHUTTERS INC,ALLWOOD SHUTTERS	PLACENTIA	5.5	ND	0.20	0.20	2001
800409	A	NORTHROP GRUMMAN SYSTEMS CORPORATION	REDONDO BEACH	5.5	ND	0.50	0.20	1998
800196	A	AMERICAN AIRLINES, INC,	LOS ANGELES	5.4	0.19	0.86	0.08	2002

Table C-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 (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
182752	A	TORRANCE LOGISTICS COMPANY LLC	VERNON	5.3	ND	0.10	0.00	1997
134018	A	INDUSTRIAL CONTAINER SERVICES-CA LLC	MONTEBELLO	5.2	ND	0.60	0.20	2000
109198	A	TORCH OPERATING COMPANY	BREA	5.0	ND	0.00	0.00	2001
103888	O	SARGENT FLETCHER INC	EL MONTE	4.9	ND	0.20	0.00	1999
800037	A	DEMENNO-KERDOON DBA WORLD OIL RECYCLING	COMPTON	4.9	0.01	0.01	0.02	2009
11192	A	HI-SHEAR CORPORATION	TORRANCE	4.8	ND	0.00	0.00	2008
190377	A	GCC LONG BEACH C/O GOODMAN	LONG BEACH	4.8	ND	0.20	0.10	1999
190051	A	BRIDGE POINT LONG BEACH LLC	LONG BEACH	4.8	0.00	0.00	0.00	2002
101977	A	SIGNAL HILL PETROLEUM INC	SIGNAL HILL	4.7	ND	0.60	1.00	1998
3950	A	CROWN CORK & SEAL CO INC	LA MIRADA	4.6	ND	0.00	0.10	1997
83102	A	LIGHT METALS INC	CITY OF INDUSTRY	4.5	0.01	0.00	2.70	2002
157451	A	BENDER CCP INC	VERNON	4.4	0.00	1.00	0.00	2002
800041	A	DOW CHEM U.S.A.	TORRANCE	4.4	ND	0.10	0.00	2000
93346	A	WAYMIRE DRUM CO,INC.,S EL MONTE FACILITY	SOUTH EL MONTE	4.3	ND	0.10	0.20	1997
174591	A	TESORO REF & MKTG CO LLC,CALCINER	LONG BEACH	4.3	ND	0.10	0.20	1995
177042	A	SOLVAY USA, INC	LONG BEACH	4.3	ND	0.30	0.00	2001
124506	A	THE BOEING COMPANY	TORRANCE	4.2	ND	0.50	0.10	1995
6459	O	HONEYWELL INTERNATIONAL INC	VERNON	4.1	ND	0.00	0.00	1999
7533	A	SIMS HUGO NEU WEST	TERMINAL ISLAND	4.1	ND	1.30	0.10	2003
18439	O	ACE PLATING CO INC	LOS ANGELES	4.1	ND	0.60	0.20	1998
45489	A	ABBOTT CARDIOVASCULAR SYSTEMS, INC.	TEMECULA	3.8	0.01	1.30	0.00	2002
126060	A	STERIGENICS US, LLC	ONTARIO	3.8	0.00	0.00	0.00	2007
8820	A	REULAND ELECTRIC CO, H.BRITTON LEES	CITY OF INDUSTRY	3.7	ND	0.00	0.00	1996
9114	O	SOMITEX PRINTS OF CAL INC	CITY OF INDUSTRY	3.7	ND	0.10	0.00	1996
17325	A	ACE CLEARWATER ENTERPRISES	PARAMOUNT	3.7	ND	0.00	0.00	2002
106838	A	VALLEY-TODECO, INC	SYLMAR	3.7	ND	0.20	0.20	2000
7427	A	OWENS-BROCKWAY GLASS CONTAINER INC	VERNON	3.6	ND	0.01	0.06	1999

Table C-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 (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
105598	A	SENIOR AEROSPACE SSP	BURBANK	3.6	ND	1.00	0.50	2001
126197	A	STERIGENICS US, INC.	LOS ANGELES	3.6	ND	0.00	0.00	1996
800007	A	ALLIED SIGNAL INC (NSR USE ONLY)	EL SEGUNDO	3.6	ND	0.00	0.50	2000
8015	A	ANADITE INC	SOUTH GATE	3.5	ND	0.63	0.78	1998
127568	A	ENGINEERED POLYMER SOLUTION, VALSPAR	MONTEBELLO	3.5	ND	0.10	0.50	2000
140811	A	DUCOMMUN AEROSTRUCTURES INC	MONROVIA	3.5	0.01	0.00	0.00	2002
151899	A	CALIFORNIA RESOURCES PRODUCTION CORP	NEWHALL	3.5	ND	0.00	0.20	2000
9163	A	INLAND EMPIRE UTL AGEN, A MUN WATER DIS	ONTARIO	3.4	ND	0.30	0.00	2007
57329	O	KWIKSET CORP	ANAHEIM	3.4	ND	0.00	0.10	2000
185575	A	BRIDGE ENERGY, LLC	BREA	3.4	ND	0.00	0.00	1999
800204	O	SIMPSON PAPER CO	POMONA	3.4	ND	0.00	0.00	1996
126191	A	STERIGENICS US, INC.	LOS ANGELES	3.3	ND	0.00	0.00	1996
153546	A	HUCK INTERNATIONAL INC	CARSON	3.3	ND	0.00	0.00	1999
800063	A	GROVER PROD. CO (EIS USE)	LOS ANGELES	3.3	0.04	0.88	0.07	2001
800189	A	DISNEYLAND RESORT	ANAHEIM	3.3	0.03	0.10	0.10	2009
18396	A	SPRAYLAT CORP	LOS ANGELES	3.2	0.00	0.70	0.00	2012
6384	A	LA CO., RANCHO LOS AMIGOS NAT. REHAB CTR	DOWNEY	3.1	ND	0.00	0.10	1999
10005	A	ELECTRONIC CHROME GRINDING CO, INC	SANTA FE SPRINGS	3.0	0.01	0.20	0.10	2001
11435	A	PQ CORPORATION	SOUTH GATE	3.0	ND	0.00	0.00	1998
113676	A	VICKERS	LOS ANGELES	3.0	ND	0.00	0.00	1995
174703	A	TESORO LOGISTICS,CARSON PROD TERMINAL	CARSON	3.0	ND	0.00	0.00	1994
2613	A	U.S.GVT,NAVY,NAVAL WEAPONS STN SEAL BCH	SEAL BEACH	2.9	ND	0.10	0.00	2002
18452	A	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	2.9	ND	0.00	0.10	1999
52517	A	REXAM BEVERAGE CAN COMPANY	CHATSWORTH	2.9	0.01	0.70	0.10	2009
116868	A	EQUILON ENTER. LLC, SHELL OIL PROD. U S	BLOOMINGTON	2.9	ND	0.00	0.00	1999
48274	A	FENDER MUSICAL INST	CORONA	2.8	ND	0.00	0.40	1997
151798	A	TESORO REFINING AND MARKETING CO, LLC	CARSON	2.8	ND	0.10	0.00	1999

Table C-1 (cont'd)

Health Risks from Facilities with an Approved HRA

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Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
167981	A	TESORO LOGISTICS, WILMINGTON TERMINAL	WILMINGTON	2.8	ND	0.00	0.00	2000
800035	A	CONTINENTAL AIRLINES INC (NSR USE ONLY)	LOS ANGELES	2.8	ND	0.00	0.10	1995
5887	A	NEXGEN PHARMA INC	IRVINE	2.7	ND	0.00	0.00	1997
16642	A	ANHEUSER-BUSCH LLC., (LA BREWERY)	VAN NUYS	2.7	ND	0.00	0.10	1999
25440	A	INVENSYS CLIMATE CONTROLS	LONG BEACH	2.7	ND	0.00	1.00	1998
27701	O	CADDOCK ELECTRONIC	RIVERSIDE	2.7	ND	0.00	0.10	2002
46268	A	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	2.7	0.02	0.20	0.00	1995
800224	A	SO CAL EDISON CO	ETIWANDA	2.7	ND	0.00	0.20	2000
184301	A	SENTINEL PEAK RESOURCES CALIFORNIA, LLC	LOS ANGELES	2.7	ND	0.00	0.10	1997
800030	A	CHEVRON PRODUCTS CO.	EL SEGUNDO	2.7	0.28	0.30	0.10	2001
35483	A	WARNER BROTHERS STUDIO FACILITIES	BURBANK	2.6	ND	0.10	0.30	1997
37507	A	TROJAN BATTERY COMPANY, LLC	SANTA FE SPRINGS	2.6	0.00	1.10	1.30	2012
134943	A	ARCONIC GLOBAL FASTENERS & RINGS INC	TORRANCE	2.6	ND	0.60	0.00	2008
185059	A	CUSTOM FIBREGLASS MFG. CO DBA SNUGTOP	LONG BEACH	2.5	ND	0.00	0.00	1995
183926	A	EVONIK CORPORATION	LOS ANGELES	2.4	ND	0.10	0.80	1999
800278	A	SFPP, L.P. (NSR USE)	CARSON	2.4	ND	0.00	0.10	1999
79682	A	RAMCAR BATTERIES INC	COMMERCE	2.4	1.00	0.00	0.20	1998
133405	A	BODYCOTE THERMAL PROCESSING	LOS ANGELES	2.4	ND	0.00	0.20	1999
172878	A	TESORO LOGISTICS LONG BEACH TERMINAL	LONG BEACH	2.4	ND	0.00	0.00	1999
800039	O	DOUGLAS PRODUCTS DIVISION	TORRANCE	2.4	ND	0.00	0.00	1996
800202	A	UNIVERSAL CITY STUDIOS, LLC.	UNIVERSAL CITY	2.4	ND	0.00	0.00	1996
800387	A	CAL INST OF TECH	PASADENA	2.4	ND	0.10	0.00	2007
1208	A	MICROSEMI CORP	SANTA ANA	2.3	ND	0.00	0.00	2001
90546	O	SORIN BIOMEDICAL INC	IRVINE	2.3	ND	0.00	0.00	1996
160437	A	SOUTHERN CALIFORNIA EDISON	REDLANDS	2.3	0.00	0.00	0.00	2013
800056	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	WILMINGTON	2.3	0.01	0.00	0.00	1997
800111	O	THE BOEING COMPANY	DOWNEY	2.3	ND	0.00	0.10	1996

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99773	A	CYTEC ENGINEERED MATERIALS INC	ANAHEIM	2.2	0.00	0.00	0.20	2000
103659	A	ASCENT MEDIA MANAGEMENT SERVICES INC	BURBANK	2.2	ND	0.60	0.00	2004
9668	A	DELUXE LABORATORIES	HOLLYWOOD	2.1	ND	0.00	0.00	2000
800413	A	HAWKER PACIFIC AEROSPACE	SUN VALLEY	2.1	0.00	0.00	0.10	2009
2605	A	3M DRUG DELIVERY SYSTEMS	NORTHRIDGE	2.0	ND	0.40	0.40	1996
14502	A	VERNON PUBLIC UTILITIES	VERNON	2.0	0.00	0.00	0.00	2007
182610	A	ELITE COMFORT SOLUTIONS	COMMERCE	2.0	ND	0.00	0.50	1998
142267	A	FS PRECISION TECH LLC	COMPTON	2.0	ND	0.10	0.20	2001
800181	A	CALIFORNIA PORTLAND CEMENT CO	COLTON	2.0	ND	0.00	0.40	1996
800325	A	TIDELANDS OIL PRODUCTION CO	LONG BEACH	1.9	ND	0.10	0.60	1999
10245	A	LA CITY, TERMINAL ISLAND TREATMENT PLANT	SAN PEDRO	1.8	ND	0.00	0.00	2000
23559	A	JOHNSON CONTROLS BATTERY GROUP INC	FULLERTON	1.8	ND	0.00	0.10	2001
800003	A	HONEYWELL INTERNATIONAL INC	TORRANCE	1.8	ND	0.00	0.00	1999
8309	A	CAMBRO MANUFACTURING CO	HUNTINGTON BEACH	1.7	ND	0.00	0.10	2000
22467	A	LEFIELL MFG CO	SANTA FE SPRINGS	1.7	ND	0.70	0.20	2000
82512	A	BREA CANON OIL CO	WILMINGTON	1.7	ND	0.00	0.00	1996
185801	A	BERRY PETROLEUM COMPANY, LLC	SANTA CLARITA	1.6	ND	0.20	0.70	1999
119920	A	PECHINEY CAST PLATE INC	VERNON	1.6	ND	0.30	0.30	1996
132954	A	ALL AMERICAN ASPHALT	SAN FERNANDO	1.6	0.00	0.40	0.30	2017
133660	A	HAYDEN INDUSTRIAL PRODUCTS	CORONA	1.6	ND	0.80	0.40	1998
2638	A	OCCIDENTAL COLLEGE	LOS ANGELES	1.5	ND	0.10	0.00	2007
25070	A	LA CNTY SANITATION DISTRICT-PUENTE HILLS	CITY OF INDUSTRY	1.5	0.00	0.30	0.10	2009
107350	A	NATIONAL O-RINGS	DOWNEY	1.5	ND	0.00	0.00	2001
126536	A	CPP - POMONA	POMONA	1.5	ND	0.00	0.00	1999
3968	A	TABC, INC	LONG BEACH	1.4	ND	0.10	0.20	1999
82513	A	BREA CANON OIL COMPANY INC	HARBOR CITY	1.4	ND	0.00	0.00	1996
800408	A	NORTHROP GRUMMAN SYSTEMS	MANHATTAN BEACH	1.4	ND	0.90	0.10	1998

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2526	A	CHEVRON USA INC	VAN NUYS	1.3	ND	0.00	0.00	1996
62679	O	KOP-COAT INC	LOS ANGELES	1.3	ND	0.00	0.50	1997
126544	A	PAC FOUNDRIES-INDUSTRY	CITY OF INDUSTRY	1.3	ND	0.60	0.10	1996
187348	A	HYDRO EXTRUDER, LLC	CITY OF INDUSTRY	1.3	ND	0.00	0.00	1999
800330	A	THUMS LONG BEACH	LONG BEACH	1.2	ND	0.00	0.00	2000
42633	A	LA COUNTY SANITATION DISTRICTS (SPADRA)	POMONA	1.2	ND	0.00	0.00	1996
185093	A	BEVERLY HILLS UNIFIED SCHOOL DISTRICT	BEVERLY HILLS	1.2	ND	0.00	0.00	2005
42514	A	LA COUNTY SANITATION DIST (CALABASAS)	AGOURA	1.1	0.00	0.10	0.00	2010
152054	A	LINN WESTERN OPERATING INC	BREA	1.1	ND	0.00	0.10	1996
20375	A	PRUDENTIAL OVERALL SUPPLY	RIVERSIDE	1.0	ND	0.00	0.10	1997
124806	O	EXIDE TECHNOLOGIES	CITY OF INDUSTRY	1.0	ND	0.00	0.00	1999
800127	A	SO CAL GAS CO	MONTEBELLO	1.0	0.00	0.00	0.00	2009
800301	A	ITT GILFILLAN	VAN NUYS	0.9	ND	0.10	0.20	1998
22808	O	PRICE PFISTER INC	PACOIMA	0.9	ND	0.20	0.10	1996
47056	A	MYERS CONTAINER CORP, IMACC CORP DIV	HUNTINGTON PARK	0.9	ND	0.20	2.00	2002
14544	O	SANTA FE ENAMELING & METAL FINISHING CO	SANTA FE SPRINGS	0.8	ND	0.00	0.40	1999
18378	A	GRUBER SYS INC	VALENCIA	0.8	ND	0.10	0.10	2004
111415	O	VAN CAN COMPANY	FONTANA	0.8	ND	0.00	0.10	1996
186899	A	ENERY HOLDINGS LLC	CARSON	0.8	ND	0.20	0.00	2007
150201	A	BREITBURN OPERATING LP	SANTA FE SPRINGS	0.8	ND	0.00	0.00	1998
126964	A	EDWARDS LIFESCIENCES LLC	IRVINE	0.8	ND	0.00	0.00	1995
174340	A	PRC DE SOTO INTERNATIONAL, INC.	IRVINE	0.7	ND	0.00	0.00	1995
182822	A	TORRANCE LOGISTICS COMPANY LLC	ANAHEIM	0.7	ND	0.00	0.00	1999
22373	A	SMURFIT-STONE CONTAINER ENTERPRISES, INC	LOS ANGELES	0.7	ND	0.00	0.00	1996
24060	A	AQUATIC COMPANY	ANAHEIM	0.7	ND	0.00	0.00	1996
15647	A	CUSTOM ENAMELERS INC	FOUNTAIN VALLEY	0.6	ND	0.10	0.00	2000
24756	A	CRANE CO, HYDRO-AIRE DIV	BURBANK	0.6	ND	0.00	0.10	1997

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115394	A	AES ALAMITOS, LLC	LONG BEACH	0.6	ND	0.00	0.00	1999
134931	A	ARCONIC GLOBAL FASTENERS & RINGS, INC.	FULLERTON	0.6	ND	1.90	0.02	1997
1634	A	STEELCASE INC, WESTERN DIV	TUSTIN	0.5	ND	0.00	0.00	1995
3093	A	LA CO., OLIVE VIEW/UCLA MEDICAL CENTER	SYLMAR	0.5	ND	0.00	0.00	1999
6281	A	US GOVT,MARINE CORPS AIR STATION,EL TORO	SANTA ANA	0.5	ND	0.00	0.00	1996
21895	A	AC PRODUCTS INC	PLACENTIA	0.5	ND	0.00	0.00	2003
61160	A	GE ENGINE SERVICES, LLC	ONTARIO	0.5	ND	0.70	0.01	2003
152501	A	PRECISION SPECIALTY METALS, INC.	LOS ANGELES	0.5	ND	0.40	0.20	2001
188380	A	VALENCE SURFACE TECHNOLOGIES - LYNWOOD	LYNWOOD	0.5	0.00	0.10	0.40	2012
12660	O	GOLDSHIELD FIBERGLASS, INC, PLANT #58	FONTANA	0.4	ND	0.00	0.00	1994
18990	A	LIFE PAINT CO	SANTA FE SPRINGS	0.4	ND	0.00	0.00	2001
43436	A	TST, INC.	FONTANA	0.4	0.11	0.00	0.40	1997
44577	A	LONG BEACH CITY, SERRF PROJECT	LONG BEACH	0.4	0.00	0.00	0.10	2011
115536	A	AES REDONDO BEACH, LLC	REDONDO BEACH	0.4	ND	0.00	0.00	1998
122295	A	FALCON FOAM, A DIV OF ATLAS ROOFING CORP	LOS ANGELES	0.4	ND	0.00	0.00	1999
550	A	LA CO., INTERNAL SERVICE DEPT	LOS ANGELES	0.3	ND	0.00	0.00	2008
19989	O	PARKER HANNIFIN AEROSPACE CORP	IRVINE	0.3	ND	0.00	0.00	1999
24520	A	LA CNTY SANITATION DISTRICT-PALOS VERDES	ROLLING HILLS ESTATES	0.3	ND	0.00	0.00	1998
25638	A	BURBANK CITY, BURBANK WATER & POWER	BURBANK	0.3	ND	0.30	0.00	1996
99119	A	INTERPLASTIC CORP	HAWTHORNE	0.3	ND	0.10	0.30	1999
107149	A	MARKLAND MANUFACTURING INC	SANTA ANA	0.3	ND	0.10	0.10	2007
112192	O	CONSOLIDATED DRUM RECONDITIONING CO INC	SOUTH GATE	0.3	ND	0.00	0.00	1997
115663	A	EL SEGUNDO ENERGY CENTER LLC	EL SEGUNDO	0.3	ND	0.00	0.00	2000
122300	A	BASF CORPORATION	COLTON	0.3	ND	0.60	0.00	2002
124805	A	EXIDE TECHNOLOGIES	COMMERCE	0.3	ND	0.00	0.00	2000
161142	A	FOAMEX INNOVATIONS, INC.	COMPTON	0.3	0.00	0.00	0.00	2010
800343	O	BOEING SATELLITE SYSTEMS, INC	EL SEGUNDO	0.3	ND	0.00	0.20	1996

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16264	A	INTERNATIONAL COATINGS CO INC	CERRITOS	0.2	ND	0.00	0.00	1999
48300	A	PRECISION TUBE BENDING	SANTA FE SPRINGS	0.2	ND	0.00	0.00	2002
800074	A	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	0.2	ND	0.00	0.00	2000
800168	A	PASADENA CITY, DWP	PASADENA	0.2	ND	0.70	0.00	1996
800193	A	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	0.2	ND	0.30	0.00	1999
180908	A	ECO SERVICES OPERATIONS CORP.	CARSON	0.1	ND	0.00	0.10	2006
1992	O	PRUDENTIAL OVERALL SUPPLY	VAN NUYS	0.1	ND	0.00	0.00	1997
7416	A	PRAXAIR INC	WILMINGTON	0.1	ND	0.00	0.00	2001
16044	A	SPECIALTY ORGANICS, INC.	IRWINDALE	0.1	ND	0.00	0.20	1997
24118	A	DEVOE COATINGS CO	RIVERSIDE	0.1	ND	0.30	0.10	1999
24812	A	FARMER BROS CO	TORRANCE	0.1	ND	0.00	0.00	1999
25012	A	AMADA AMERICA, INC.	LA MIRADA	0.1	ND	0.00	0.00	2002
37336	A	COMMERCE REFUSE TO ENERGY FACILITY	COMMERCE	0.1	0.00	0.00	0.00	2010
42676	A	CES PLACERITA INC	NEWHALL	0.1	ND	0.10	0.00	2003
94872	A	METAL CONTAINER CORP	MIRA LOMA	0.1	ND	0.40	0.40	2002
20528	A	BRISTOL FIBERLITE IND	SANTA ANA	0.1	ND	0.00	0.00	1995
115389	A	AES HUNTINGTON BEACH, LLC	HUNTINGTON BEACH	0.1	ND	0.00	0.00	1999
156741	A	HARBOR COGENERATION CO, LLC	WILMINGTON	0.1	ND	0.00	0.00	2002
175126	A	AEROJET ROCKETDYNE OF DE, INC.	CANOGA PARK	0.0	ND	0.00	0.00	1996
6670	O	TRU CUT INC	LOS ANGELES	0.0	ND	0.00	0.00	2002
809	O	GARNER GLASS CO	CLAREMONT	0.0	ND	0.00	0.00	1996
1732	O	INTL ELECTRONIC RESEARCH CORP	BURBANK	0.0	ND	0.00	0.00	1996
1746	A	UNITED ALLOYS INC	LOS ANGELES	0.0	ND	0.00	0.00	1998
3084	A	CARDINAL INDUSTRIAL FINISHES INC	SOUTH EL MONTE	0.0	ND	0.00	0.00	1996
800018	A	BAXTER HEALTHCARE CORPORATION	IRVINE	0.0	ND	0.00	0.40	1994
3578	A	PRUDENTIAL OVERALL SUPPLY	CARSON	0.0	ND	0.00	0.00	1995
4616	O	SUPERIOR IND INTL INC	VAN NUYS	0.0	ND	0.00	0.40	1997

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5125	A	UTILITY TRAILER MFG CO	CITY OF INDUSTRY	0.0	ND	0.00	0.30	1996
5645	O	STANDARD NICKEL CHROMIUM PLATING CO INC	LOS ANGELES	0.0	ND	0.00	0.00	1999
6163	A	OHLINE	GARDENA	0.0	ND	0.30	0.70	1996
6315	A	LMC ENTERPRISES, DBA FLO-KEM	RANCHO DOMINGUEZ	0.0	ND	0.00	0.60	1999
6362	O	JACUZZI WHIRLPOOL BATH INC	SANTA ANA	0.0	ND	0.00	0.00	1995
7010	A	PRUDENTIAL OVERALL SUPPLY	IRVINE	0.0	ND	0.00	0.00	1995
8560	A	PRUDENTIAL OVERALL SUPPLY CO	COMMERCE	0.0	ND	0.20	0.40	1995
8935	A	TRAIL RITE INC	SANTA ANA	0.0	ND	0.00	0.30	1996
10656	A	NEWPORT LAMINATES	SANTA ANA	0.0	ND	0.00	0.00	1996
12493	O	REMO INC	NORTH HOLLYWOOD	0.0	ND	0.00	0.00	1997
12879	O	CYTEC ENGINEERED MATERIALS, INC	SAUGUS	0.0	ND	0.00	0.00	1994
14191	O	NIKLOR CHEMICAL COMPANY INC	CARSON	0.0	ND	0.00	0.00	2002
14217	A	MODERN FAUCET MFG COMPANY	LOS ANGELES	0.0	ND	0.00	0.50	1996
19953	A	RISTON KELLER INC	IRVINE	0.0	ND	0.00	0.00	1996
20144	A	CANON BUSINESS MACHINES INC	COSTA MESA	0.0	ND	0.00	0.10	1999
800154	A	US GOVT, MARINE CORPS AIR STATION	TUSTIN	0.0	ND	0.00	0.00	2000
22092	A	WESTERN TUBE & CONDUIT CORP	LONG BEACH	0.0	ND	0.00	0.60	1997
22229	A	PROCESSES BY MARTIN INC (MARTIN METALS F	LYNWOOD	0.0	ND	0.00	0.00	2002
24647	A	J. B. I. INC	RANCHO DOMINGUEZ	0.0	ND	0.00	0.20	1999
40806	A	NEW BASIS	RIVERSIDE	0.0	ND	0.70	0.20	1997
45938	A	E.M.E. INC/ELECTRO MACHINE & ENGINEERING	COMPTON	0.0	ND	0.00	0.00	1999
47459	O	JACUZZI WHIRLPOOL BATH	IRVINE	0.0	ND	0.00	0.00	1995
800207	A	METRO ST HOSP (EIS USE)	NORWALK	0.0	ND	0.00	0.00	1996
189043	A	REVLINE DBA ELIMINATOR BOATS	MIRA LOMA	0.0	ND	0.00	0.00	1995
55711	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.00	0.00	1996
55714	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.00	0.00	1996
61209	O	AKZO NOBEL CHEM INC, FILTROL CORP SUB OF	LOS ANGELES	0.0	ND	0.00	0.00	1996

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800009	A	AMERON PROTECTIVE COAT DIV (EIS&NSR USE)	BREA	0.0	ND	0.20	0.20	2000
70021	A	XERXES CORP (A DELAWARE CORP)	ANAHEIM	0.0	ND	0.00	0.00	1996
115586	A	SUNDANCE SPAS, INC	CHINO	0.0	ND	0.00	0.40	1996
800109	A	REYNOLDS METALS CO	TORRANCE	0.0	ND	0.20	0.90	2001
119127	O	PRC-DE SOTO INTERNATIONAL	GLENDALE	0.0	ND	0.00	0.00	2000
124016	O	CHEMETALL U,S., INC,	LA MIRADA	0.0	ND	0.10	0.10	2000
124838	A	EXIDE TECHNOLOGIES	VERNON	0.0	ND	0.00	0.00	2013
132343	A	SPECTRUM PAINT & POWDER, INC.	ANAHEIM	0.0	ND	0.20	0.70	1997
149241	A	REGAL CULTURED MARBLE	POMONA	0.0	ND	0.00	0.20	1995
185282	A	BKEP MATERIALS LLC - FONTANA	FONTANA	0.0	ND	0.30	0.00	1999
160916	A	FXI, INC.	ORANGE	0.0	ND	0.40	0.40	1994
800075	A	LA CITY, DWP SCATTERGOOD GENERATING STN	PLAYA DEL REY	0.0	ND	0.00	0.00	2000
800087	A	MENASCO MFG CO (EIS USE)	BURBANK	0.0	ND	0.00	0.00	1997
800273	O	CHEMOIL REF CORP (NSR USE ONLY)	SIGNAL HILL	0.0	ND	0.00	0.00	2000
800320	A	AMVAC CHEMICAL CORP	LOS ANGELES	0.0	ND	0.10	0.30	2004
800337	A	CHEVRON U.S.A., INC (NSR USE)	LA HABRA	0.0	ND	0.00	0.00	1996

Notes:

(a) "A" – Active (note that facilities with this status may not be in operation currently); O = Out of Business or Inactive

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

(c) ND = Not Determined

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Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

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550	A	LA CO., INTERNAL SERVICE DEPT	LOS ANGELES	0.3	ND	0.00	0.00	2008
809	O	GARNER GLASS CO	CLAREMONT	0.0	ND	0.00	0.00	1996
1073	A	BORAL ROOFING LLC	CORONA	6.4	0.00	0.51	2.72	2018
1208	A	MICROSEMI CORP	SANTA ANA	2.3	ND	0.00	0.00	2001
1226	A	HYATT DIE CAST & ENGINEERING CORP	CYPRESS	6.2	ND	0.00	0.10	1996
1634	A	STEELCASE INC, WESTERN DIV	TUSTIN	0.5	ND	0.00	0.00	1995
1732	O	INTL ELECTRONIC RESEARCH CORP	BURBANK	0.0	ND	0.00	0.00	1996
1746	A	UNITED ALLOYS INC	LOS ANGELES	0.0	ND	0.00	0.00	1998
1992	O	PRUDENTIAL OVERALL SUPPLY	VAN NUYS	0.1	ND	0.00	0.00	1997
2526	A	CHEVRON USA INC	VAN NUYS	1.3	ND	0.00	0.00	1996
2605	A	3M DRUG DELIVERY SYSTEMS	NORTHRIDGE	2.0	ND	0.40	0.40	1996
2613	A	U.S.GVT,NAVY,NAVAL WEAPONS STN SEAL BCH	SEAL BEACH	2.9	ND	0.10	0.00	2002
2638	A	OCCIDENTAL COLLEGE	LOS ANGELES	1.5	ND	0.10	0.00	2007
2680	A	LA CO., SANITATION DISTRICT	WHITTIER	8.6	ND	0.00	0.00	1999
2852	A	THE WALT DISNEY COMPANY	BURBANK	6.4	0.03	0.00	0.00	1997
3084	A	CARDINAL INDUSTRIAL FINISHES INC	SOUTH EL MONTE	0.0	ND	0.00	0.00	1996
3093	A	LA CO., OLIVE VIEW/UCLA MEDICAL CENTER	SYLMAR	0.5	ND	0.00	0.00	1999
3578	A	PRUDENTIAL OVERALL SUPPLY	CARSON	0.0	ND	0.00	0.00	1995
3609	A	AL'S PLATING CO INC	LOS ANGELES	7.8	ND	0.30	0.20	1999
3950	A	CROWN CORK & SEAL CO INC	LA MIRADA	4.6	ND	0.00	0.10	1997
3968	A	TABC, INC	LONG BEACH	1.4	ND	0.10	0.20	1999
4477	A	SO CAL EDISON CO	AVALON	6.3	0.02	0.00	0.00	2012
4616	O	SUPERIOR IND INTL INC	VAN NUYS	0.0	ND	0.00	0.40	1997
5125	A	UTILITY TRAILER MFG CO	CITY OF INDUSTRY	0.0	ND	0.00	0.30	1996
5645	O	STANDARD NICKEL CHROMIUM PLATING CO INC	LOS ANGELES	0.0	ND	0.00	0.00	1999
5723	A	DUCOMMUN AEROSTRUCTURES INC	ORANGE	6.7	ND	0.00	0.10	1999
5887	A	NEXGEN PHARMA INC	IRVINE	2.7	ND	0.00	0.00	1997

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6163	A	OHLINE	GARDENA	0.0	ND	0.30	0.70	1996
6281	A	US GOVT,MARINE CORPS AIR STATION,EL TORO	SANTA ANA	0.5	ND	0.00	0.00	1996
6315	A	LMC ENTERPRISES, DBA FLO-KEM	RANCHO DOMINGUEZ	0.0	ND	0.00	0.60	1999
6362	O	JACUZZI WHIRLPOOL BATH INC	SANTA ANA	0.0	ND	0.00	0.00	1995
6384	A	LA CO., RANCHO LOS AMIGOS NAT. REHAB CTR	DOWNEY	3.1	ND	0.00	0.10	1999
6459	O	HONEYWELL INTERNATIONAL INC	VERNON	4.1	ND	0.00	0.00	1999
6643	A	TECHNICOLOR INC	NORTH HOLLYWOOD	6.5	ND	0.00	0.10	2007
6670	O	TRU CUT INC	LOS ANGELES	0.0	ND	0.00	0.00	2002
7010	A	PRUDENTIAL OVERALL SUPPLY	IRVINE	0.0	ND	0.00	0.00	1995
7203	A	HESSCO IND INC	LA HABRA	8.6	ND	0.00	0.00	1995
7416	A	PRAXAIR INC	WILMINGTON	0.1	ND	0.00	0.00	2001
7427	A	OWENS-BROCKWAY GLASS CONTAINER INC	VERNON	3.6	ND	0.01	0.06	1999
7533	A	SIMS HUGO NEU WEST	TERMINAL ISLAND	4.1	ND	1.30	0.10	2003
7730	A	CARPENTER CO	RIVERSIDE	8.0	ND	0.03	1.34	2003
8015	A	ANADITE INC	SOUTH GATE	3.5	ND	0.63	0.78	1998
8309	A	CAMBRO MANUFACTURING CO	HUNTINGTON BEACH	1.7	ND	0.00	0.10	2000
8547	A	QUEMETCO INC	CITY OF INDUSTRY	7.1	0.45	0.09	0.69	2016
8560	A	PRUDENTIAL OVERALL SUPPLY CO	COMMERCE	0.0	ND	0.20	0.40	1995
8578	A	ASSOCIATED CONCRETE PROD. INC	SANTA ANA	5.8	ND	0.10	0.60	1999
8582	A	SO CAL GAS CO/PLAYA DEL REY STORAGE FAC	PLAYA DEL REY	9.2	0.02	7.28	0.02	2019
8820	A	REULAND ELECTRIC CO, H.BRITTON LEES	CITY OF INDUSTRY	3.7	ND	0.00	0.00	1996
8935	A	TRAIL RITE INC	SANTA ANA	0.0	ND	0.00	0.30	1996
9114	O	SOMITEX PRINTS OF CAL INC	CITY OF INDUSTRY	3.7	ND	0.10	0.00	1996
9163	A	INLAND EMPIRE UTL AGEN, A MUN WATER DIS	ONTARIO	3.4	ND	0.30	0.00	2007
9668	A	DELUXE LABORATORIES	HOLLYWOOD	2.1	ND	0.00	0.00	2000
10005	A	ELECTRONIC CHROME GRINDING CO, INC	SANTA FE SPRINGS	3.0	0.01	0.20	0.10	2001
10245	A	LA CITY, TERMINAL ISLAND TREATMENT PLANT	SAN PEDRO	1.8	ND	0.00	0.00	2000

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10510	A	GREGG INDUSTRIES INC	EL MONTE	9.4	ND	0.60	0.60	2008
10656	A	NEWPORT LAMINATES	SANTA ANA	0.0	ND	0.00	0.00	1996
11142	A	KEYSOR-CENTURY CORP	SAUGUS	17.0	ND	0.50	0.10	2000
11192	A	HI-SHEAR CORPORATION	TORRANCE	4.8	ND	0.00	0.00	2008
11435	A	PQ CORPORATION	SOUTH GATE	3.0	ND	0.00	0.00	1998
11726	A	GE ENGINE SERVICES	ONTARIO	6.5	ND	0.10	0.60	1999
11818	A	HIXSON METAL FINISHING	NEWPORT BEACH	1502.0	1.09	0.20	0.10	2015
12493	O	REMO INC	NORTH HOLLYWOOD	0.0	ND	0.00	0.00	1997
12660	O	GOLDSHIELD FIBERGLASS, INC, PLANT #58	FONTANA	0.4	ND	0.00	0.00	1994
12879	O	CYTEC ENGINEERED MATERIALS, INC	SAUGUS	0.0	ND	0.00	0.00	1994
13920	A	SAINT JOSEPH HOSPITAL	ORANGE	7.7	0.00	0.80	0.30	2008
14146	A	MAC GREGOR YACHT CORP	COSTA MESA	5.5	ND	0.00	0.10	1998
14191	O	NIKLOR CHEMICAL COMPANY INC	CARSON	0.0	ND	0.00	0.00	2002
14217	A	MODERN FAUCET MFG COMPANY	LOS ANGELES	0.0	ND	0.00	0.50	1996
14495	A	VISTA METALS CORPORATION	FONTANA	19.8	0.06	0.00	0.30	2008
14502	A	VERNON PUBLIC UTILITIES	VERNON	2.0	0.00	0.00	0.00	2007
14544	O	SANTA FE ENAMELING & METAL FINISHING CO	SANTA FE SPRINGS	0.8	ND	0.00	0.40	1999
15504	A	SCHLOSSER FORGE COMPANY	RANCHO CUCAMONGA	9.5	0.07	1.59	1.11	2002
15647	A	CUSTOM ENAMELERS INC	FOUNTAIN VALLEY	0.6	ND	0.10	0.00	2000
15736	A	HENRY CO	HUNTINGTON PARK	8.5	ND	0.00	0.00	2000
16044	A	SPECIALTY ORGANICS, INC.	IRWINDALE	0.1	ND	0.00	0.20	1997
16264	A	INTERNATIONAL COATINGS CO INC	CERRITOS	0.2	ND	0.00	0.00	1999
16642	A	ANHEUSER-BUSCH LLC., (LA BREWERY)	VAN NUYS	2.7	ND	0.00	0.10	1999
16660	A	THE BOEING COMPANY	HUNTINGTON BEACH	6.4	0.02	0.01	0.08	2015
16951	A	ANAPLEX CORP	PARAMOUNT	2836.0	9.73	23.84	2.02	2018
17325	A	ACE CLEARWATER ENTERPRISES	PARAMOUNT	3.7	ND	0.00	0.00	2002
18294	A	NORTHROP GRUMMAN SYSTEMS CORP	EL SEGUNDO	7.6	ND	0.13	0.05	1999

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18378	A	GRUBER SYS INC	VALENCIA	0.8	ND	0.10	0.10	2004
18396	A	SPRAYLAT CORP	LOS ANGELES	3.2	0.00	0.70	0.00	2012
18439	O	ACE PLATING CO INC	LOS ANGELES	4.1	ND	0.60	0.20	1998
18452	A	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	2.9	ND	0.00	0.10	1999
18648	O	CROWN CITY PLATING CO.	EL MONTE	12.0	ND	0.40	0.10	2000
18931	A	TAMCO	RANCHO CUCAMONGA	52.7	3.08	3.04	3.19	2015
18989	A	BOWMAN PLATING CO INC	COMPTON	17.0	0.00	0.01	0.01	2015
18990	A	LIFE PAINT CO	SANTA FE SPRINGS	0.4	ND	0.00	0.00	2001
19953	A	RISTON KELLER INC	IRVINE	0.0	ND	0.00	0.00	1996
19989	O	PARKER HANNIFIN AEROSPACE CORP	IRVINE	0.3	ND	0.00	0.00	1999
20144	A	CANON BUSINESS MACHINES INC	COSTA MESA	0.0	ND	0.00	0.10	1999
20197	A	LAC/USC MEDICAL CENTER	LOS ANGELES	7.5	ND	0.70	0.40	2007
20280	A	METAL SURFACES INTERNATIONAL, LLC	BELL GARDENS	6.8	0.00	0.90	0.30	2011
20375	A	PRUDENTIAL OVERALL SUPPLY	RIVERSIDE	1.0	ND	0.00	0.10	1997
20528	A	BRISTOL FIBERLITE IND	SANTA ANA	0.1	ND	0.00	0.00	1995
21615	O	PERKINELMER OPTOELECTRONICS SC, INC	AZUSA	8.1	ND	0.20	0.10	1998
21895	A	AC PRODUCTS INC	PLACENTIA	0.5	ND	0.00	0.00	2003
22092	A	WESTERN TUBE & CONDUIT CORP	LONG BEACH	0.0	ND	0.00	0.60	1997
22229	A	PROCESSES BY MARTIN INC (MARTIN METALS F	LYNWOOD	0.0	ND	0.00	0.00	2002
22373	A	SMURFIT-STONE CONTAINER ENTERPRISES, INC	LOS ANGELES	0.7	ND	0.00	0.00	1996
22410	O	PALACE PLATING	LOS ANGELES	5.6	ND	0.73	0.38	2004
22467	A	LEFIELL MFG CO	SANTA FE SPRINGS	1.7	ND	0.70	0.20	2000
22808	O	PRICE PFISTER INC	PACOIMA	0.9	ND	0.20	0.10	1996
22911	A	CARLTON FORGE WORKS	PARAMOUNT	15.4	ND	1.76	1.04	2016
23559	A	JOHNSON CONTROLS BATTERY GROUP INC	FULLERTON	1.8	ND	0.00	0.10	2001
23752	A	AEROCRAFT HEAT TREATING CO INC	PARAMOUNT	1900.0	11.00	2.90	0.15	2018
23907	A	JOHNS MANVILLE CORP	CORONA	13.0	ND	0.40	2.70	1999

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24060	A	AQUATIC COMPANY	ANAHEIM	0.7	ND	0.00	0.00	1996
24118	A	DEVOE COATINGS CO	RIVERSIDE	0.1	ND	0.30	0.10	1999
24520	A	LA CNTY SANITATION DISTRICT-PALOS VERDES	ROLLING HILLS ESTATES	0.3	ND	0.00	0.00	1998
24647	A	J. B. I. INC	RANCHO DOMINGUEZ	0.0	ND	0.00	0.20	1999
24756	A	CRANE CO, HYDRO-AIRE DIV	BURBANK	0.6	ND	0.00	0.10	1997
24812	A	FARMER BROS CO	TORRANCE	0.1	ND	0.00	0.00	1999
25012	A	AMADA AMERICA, INC.	LA MIRADA	0.1	ND	0.00	0.00	2002
25070	A	LA CNTY SANITATION DISTRICT-PUENTE HILLS	CITY OF INDUSTRY	1.5	0.00	0.30	0.10	2009
25440	A	INVENSYS CLIMATE CONTROLS	LONG BEACH	2.7	ND	0.00	1.00	1998
25638	A	BURBANK CITY, BURBANK WATER & POWER	BURBANK	0.3	ND	0.30	0.00	1996
27343	O	CON AGRA INC, GILROY FOODS DBA	SANTA ANA	7.1	ND	0.20	0.10	1995
27701	O	CADDOCK ELECTRONIC	RIVERSIDE	2.7	ND	0.00	0.10	2002
34764	A	CADDOCK ELECTRONICS INC	RIVERSIDE	6.5	ND	0.00	0.10	2002
35302	A	OWENS CORNING ROOFING AND ASPHALT, LLC	COMPTON	14.0	0.02	0.10	0.10	2000
35483	A	WARNER BROTHERS STUDIO FACILITIES	BURBANK	2.6	ND	0.10	0.30	1997
37336	A	COMMERCE REFUSE TO ENERGY FACILITY	COMMERCE	0.1	0.00	0.00	0.00	2010
37507	A	TROJAN BATTERY COMPANY, LLC	SANTA FE SPRINGS	2.6	0.00	1.10	1.30	2012
37603	A	SGL TECHNIC LLC	VALENCIA	7.8	ND	0.00	0.40	1998
38971	A	RICOH ELECTRONICS INC	IRVINE	5.6	ND	0.00	0.40	1995
40806	A	NEW BASIS	RIVERSIDE	0.0	ND	0.70	0.20	1997
41229	A	LUBECO INC	LONG BEACH	128.6	0.08	0.18	0.45	2019
42514	A	LA COUNTY SANITATION DIST (CALABASAS)	AGOURA	1.1	0.00	0.10	0.00	2010
42633	A	LA COUNTY SANITATION DISTRICTS (SPADRA)	POMONA	1.2	ND	0.00	0.00	1996
42676	A	CES PLACERITA INC	NEWHALL	0.1	ND	0.10	0.00	2003
42922	A	CMC PRINTED BAG INC	WHITTIER	9.0	ND	0.00	0.00	1995
43436	A	TST, INC.	FONTANA	0.4	0.11	0.00	0.40	1997
44454	A	STRUCTURAL COMPOSITES IND	POMONA	8.6	0.00	0.00	0.20	2002

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44577	A	LONG BEACH CITY, SERRF PROJECT	LONG BEACH	0.4	0.00	0.00	0.10	2011
45262	A	LA COUNTY SANITATION DIST SCHOLL CANYON	GLENDALE	6.2	ND	0.00	0.10	1998
45489	A	ABBOTT CARDIOVASCULAR SYSTEMS, INC.	TEMECULA	3.8	0.01	1.30	0.00	2002
45938	A	E.M.E. INC/ELECTRO MACHINE & ENGINEERING	COMPTON	0.0	ND	0.00	0.00	1999
46268	A	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	2.7	0.02	0.20	0.00	1995
47056	A	MYERS CONTAINER CORP, IMACC CORP DIV	HUNTINGTON PARK	0.9	ND	0.20	2.00	2002
47459	O	JACUZZI WHIRLPOOL BATH	IRVINE	0.0	ND	0.00	0.00	1995
48274	A	FENDER MUSICAL INST	CORONA	2.8	ND	0.00	0.40	1997
48300	A	PRECISION TUBE BENDING	SANTA FE SPRINGS	0.2	ND	0.00	0.00	2002
49387	A	UNIV CAL, RIVERSIDE	RIVERSIDE	7.1	ND	0.00	0.00	2018
52517	A	REXAM BEVERAGE CAN COMPANY	CHATSWORTH	2.9	0.01	0.70	0.10	2009
54424	A	L&L CUSTOM SHUTTERS INC,ALLWOOD SHUTTERS	PLACENTIA	5.5	ND	0.20	0.20	2001
55711	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.00	0.00	1996
55714	A	SUNLAW COGENERATION PARTNERS I	VERNON	0.0	ND	0.00	0.00	1996
57329	O	KWIKSET CORP	ANAHEIM	3.4	ND	0.00	0.10	2000
61160	A	GE ENGINE SERVICES, LLC	ONTARIO	0.5	ND	0.70	0.01	2003
61209	O	AKZO NOBEL CHEM INC, FILTROL CORP SUB OF	LOS ANGELES	0.0	ND	0.00	0.00	1996
62679	O	KOP-COAT INC	LOS ANGELES	1.3	ND	0.00	0.50	1997
62897	A	NORTHROP GRUMMAN CORP, MASD	PICO RIVERA	9.4	ND	1.00	0.50	2000
70021	A	XERXES CORP (A DELAWARE CORP)	ANAHEIM	0.0	ND	0.00	0.00	1996
79682	A	RAMCAR BATTERIES INC	COMMERCE	2.4	1.00	0.00	0.20	1998
82512	A	BREA CANON OIL CO	WILMINGTON	1.7	ND	0.00	0.00	1996
82513	A	BREA CANON OIL COMPANY INC	HARBOR CITY	1.4	ND	0.00	0.00	1996
83102	A	LIGHT METALS INC	CITY OF INDUSTRY	4.5	0.01	0.00	2.70	2002
90546	O	SORIN BIOMEDICAL INC	IRVINE	2.3	ND	0.00	0.00	1996
93346	A	WAYMIRE DRUM CO,INC.,S EL MONTE FACILITY	SOUTH EL MONTE	4.3	ND	0.10	0.20	1997
94872	A	METAL CONTAINER CORP	MIRA LOMA	0.1	ND	0.40	0.40	2002

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99119	A	INTERPLASTIC CORP	HAWTHORNE	0.3	ND	0.10	0.30	1999
99773	A	CYTEC ENGINEERED MATERIALS INC	ANAHEIM	2.2	0.00	0.00	0.20	2000
101380	O	GENERAL DYNAMICS OTS (DOWNEY) INC	DOWNEY	9.8	ND	0.00	0.10	2000
101977	A	SIGNAL HILL PETROLEUM INC	SIGNAL HILL	4.7	ND	0.60	1.00	1998
103659	A	ASCENT MEDIA MANAGEMENT SERVICES INC	BURBANK	2.2	ND	0.60	0.00	2004
103888	O	SARGENT FLETCHER INC	EL MONTE	4.9	ND	0.20	0.00	1999
105598	A	SENIOR AEROSPACE SSP	BURBANK	3.6	ND	1.00	0.50	2001
106797	A	SAINT-GOBAIN CONTAINERS, INC.	LOS ANGELES	9.9	ND	0.00	0.10	2000
106838	A	VALLEY-TODECO, INC	SYLMAR	3.7	ND	0.20	0.20	2000
107149	A	MARKLAND MANUFACTURING INC	SANTA ANA	0.3	ND	0.10	0.10	2007
107350	A	NATIONAL O-RINGS	DOWNEY	1.5	ND	0.00	0.00	2001
108701	A	SAINT-GOBAIN CONTAINERS, INC.	EL MONTE	7.3	ND	0.10	0.10	2000
109198	A	TORCH OPERATING COMPANY	BREA	5.0	ND	0.00	0.00	2001
111415	O	VAN CAN COMPANY	FONTANA	0.8	ND	0.00	0.10	1996
112192	O	CONSOLIDATED DRUM RECONDITIONING CO INC	SOUTH GATE	0.3	ND	0.00	0.00	1997
113170	A	SANTA MONICA - UCLA MEDICAL CENTER	SANTA MONICA	7.6	0.14	0.20	0.00	1997
113676	A	VICKERS	LOS ANGELES	3.0	ND	0.00	0.00	1995
115389	A	AES HUNTINGTON BEACH, LLC	HUNTINGTON BEACH	0.1	ND	0.00	0.00	1999
115394	A	AES ALAMITOS, LLC	LONG BEACH	0.6	ND	0.00	0.00	1999
115536	A	AES REDONDO BEACH, LLC	REDONDO BEACH	0.4	ND	0.00	0.00	1998
115586	A	SUNDANCE SPAS, INC	CHINO	0.0	ND	0.00	0.40	1996
115663	A	EL SEGUNDO ENERGY CENTER LLC	EL SEGUNDO	0.3	ND	0.00	0.00	2000
116868	A	EQUILON ENTER. LLC, SHELL OIL PROD. U S	BLOOMINGTON	2.9	ND	0.00	0.00	1999
118998	O	CYTEC FIBERITE INC	CULVER CITY	6.6	ND	0.00	0.20	1997
119127	O	PRC-DE SOTO INTERNATIONAL	GLENDALE	0.0	ND	0.00	0.00	2000
119920	A	PECHINEY CAST PLATE INC	VERNON	1.6	ND	0.30	0.30	1996
122295	A	FALCON FOAM, A DIV OF ATLAS ROOFING CORP	LOS ANGELES	0.4	ND	0.00	0.00	1999

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Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
122300	A	BASF CORPORATION	COLTON	0.3	ND	0.60	0.00	2002
122822	O	CONSOLIDATED FILM INDUSTRIES, LLC	HOLLYWOOD	21.0	ND	0.10	0.40	2000
124016	O	CHEMETALL U,S., INC,	LA MIRADA	0.0	ND	0.10	0.10	2000
124506	A	THE BOEING COMPANY	TORRANCE	4.2	ND	0.50	0.10	1995
124805	A	EXIDE TECHNOLOGIES	COMMERCE	0.3	ND	0.00	0.00	2000
124806	O	EXIDE TECHNOLOGIES	CITY OF INDUSTRY	1.0	ND	0.00	0.00	1999
124838	A	EXIDE TECHNOLOGIES	VERNON	0.0	ND	0.00	0.00	2013
125281	O	ALCO CAD-NICKEL PLATING, MODERN PLATING	LOS ANGELES	8.2	ND	0.10	0.00	1995
126060	A	STERIGENICS US, LLC	ONTARIO	3.8	0.00	0.00	0.00	2007
126191	A	STERIGENICS US, INC.	LOS ANGELES	3.3	ND	0.00	0.00	1996
126197	A	STERIGENICS US, INC.	LOS ANGELES	3.6	ND	0.00	0.00	1996
126536	A	CPP - POMONA	POMONA	1.5	ND	0.00	0.00	1999
126544	A	PAC FOUNDRIES-INDUSTRY	CITY OF INDUSTRY	1.3	ND	0.60	0.10	1996
126964	A	EDWARDS LIFESCIENCES LLC	IRVINE	0.8	ND	0.00	0.00	1995
127568	A	ENGINEERED POLYMER SOLUTION, VALSPAR	MONTEBELLO	3.5	ND	0.10	0.50	2000
132343	A	SPECTRUM PAINT & POWDER, INC.	ANAHEIM	0.0	ND	0.20	0.70	1997
132954	A	ALL AMERICAN ASPHALT	SAN FERNANDO	1.6	0.00	0.40	0.30	2017
133405	A	BODYCOTE THERMAL PROCESSING	LOS ANGELES	2.4	ND	0.00	0.20	1999
133660	A	HAYDEN INDUSTRIAL PRODUCTS	CORONA	1.6	ND	0.80	0.40	1998
134018	A	INDUSTRIAL CONTAINER SERVICES-CA LLC	MONTEBELLO	5.2	ND	0.60	0.20	2000
134931	A	ARCONIC GLOBAL FASTENERS & RINGS, INC.	FULLERTON	0.6	ND	1.90	0.02	1997
134943	A	ARCONIC GLOBAL FASTENERS & RINGS INC	TORRANCE	2.6	ND	0.60	0.00	2008
136148	A	E/M COATING SERVICES	NORTH HOLLYWOOD	5.8	ND	0.30	0.60	1998
140811	A	DUCOMMUN AEROSTRUCTURES INC	MONROVIA	3.5	0.01	0.00	0.00	2002
140961	A	GKN AEROSPACE TRANSPARENCY SYS INC	GARDEN GROVE	6.0	ND	0.00	0.50	1996
142267	A	FS PRECISION TECH LLC	COMPTON	2.0	ND	0.10	0.20	2001
148925	A	CHERRY AEROSPACE	SANTA ANA	9.7	ND	0.10	0.20	1999

Table C-2

Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
149241	A	REGAL CULTURED MARBLE	POMONA	0.0	ND	0.00	0.20	1995
150201	A	BREITBURN OPERATING LP	SANTA FE SPRINGS	0.8	ND	0.00	0.00	1998
151798	A	TESORO REFINING AND MARKETING CO, LLC	CARSON	2.8	ND	0.10	0.00	1999
151899	A	CALIFORNIA RESOURCES PRODUCTION CORP	NEWHALL	3.5	ND	0.00	0.20	2000
152054	A	LINN WESTERN OPERATING INC	BREA	1.1	ND	0.00	0.10	1996
152501	A	PRECISION SPECIALTY METALS, INC.	LOS ANGELES	0.5	ND	0.40	0.20	2001
153546	A	HUCK INTERNATIONAL INC	CARSON	3.3	ND	0.00	0.00	1999
155828	A	GARRETT AVN. SVCS. LLC DBA STANDARD AERO	LOS ANGELES	9.3	ND	0.19	0.25	2002
156741	A	HARBOR COGENERATION CO, LLC	WILMINGTON	0.1	ND	0.00	0.00	2002
157451	A	BENDER CCP INC	VERNON	4.4	0.00	1.00	0.00	2002
160437	A	SOUTHERN CALIFORNIA EDISON	REDLANDS	2.3	0.00	0.00	0.00	2013
160916	A	FXI, INC.	ORANGE	0.0	ND	0.40	0.40	1994
161142	A	FOAMEX INNOVATIONS, INC.	COMPTON	0.3	0.00	0.00	0.00	2010
164864	A	ARROWHEAD BRASS & PLUMBING	LOS ANGELES	5.7	ND	0.30	0.00	1995
165192	A	TRIUMPH AEROSTRUCTURES, LLC	HAWTHORNE	19.7	ND	0.64	0.24	1999
166587	A	THE BOEING COMPANY	HUNTINGTON BEACH	7.0	ND	0.00	0.00	1995
167981	A	TESORO LOGISTICS, WILMINGTON TERMINAL	WILMINGTON	2.8	ND	0.00	0.00	2000
168088	A	POLYNT COMPOSITES USA INC	LYNWOOD	6.5	ND	0.10	1.60	1995
169754	A	SO CAL HOLDING, LLC	HUNTINGTON BEACH	7.6	0.02	0.02	0.04	2019
169990	A	SPS TECHNOLOGIES, LLC	GARDENA	8.9	ND	0.10	0.10	1999
171107	A	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	23.2	0.29	0.10	0.70	2013
171109	A	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	6.6	0.11	0.00	0.30	2011
172878	A	TESORO LOGISTICS LONG BEACH TERMINAL	LONG BEACH	2.4	ND	0.00	0.00	1999
174340	A	PRC DE SOTO INTERNATIONAL, INC.	IRVINE	0.7	ND	0.00	0.00	1995
174591	A	TESORO REF & MKTG CO LLC,CALCINER	LONG BEACH	4.3	ND	0.10	0.20	1995
174655	A	TESORO REFINING & MARKETING CO, LLC	CARSON	7.3	ND	0.30	0.10	2000
174703	A	TESORO LOGISTICS,CARSON PROD TERMINAL	CARSON	3.0	ND	0.00	0.00	1994

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Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
174710	A	TESORO LOGISTICS, VINVALE TERMINAL	SOUTH GATE	9.0	ND	0.00	0.00	1994
175124	A	AEROJET ROCKETDYNE OF DE, INC.	CANOGA PARK	8.7	ND	0.00	0.00	1995
175126	A	AEROJET ROCKETDYNE OF DE, INC.	CANOGA PARK	0.0	ND	0.00	0.00	1996
177042	A	SOLVAY USA, INC	LONG BEACH	4.3	ND	0.30	0.00	2001
180631	A	STCDARA, LLC	LA PUENTE	13.8	0.02	0.01	0.74	2001
180908	A	ECO SERVICES OPERATIONS CORP.	CARSON	0.1	ND	0.00	0.10	2006
181426	A	OC WASTE & RECYCLING, COYOTE	NEWPORT COAST	20.1	0.18	0.60	0.30	2009
181667	A	TORRANCE REFINING COMPANY LLC	TORRANCE	7.7	0.15	0.20	0.50	2013
182610	A	ELITE COMFORT SOLUTIONS	COMMERCE	2.0	ND	0.00	0.50	1998
182752	A	TORRANCE LOGISTICS COMPANY LLC	VERNON	5.3	ND	0.10	0.00	1997
182822	A	TORRANCE LOGISTICS COMPANY LLC	ANAHEIM	0.7	ND	0.00	0.00	1999
183567	A	GS II, INC.	WILMINGTON	6.3	0.04	1.82	0.19	2018
183926	A	EVONIK CORPORATION	LOS ANGELES	2.4	ND	0.10	0.80	1999
184301	A	SENTINEL PEAK RESOURCES CALIFORNIA, LLC	LOS ANGELES	2.7	ND	0.00	0.10	1997
185059	A	CUSTOM FIBREGLASS MFG. CO DBA SNUGTOP	LONG BEACH	2.5	ND	0.00	0.00	1995
185093	A	BEVERLY HILLS UNIFIED SCHOOL DISTRICT	BEVERLY HILLS	1.2	ND	0.00	0.00	2005
185282	A	BKEP MATERIALS LLC - FONTANA	FONTANA	0.0	ND	0.30	0.00	1999
185352	A	SNOW SUMMIT, LLC.	BIG BEAR LAKE	5.5	ND	0.20	0.00	2007
185575	A	BRIDGE ENERGY, LLC	BREA	3.4	ND	0.00	0.00	1999
185801	A	BERRY PETROLEUM COMPANY, LLC	SANTA CLARITA	1.6	ND	0.20	0.70	1999
186519	A	EMBEE PROCESSING	SANTA ANA	6.6	ND	0.21	0.58	2000
186899	A	ENERY HOLDINGS LLC	CARSON	0.8	ND	0.20	0.00	2007
187165	A	ALTAIR PARAMOUNT, LLC	PARAMOUNT	9.6	ND	0.00	0.00	2002
187348	A	HYDRO EXTRUDER, LLC	CITY OF INDUSTRY	1.3	ND	0.00	0.00	1999
187823	A	KIRKHILL INC	BREA	18.8	0.07	0.06	0.11	2019
188380	A	VALENCE SURFACE TECHNOLOGIES - LYNWOOD	LYNWOOD	0.5	0.00	0.10	0.40	2012
189043	A	REVLINE DBA ELIMINATOR BOATS	MIRA LOMA	0.0	ND	0.00	0.00	1995

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Health Risks from Facilities with an Approved HRA

(Listed by Facility ID)

Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
190051	A	BRIDGE POINT LONG BEACH LLC	LONG BEACH	4.8	0.00	0.00	0.00	2002
190377	A	GCC LONG BEACH C/O GOODMAN	LONG BEACH	4.8	ND	0.20	0.10	1999
800003	A	HONEYWELL INTERNATIONAL INC	TORRANCE	1.8	ND	0.00	0.00	1999
800007	A	ALLIED SIGNAL INC (NSR USE ONLY)	EL SEGUNDO	3.6	ND	0.00	0.50	2000
800009	A	AMERON PROTECTIVE COAT DIV (EIS&NSR USE)	BREA	0.0	ND	0.20	0.20	2000
800018	A	BAXTER HEALTHCARE CORPORATION	IRVINE	0.0	ND	0.00	0.40	1994
800022	A	CALNEV PIPE LINE, LLC	BLOOMINGTON	5.9	ND	0.00	0.10	1999
800026	A	ULTRAMAR INC	WILMINGTON	7.2	0.18	0.70	0.20	2012
800030	A	CHEVRON PRODUCTS CO.	EL SEGUNDO	2.7	0.28	0.30	0.10	2001
800032	A	CHEVRON USA INC	MONTEBELLO	7.5	0.14	0.00	0.20	1999
800035	A	CONTINENTAL AIRLINES INC (NSR USE ONLY)	LOS ANGELES	2.8	ND	0.00	0.10	1995
800037	A	DEMENNO-KERDOON DBA WORLD OIL RECYCLING	COMPTON	4.9	0.01	0.01	0.02	2009
800039	O	DOUGLAS PRODUCTS DIVISION	TORRANCE	2.4	ND	0.00	0.00	1996
800041	A	DOW CHEM U.S.A.	TORRANCE	4.4	ND	0.10	0.00	2000
800047	O	FLETCHER OIL & REF CO	CARSON	5.9	ND	0.00	0.00	1998
800054	A	GATX RAIL CORP	SAN PEDRO	8.0	ND	0.30	0.50	1997
800056	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	WILMINGTON	2.3	0.01	0.00	0.00	1997
800057	A	KINDER MORGAN LIQUIDS TERMINALS, LLC	CARSON	8.5	ND	0.00	0.10	1999
800063	A	GROVER PROD. CO (EIS USE)	LOS ANGELES	3.3	0.04	0.88	0.07	2001
800066	A	HITCO CARBON COMPOSITES INC	GARDENA	6.4	ND	0.30	0.00	1995
800067	A	THE BOEING COMPANY	EL SEGUNDO	6.2	ND	0.00	0.10	2000
800074	A	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	0.2	ND	0.00	0.00	2000
800075	A	LA CITY, DWP SCATTERGOOD GENERATING STN	PLAYA DEL REY	0.0	ND	0.00	0.00	2000
800079	A	PETRO DIAMOND TERMINAL CO	LONG BEACH	8.3	ND	0.00	0.20	1998
800087	A	MENASCO MFG CO (EIS USE)	BURBANK	0.0	ND	0.00	0.00	1997
800109	A	REYNOLDS METALS CO	TORRANCE	0.0	ND	0.20	0.90	2001
800111	O	THE BOEING COMPANY	DOWNEY	2.3	ND	0.00	0.10	1996

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Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
800113	A	ROHR, INC.	RIVERSIDE	7.2	0.01	0.90	0.00	2007
800117	A	SHELL OIL CO (EIS USE)	WILMINGTON	7.3	ND	0.00	0.10	1998
800127	A	SO CAL GAS CO	MONTEBELLO	1.0	0.00	0.00	0.00	2009
800129	A	SFPP, L.P.	BLOOMINGTON	5.8	ND	0.00	0.00	1996
800149	A	US BORAX INC	WILMINGTON	9.5	ND	0.00	0.00	2000
800150	A	US GOVT, AF DEPT, MARCH AIR RESERVE BASE	RIVERSIDE	7.4	0.02	0.30	0.00	2008
800154	A	US GOVT, MARINE CORPS AIR STATION	TUSTIN	0.0	ND	0.00	0.00	2000
800168	A	PASADENA CITY, DWP	PASADENA	0.2	ND	0.70	0.00	1996
800180	A	UNOCAL CORP, UNOCAL CHEM DIV (EIS USE)	LA MIRADA	6.2	ND	0.50	0.80	1999
800181	A	CALIFORNIA PORTLAND CEMENT CO	COLTON	2.0	ND	0.00	0.40	1996
800182	A	RIVERSIDE CEMENT CO	RIVERSIDE	7.8	0.11	0.10	0.10	2001
800184	A	GOLDEN WEST REF CO	SANTA FE SPRINGS	8.8	ND	0.20	0.10	1997
800189	A	DISNEYLAND RESORT	ANAHEIM	3.3	0.03	0.10	0.10	2009
800193	A	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	0.2	ND	0.30	0.00	1999
800196	A	AMERICAN AIRLINES, INC,	LOS ANGELES	5.4	0.19	0.86	0.08	2002
800198	A	ULTRAMAR INC	WILMINGTON	5.9	ND	0.00	0.10	1999
800202	A	UNIVERSAL CITY STUDIOS, LLC.	UNIVERSAL CITY	2.4	ND	0.00	0.00	1996
800204	O	SIMPSON PAPER CO	POMONA	3.4	ND	0.00	0.00	1996
800207	A	METRO ST HOSP (EIS USE)	NORWALK	0.0	ND	0.00	0.00	1996
800209	A	BKK CORP (EIS USE)	WEST COVINA	6.9	ND	0.00	0.10	2000
800214	A	LA CITY, SANITATION BUREAU (HTP)	PLAYA DEL REY	7.6	ND	0.10	0.00	1999
800224	A	SO CAL EDISON CO	ETIWANDA	2.7	ND	0.00	0.20	2000
800236	A	LA CO. SANITATION DIST	CARSON	7.2	ND	0.20	0.10	2007
800273	O	CHEMOIL REF CORP (NSR USE ONLY)	SIGNAL HILL	0.0	ND	0.00	0.00	2000
800278	A	SFPP, L.P. (NSR USE)	CARSON	2.4	ND	0.00	0.10	1999
800279	A	SFPP, L.P. (NSR USE ONLY)	ORANGE	5.9	ND	0.00	0.20	1999
800288	A	UNIV CAL IRVINE (NSR USE ONLY)	IRVINE	5.6	ND	0.00	0.10	1996

Table C-2

Health Risks from Facilities with an Approved HRA

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Facility ID	Facility Status (a)	Facility Name	City	Cancer Risk (chances in-one-million)	Cancer Burden (e)	Non-Cancer Acute Hazard Index	Non-Cancer Chronic Hazard Index	HRA Approval Year (d)
800301	A	ITT GILFILLAN	VAN NUYS	0.9	ND	0.10	0.20	1998
800318	A	GRISWOLD INDUSTRIES	COSTA MESA	9.5	0.01	0.10	0.00	2001
800320	A	AMVAC CHEMICAL CORP	LOS ANGELES	0.0	ND	0.10	0.30	2004
800325	A	TIDELANDS OIL PRODUCTION CO	LONG BEACH	1.9	ND	0.10	0.60	1999
800327	A	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	179.5	4.97	0.80	1.69	2019
800330	A	THUMS LONG BEACH	LONG BEACH	1.2	ND	0.00	0.00	2000
800337	A	CHEVRON U.S.A., INC (NSR USE)	LA HABRA	0.0	ND	0.00	0.00	1996
800343	O	BOEING SATELLITE SYSTEMS, INC	EL SEGUNDO	0.3	ND	0.00	0.20	1996
800372	A	EQUILON ENTER. LLC, SHELL OIL PROD. US	CARSON	6.9	ND	0.40	0.10	2001
800373	A	LAKELAND DEVELOPMENT COMPANY	SANTA FE SPRINGS	9.7	ND	0.30	0.10	2000
800387	A	CAL INST OF TECH	PASADENA	2.4	ND	0.10	0.00	2007
800408	A	NORTHROP GRUMMAN SYSTEMS	MANHATTAN BEACH	1.4	ND	0.90	0.10	1998
800409	A	NORTHROP GRUMMAN SYSTEMS CORPORATION	REDONDO BEACH	5.5	ND	0.50	0.20	1998
800413	A	HAWKER PACIFIC AEROSPACE	SUN VALLEY	2.1	0.00	0.00	0.10	2009
800436	A	TESORO REFINING AND MARKETING CO, LLC	WILMINGTON	10.7	0.37	0.30	0.40	2013

Notes:

a) A = Active (note that facilities with "Active" status within South Coast AQMD's database may not currently be in operation); I = Inactive; OB = Out of Business

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

(c) ND = Not Determined

Appendix D — Approved Risk Reduction Plans and Voluntary Risk Reduction Plans

Facilities with an Approved Rule 1402(f) Risk Reduction Plan

Table D-1 — 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 CONTAINER INC	Yes	Yes	Yes	3.6	0.01	0.06	0.00
7730	CARPENTER CO	Yes	Yes	Yes	1.0	0.03	1.34	0.00
8015	ANADITE INC	Yes	Yes	Yes	3.5	0.63	0.78	N/A
8547	QUEMETCO INC	Yes	Yes	Yes	7.1	0.09	0.69	0.45
8582	SO CAL GAS CO/PLAYA DEL REY STORAGE FACILITY	Yes	Yes	In Progress	TBD	TBD	TBD	TBD
11818	HIXSON METAL FINISHING	Yes	Yes	In Progress	TBD	TBD	TBD	TBD
14191	NIKLOR CHEMICAL COMPANY INC **(a)**	Yes	Yes	Yes	N/A	N/A	N/A	N/A
15504	SCHLOSSER FORGE COMPANY	Yes	Yes	Yes	9.5	1.59	1.11	0.07
16951	ANAPLEX CORP **(d)**	Yes	In Progress	In Progress	TBD	TBD	TBD	TBD
18294	NORTHROP GRUMMAN SYSTEMS CORP	Yes	Yes	Yes	7.6	0.13	0.05	N/A
18931	GERDAU/TAMCO	Yes	Yes	In Progress	TBD	TBD	TBD	TBD
18989	BOWMAN PLATING CO INC	Yes	Yes	Yes	17.0	0.01	0.01	0.00
22410	PALACE PLATING **(b)**	Yes	Yes	Yes	5.6	0.73	0.38	N/A
23752	AEROCRAFT HEAT TREATING CO INC	Yes	Yes	In Progress	TBD	TBD	TBD	TBD
25012	AMADA AMERICA, INC.	Yes	Yes	Yes	0.0	0.00	0.00	0.00
41229	LUBECO INC **(d)**	Yes	In Progress	In Progress	TBD	TBD	TBD	TBD
45938	E.M.E. INC/ELECTRO MACHINE & ENGINEERING	Yes	Yes	Yes	0.0	0.00	0.00	0.00
61160	GE ENGINE SERVICES, LLC	Yes	Yes	Yes	0.5	0.70	0.01	0.00
119127	PRC DESOTO INTERNATIONAL **(a)**	Yes	Yes	Yes	N/A	N/A	N/A	N/A
124838	EXIDE TECHNOLOGIES **(a,c)**	Yes	Yes	*(See Note)*	N/A	N/A	N/A	N/A
134931	ARCONIC GLOBAL FASTENERS & RINGS, INC.	Yes	Yes	Yes	0.6	1.90	0.02	0.00
155828	GARRETT AVIATION SERVICES, LLC **(a)**	Yes	Yes	Yes	7.0	0.28	0.03	N/A
165192	TRIUMPH AEROSTRUCTURES, LLC. **(c)**	Yes	Yes	Yes	19.7	0.64	0.24	N/A
180631	STCDARA, LLC	Yes	Yes	Yes	13.8	0.01	0.74	0.02
186519	EMBEE PROCESSING	Yes	Yes	Yes	6.6	0.21	0.58	N/A
800037	DEMENNO/KERDOON	Yes	Yes	Yes	4.9	0.00	0.02	0.01
800063	GROVER PRODUCTS CO.	Yes	Yes	Yes	3.3	0.88	0.07	0.04
800196	AMERICAN AIRLINES, INC.	Yes	Yes	Yes	5.4	0.86	0.08	0.19
800327	GLENDALE CITY, GLENDALE WATER & POWER	Yes	In Progress	In Progress	TBD	TBD	TBD	TBD

Notes:

(a) Facility has shut down, resulting risks are zero.
(b) The specific risk driver listed in this HRA is no longer in use & the resulting risk has been eliminated.
(c) Facility shut down prior to implementation of RRP.
(d) HRA and RRP review is in progress and residual risk is to be determined after implementation of risk reduction measures.

Facilities with an Approved Rule 1402(h) Voluntary Risk Reduction Plan

South Coast AQMD's Rule 1402 — Control of Toxic Air Contaminants from Existing Sources includes a Voluntary Risk Reduction Program. Facilities that participate in the Voluntary Risk Reduction Program reduce their health risks sooner and below the thresholds required under Rule 1402. Facilities that participate in this program have already had a HRA approved by South Coast AQMD that shows the facility's risks were below risk reduction thresholds at the time of HRA approval. An HRA is a study that estimates how a facility's emissions affect people's health risks in the surrounding community.

On March 6, 2015, OEHHA approved revisions to its guidelines (2015 OEHHA Guidelines) that are used by all air districts throughout the state to prepare HRAs. The 2015 OEHHA Guidelines incorporates age sensitivity factors which will increase cancer risk estimates to residential and sensitive receptors by approximately three times, and more than three times in some cases depending on whether the TAC has multiple pathways of exposure in addition to inhalation. Under the 2015 OEHHA Guidelines, even though the toxic emissions from a facility have not increased, the estimated cancer risk to a residential receptor will increase. Cancer risks for offsite worker receptors are similar between the existing and revised methodology because the methodology for adulthood exposures remains relatively unchanged. The Voluntary Risk Reduction Program provides an opportunity for participating facilities to address the increase in their estimated cancer risk due to the 2015 OEHHA Guidelines.

Table D-2 below lists the facilities with an approved Voluntary Risk Reduction Plan.

Table D-1 — Facilities with Approved Voluntary Risk Reduction Plans

Facility ID	Facility Status (a)	Facility Name	Address	City	VRRP Approval Year (e)
17301	A	ORANGE COUNTY SANITATION DISTRICT	10844 ELLIS AVE	FOUNTAIN VALLEY	2018
29110	A	ORANGE COUNTY SANITATION DISTRICT	22212 BROOKHURST ST	HUNTINGTON BEACH	2018
800030	A	CHEVRON EL SEGUNDO REFINERY	324 WEST EL SEGUNDO BLVD	EL SEGUNDO	2019

Appendix E — List of Acronyms and Abbreviations

Acronym	Description
AB 2588	Air Toxics "Hot Spots" Information and Assessment Act
AB 617	Assembly Bill 617
AER	Annual Emissions Reporting
ATIR	Air Toxics Inventory Report
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEMS	Continuous Emissions Monitoring System
CEQA	California Environmental Quality Act
DPM	Diesel Particulate Matter
EGBE	Ethylene Glycol mono-n-Butyl Ether
EIR	Environmental Impact Report
F.I.N.D	Facility Information Detail
H&S Code	California Health and Safety Code
HARP	Hotspots Analysis and Reporting Program
HI	Hazard Index
HRA	Health Risk Assessment
LPG	Liquefied Petroleum Gas
MATES	Multiple Air Toxics Exposure Study
MDI	Methylene Phenyl Diisocyanate
NAAQS	National Ambient Air Quality Standard
OEHHA	Office of Environmental Health Hazard Assessment
PAMS	Photochemical Assessment Monitoring Stations
REL	Reference Exposure Levels
RRP	Risk Reduction Plan
SB 1731	Facility Air Toxic Contaminant Risk Audit and Reduction Plan
South Coast AQMD	South Coast Air Quality Management District
TBAc	Tert-Butyl Acetate
TS	Total Facility Score
U.S. EPA	United States Environmental Protection Agency
VRRP	Voluntary Risk Reduction Plan

South Coast Air Quality Management District

Facility Prioritization Procedure
for
the Rule 1402 Implementation of the AB 2588 Program

~~September~~October ~~2019~~2020

Preface

This version of the Prioritization Procedure updates the previous September ~~2018~~2019 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 revisions to this document from the previous September 2019 version include:

- Correcting equations for calculation of cancer score for worker adjustment factor;
- Removing reference to worker adjustment factor in non-cancer chronic description; and
- Provide additional clarification on the worker adjustment factor.

Previous revisions are described below.

The September 2019 revisions to this document from the previous September 2018 version include:

- Correcting equations for calculation of cancer score;
- Correcting description of emissions for calculation of non-cancer acute score;

The November 2016 revisions to this document from the previous June 2015 version include:

- Incorporating updates from the August 2016 Facility Prioritization Guidelines prepared by The Air Toxics and Risk Manager Committee (TARMAC) of California Air Pollution Control Officers Association (CAPCOA).

The June 2015 revisions to this document from the previous March 2011 version include:

- Incorporating 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)

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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 (South Coast AQMD) 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, South Coast AQMD 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 South Coast AQMD 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 South Coast AQMD (South Coast AQMD 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 South Coast AQMD Procedure is consistent with the CAPCOA Guidelines, several refinements have been made over the history of South Coast AQMD's AB 2588 Program. In September 1990, South Coast AQMD 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, South Coast AQMD 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 South Coast AQMD Procedure was revised to include updated toxicity criteria. In June 2015, the South Coast AQMD 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 South Coast AQMD 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 South Coast AQMD Procedure used the local meteorology from all available South Coast AQMD 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). ~~This current (~~The September 2019~~)~~ South Coast AQMD Procedure ~~incorporates~~incorporated the Version 9 meteorological data and

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

~~simplifies~~simplified calculation of a facility's non-cancer acute score. This current version (~~September~~October 2020) of the South Coast AQMD Procedure corrects the equation for calculating the cancer score for worker adjustment factor, removes reference to worker adjustment factor in non-cancer chronic description, and provides additional clarity on the worker adjustment factor (WAF).

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 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 a 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 South Coast AQMD 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 chances ~~per~~ in-one-million or a hazard index (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, South Coast AQMD staff conducts auditing to confirm the distances reported to sensitive receptors and workers, ~~and that the~~verify reported emissions are consistent with expected levels considering trends and facility changes such as new or modified permitted equipment or pollution controls, and ~~comparing~~compare 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:

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

$$S_{w,cancer} = \sum E_c \times CP_c \times MP_{c,w} \times RP_w \times WAF \times 55.86 \times 10^{-1}$$

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, $\chi/Q \left(\frac{\frac{\mu g}{m^3}}{\frac{ton}{year}}\right)$
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 South Coast AQMD'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 South Coast AQMD'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*~~ *AB 2588* ~~*Facilities for Reporting their*~~ *Quadrennial Air Toxics* ~~*Emissions*~~*Emission Inventory Reporting Procedures*.[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 South Coast AQMD 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 South Coast AQMD'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

[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~~ www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-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

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 meters per second. Linear interpolation is used to determine the appropriate (χ/Q) for receptor locations located between the distances specified in Tables ~~3~~2 and ~~4~~3.

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:

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

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
DF	=	Discount factor for when the offsite worker's schedule partially overlaps the source's emission schedule.

Although the 2015 OEHHA Guidelines allow the use of a discount factor (DF) when assessing inhalation cancer health impacts, if the off-site worker's schedule partially overlaps with the source's emission schedule, the DF should only be used when there are limits on the hours of operation specified in the facility's operating permits. Since South Coast AQMD permits do not typically include limits on hours of operations, it is assumed that the offsite worker's schedule fully overlaps with the emission source's schedule, and therefore DF is assumed to be equal to 1. Further, for facilities that operate less than 8 hours per day and 5 days per week, WAF is calculated based on an operating schedule of 8 hours per day and 5 days 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, South Coast AQMD 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	=	Maximum hourly emissions of substance, t (lb/hour)
REL_t	=	Acute reference exposure level of toxic substance, t ($\mu g/m^3$)
RP	=	Receptor proximity adjustment factor for hourly concentration, χ/Q $\left(\frac{\frac{\mu g}{m^3}}{\frac{lb}{hr}} \right)$

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]

MultiPpathway 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.

[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

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.

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

South Coast Air Quality Management District

South Coast AQMD Public Notification Procedures for Facilities Under the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402

Updated ~~October 2016~~October 2020

Table of Contents

I. Introduction

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) and its subsequent amendments established a statewide program to inventory ~~air toxics~~ emissions of toxic air contaminants (TACs) 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 (South Coast AQMD) Rule 1402 – Control of Toxic Air Contaminants from Existing Sources establishes facility-wide requirements for existing facilities that emit toxic air contaminants (TACs) and implements AB 2588. This document specifies the South Coast AQMD's public notification procedures for any facility with an approved Health Risk Assessment (HRA) exceeding the Notification Risk Level of Rule 1402. ~~that a facility must follow if the facility has an approved Health Risk Assessment that shows a cancer risk greater than or equal to the Rule 1402 Notification Risk Level of ten in one million (10 x 10-6), a total acute or chronic Hazard Index (HI) of one (1.0) for any target organ system at any receptor location, or if the facility exceeds the more stringent of either the National Ambient Air Quality Standard (NAAQS) for lead or applicable ambient lead limit in an South Coast AQMD rule.~~ This document also provides the public notification procedures for a facility that is participating in the Voluntary Risk Reduction Program under Rule 1402. The public notification procedures in this document apply to all AB 2588 and Rule 1402 facilities except for facilities in the industrywide inventory program.[1] 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. For questions regarding the public notification procedures, please contact the AB 2588 Section at (909) 396-3616 or AB2588@aqmd.gov.

II. Background

Facility owners or operators subject to AB 2588 must submit a comprehensive air toxics emissions inventory every four years (referred to as a "quadrennial update"). Based on this quadrennial update, along with other parameters such as receptor distance, potency, and multi-pathway exposures, the South Coast AQMD staff prioritizes the facility and calculates a Total Facility Score.[2] Upon initial prioritization of facilities, the South Coast AQMD staff conducts further auditing to verify the Total Facility Score. If the Total Facility Score is greater than 10, the South Coast AQMD staff notifies the facility that they are subject to Rule 1402 and they will be required to prepare an Air Toxics Inventory Report and ~~Health Risk Assessment~~HRA. If the health risk reported in the approved ~~Health Risk Assessment~~HRA is greater than or equal to the Rule 1402 Notification Risk Level, then the facility owner or operator must provide public notification. Public notification is also required for facilities that elect to participate in the Rule 1402 Voluntary Risk Reduction Program. Public notification informs the public of their exposure to toxic air contaminants from facilities and the potential health risks associated with those exposures.

Under Health and Safety Code Section 44362(b), the operator of a facility must provide notice to all exposed persons if, in the judgment of the local air district, the facility's AB 2588 ~~Health Risk~~

[1] Separate notification procedures were approved by the South Coast AQMD Governing Board in January 2007 for three industry-wide categories, including gas stations, dry cleaners using perchloroethylene, and emergency diesel engines. (Available here: http://www3.aqmd.gov/hb/2007/January/070128a.html)

[2] Total Facility Scores are calculated using South Coast AQMD's "Facility Prioritization Procedures for AB 2588".

~~Assessment~~HRA indicates there is a "significant health risk" associated with air toxic emissions from the facility. ~~The notice is to be made in accordance with procedures specified by the district.~~ The South Coast AQMD Governing Board adopted the Rule 1402 Notification Risk Level which represents the "significant health risk" levels requiring public notification under AB 2588. Health and Safety Code Section 44362(b) specifies that the notification threshold and notification procedures be determined by each local air district.

III. ~~Health Risk Thresholds for~~When Public Notification Is Required

Rule 1402 establishes the health risk thresholds and specific conditions in which public notification is required. ~~This document establishes the public notification procedures~~ for an owner or operator ~~of a facility that is subject to public notification requirements under Rule 1402 subdivision (q) must follow. Facility owners or operators required to conduct public notification will receive a notice to perform public notification from the Executive Officer by certified mail.~~ Pursuant to Rule 1402, there are two scenarios when public notification is required ~~(Table 1)~~:

- An ~~Approved~~ approved ~~Health Risk Assessment~~HRA shows the total facility risk ~~that~~ is greater than or equal to the Rule 1402 Notification Risk Level pursuant to ~~(~~Rule 1402~~, paragraph~~ (q)(1)~~)~~; or
- Total facility risk as determined through a Risk Reduction Plan Progress Report is greater than or equal to the Action Risk Level ~~(~~pursuant to Rule 1402~~, paragraph~~ (q)(2)~~)~~.

Facility owners or operators required to conduct public notification will receive a directive from South Coast AQMD to perform public notification by certified mail. For approved HRAs, this notification may be in the form of the HRA approval. The following sub-sections provides more details regarding the public notification procedures for these two scenarios.

Public Notification for an Approved Health Risk Assessment ~~that is Greater than or Equal to the Rule 1402 Notification Risk Level~~

Pursuant to paragraph (q)(1) of Rule 1402, an owner or operator of any facility is required to provide public notification if the total facility risk, as determined through a ~~District~~ South Coast AQMD approved or prepared ~~Health Risk Assessment~~HRA, is greater than or equal to the Notification Risk Level. The Rule 1402 Notification Risk Level is:

- A Maximum Individual Cancer Risk (MICR) of ten chances 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 the applicable ambient lead concentration in a South Coast AQMD rule.

There are three public notification components that the owner or operator must provide: Distribute Health Risk Assessment (see Section IV), Distribute Public Notification Materials (see Section V), and Public Meetings (see Section VI).

Public Notification for a Progress Report ~~that is Greater than or Equal to the Action Risk Level~~

Under Rule 1402, a facility that is implementing a Risk Reduction Plan is required to submit for review annual progress reports. Pursuant to paragraph (q)(2) of Rule 1402, an owner or operator of any facility for which total facility risk, as determined through a Progress Report is greater than or equal to the Action Risk Level shall provide written public notification 12 months after the Executive Officer approves the Risk Reduction Plan and every 12 months thereafter, until the total facility risk is below the Action Risk Level. The Rule 1402 Action Risk Level is:

- A MICR of twenty-five chances in one million (25×10^{-6});
- A 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 NAAQS for lead.

For Progress Reports where the health risk is greater than the Action Risk Level, there is one public notification component: Distribute Public Notification Materials (see Section V).

~~In addition to Health Risk Assessment distribution,~~ Rule 1402 requires that an owner or operator of any facility for which total facility risk, as determined through a Progress Report, is greater than or equal to the Significant Risk Level[3] shall have public meetings conducted by South Coast AQMD. Under Rule 1402, the Significant Risk Level is:

- A MICR of one hundred chances 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.

For Progress Reports where the health risk is greater than or equal to the Significant Risk Level, there are two public notification components: Distribute Public Notification Materials (see Section V) and Public Meetings (see Section VI).

Table 1 — Summary of Threshold Requirements for Public Notifications

Thresholds and Requirements for Public Notifications	~~Health Risk Assessment~~ Distribution of Health Risk	Distribution of Public Notification Materials	Public Meetings
Approved Health Risk Assessment ≥ Notification Risk Threshold	Yes	Yes	Yes
Progress Report ≥ Action Risk Threshold	No	Yes	No

[3] The Significant Risk Level under Rule 1402 is a separate definition than the "significant health risk" of Health and Safety Code Section 44362(b).

Progress Report ≥ Significant Risk Threshold	No	Yes	Yes

IV. ~~Procedures to Distribute~~ Making Health Risk Assessments Available to the Publics

~~This section discusses the procedures for Health Risk Assessment Distribution (summarized in Table 2). Health Risk Assessment Distribution is required after the approved Health Risk Assessment determines the health risk is greater than or equal the Notification Risk Level.~~ Within ~~30~~ 10 days of the directive to conduct ~~date of notice to perform~~ public notification, the owner or operator shall provide to South Coast AQMD staff a copy of the approved HRA with any required redactions of trade secrets. The copy shall be provided in softcopy and one hardcopy report. South Coast AQMD staff will maintain the hardcopy report at the South Coast AQMD Library for no less than 18 months following approval of the HRA. South Coast AQMD staff will also provide the HRA, with any necessary redactions, along with the HRA approval letter on South Coast AQMD website. These documents shall also be available on the website for no less than 18 months following approval of the HRA.. ~~must distribute a copy of the facility's approved Health Risk Assessment, with a cover letter provided by the South Coast AQMD (sample provided in Appendix D) to all school libraries and schools[4] in the area of impact and the public library closest to the facility. Proof of Health Risk Assessment distribution will be submitted along with proof of Public Notification Materials distribution. The facility owner or operator must verify distribution of Health Risk Assessment and Public Notification Materials using the verification form provided in Appendix A within 15 days of the date of Public Notification Materials distribution.~~

~~In addition, within 15 days of the date of Health Risk Assessment approval, South Coast AQMD staff will post the approved Health Risk Assessment (or an approved version with Business Confidential Information redacted, if appropriate) and the Health Risk Assessment approval letter on the South Coast AQMD website.~~

~~Procedures to Distribute Health Risk Assessment~~

~~Procedure~~	~~Schedule~~	~~Responsibility~~
~~Distribute copy of facility's approved Health Risk Assessment to all school libraries and schools in the area of impact and public library closest to the facility~~	~~Within 30 days of the date of notice to perform public notification~~	~~Owner or operator of facility~~
~~Submit to South Coast AQMD proof of Health Risk Assessment distribution~~	~~Within 15 days of the date of Public Notification Materials distribution~~	~~Owner or operator of facility~~

~~[4] For the purpose of these public notification procedures, the definition of "school" under Health and Safety Code Section 42301.9 shall be used. Under this definition, "school" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grade 1 to 12, but does not include, any school in which education is primarily conducted in private homes~~.

~~Post approved Health Risk Assessment and Health Risk Assessment approval letter on South Coast AQMD website~~	~~Within 15 days of the date of Health Risk Assessment approval~~	~~South Coast AQMD staff~~

Procedures to Distribute Public Notification Materials

This section ~~discusses~~ outlines the procedures for distributing Public Notification Materials ~~(Table 3)~~. Distributing Public Notification Materials is required following the issuance of the directive to conduct public notification by South Coast AQMD~~after the approved Health Risk Assessment determines the health risk is greater than or equal to the Notification Risk Level or the health risk of a Risk Reduction Plan Progress Report is greater than or equal to the Action Risk Level~~. The Public Notification Materials must include a ~~notification letter~~public notice developed by the South Coast AQMD (sample provided in Appendix B). The ~~notification letter~~public notice will include information about the facility such as facility address and type of business. The ~~notification letter~~public notice will also include information about the specific toxic air contaminants (TACs) that are contributing substantially to the health risk, the ~~particular~~ health risk ~~notification~~ levels that are exceeding the Notification Risk Level~~ed~~, and the estimated health risks. If a public meeting is required, the ~~notice letter~~public notice will include information about the time, date, location, and purpose of the public meeting. ~~The Executive Officer will determine if other languages, in addition to English, should be used. In the past, District staff has required t~~Translation for all languages spoken by ≥10% of a census tract in a public notification area may be required, and is based on South Coast AQMD staff discretion. ~~Translation can be arranged by the South Coast AQMD and the cost charged to the facility.~~ The schedule for producing the Public Notification Materials is shown in Table 2. Table 2 also shows the party responsible for each item.

Optional Facility ~~Public Notice~~ Letter

The facility has the option of including a letter of its own authorship which has been reviewed and approved by the Executive Officer. If a facility operator chooses to include their own letter as part of the Public Notification Materials, a draft of the facility letter must be submitted to the South Coast AQMD within 15 days of the ~~date of notice~~directive to ~~perform~~ conduct public notification for review and approval.

~~The facility operator may choose to prepare a~~The optional facility ~~brief~~ letter ~~that~~ may be brief and simply refer~~s~~ to the enclosed South Coast AQMD materials or may be ~~a~~ longer ~~letter~~while providing additional information. In either case, the letter ~~should~~ shall consist of brief paragraphs in non-technical language. Some acceptable information includes:

- A description of the facility and its products or services;
- An explanation of why the facility emits toxic air contaminants;
- Steps the facility has taken or will take to reduce emissions;
- ~~An invitation to the public meeting;~~
- Identification of the facility contact person with a phone number; and

- Other information relating to facility emissions or the ~~Health Risk Assessment~~HRA.

Certain content ~~will not be accepted~~ within the facility letter are not allowable, such as ~~.~~ ~~S~~statements that undermine the risk assessment process or trivialize the risk associated with air toxics ~~are not considered appropriate to include in the facility letter and will be disapproved by the South Coast AQMD~~. ~~For example, the~~Furthermore, the facility letter ~~should~~ shall not discredit the risk assessment methodology used in the AB 2588 ~~program~~ Program or imply that it is overly conservative. As with all public notification material, ~~The~~ the facility letter must be translated to other languages ~~as determined by the Executive Officer~~based on South Coast AQMD staff determination~~;. Translation can b arranged by the South Coast AQMD and the cost charged to the facility~~.

Area of Impact

For cancer risk, the area of impact is the geographic area encompassed by the ten chances in ~~-~~one ~~-~~million (10×10^{-6}) MICR isopleth.[5] For non-cancer health risk, the area of impact is the geographic area encompassed by the 1.0 HI isopleth or the isopleth corresponding to the lead threshold that triggered notification.

Distribution List

Within 15 days of the ~~date of notice~~directive to ~~perform~~ conduct public notification, the facility owner or operator shall ~~is responsible for~~ submit~~ting to the Executive Officer for approval,~~ a list of all addresses (individual residences and workplaces) subject to notification to South Coast AQMD staff for review and approval. Within 25 days of ~~notice to perform~~the directive to conduct public notification, the facility owner or operator must ~~provide~~ inform South Coast AQMD staff of ~~the Executive Officer~~ the exact method of distribution to parents of children attending schools in the area of impact.[6] The method for informing students and parents of students~~For children~~ attending schools in the notification area is left to the discretion of the~~,~~ school administrators ~~typically determine how they wish for the notification to occur~~ . Some examples for distribution for~~(~~e.g.,~~ school administrators ~~may~~ include providing information on school website, providing~~e~~ a mailing list to South Coast AQMD for distribution by South Coast AQMD staff, or ~~they may ask for~~requesting Public Notification Materials in ~~pre-stuffed~~prepared envelopes for distribution by the school staff~~, or they may choose other methods)~~.

In addition, the South Coast AQMD staff ~~typically~~ provide~~s~~ the notice materials to local government representatives with jurisdiction within the notification area ~~receiving public notice~~.

[5] Note that the "area of impact" has a separate meaning than the "zone of impact" term used in HRAs.

[6] For the purpose of these public notification procedures, the definition of "school" under Health and Safety Code Section 42301.9 shall be used. Under this definition, "school" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grade 1 to 12, but does not include, any school in which education is primarily conducted in private homes.

Note that ~~Extra time is given for providing the method of~~ distribution to students and parents of students can be a lengthy process and therefore, contacting ~~' families due to extra time needed for~~ school administrators, who are responsible for~~to~~ approv~~e and coordinate this notification~~ing the distribution, must be the first step taken. ~~Even though there is more time provided for this incremental step, given the extra coordination needed, this process should typically begin first.~~

Schedule and Method of Distribution

Public Notification Materials must be distributed within 30 days of the ~~date of notice to perform~~directive to conduct public notification. The facility owner or operator is responsible for reproducing and distributing copies of the Public Notification Materials. All Public Notification Materials are to be enclosed in envelopes with South Coast AQMD return address labels. These envelopes may be obtained from the South Coast AQMD for a fee and upon request ~~and the cost charged to the facility~~. Distribution of the Public Notification Materials must be conducted by a third party which specializes in mail or delivery services, such as the U.S. Postal Service or other mailing or distribution services. ~~Door-to-door hand delivery is not acceptable, in part because~~ U.S. Postal Service regulations prohibit the use of individual's mail boxes by unauthorized persons.

Verification of Distribution

Within 15 days of the date of distribution of Public Notification Materials, the facility operator must verify distribution of the ~~Health Risk Assessment and~~ Public Notification Materials using the verification form provided in Appendix A. Proof of distribution must be included with the verification and may be in the form of receipts from delivery or mail service agencies or the post office which describe the boundaries of notification and/or the addresses included in the mailing.

Table 2 — Procedures ~~to Distribute~~For Public Notification Materials

Procedure	Schedule	Responsibility
Prepare ~~South Coast AQMD notification materials that includes information about the facility, specific toxic air contaminants and estimated health risk.~~public notice	After ~~Health Risk Assessment~~HRA is approved	South Coast AQMD staff
Determine if Public Notification Materials ~~need to be translated into other languages~~require translation.	Within 15 days following directive to conduct public notification~~After notification letter is completed and area of impact is determined~~	South Coast AQMD staff
Prepare a facility letter ~~from the responsible facility~~ – (Optional).	Within 15 days following~~of the date of notice to perform~~directive to conduct public notification	Owner or operator of facility
Provide a list of all addresses (individual residences and workplaces).	Within 15 days following ~~of the date of notice to perform~~ directive to conduct public notification	Owner or operator of facility
Provide the exact method of distribution to the parents of children in schools within the area of impact.	Within 25 days following~~of the date of~~ directive to conduct ~~notice to perform~~ public notification	Owner or operator of facility

Reproduce and distribute Public Notification Materials to individual residences, workplaces, and parents of children attending school in the area of impact.	Within 30 days following ~~of the date of~~ directive to conduct ~~notice to perform~~ public notification	Owner or operator of facility
Verification of distribution; such as receipts from delivery or mail service.	Within 15 days following~~of the date of~~ distribution of Public Notification Materials	Owner or operator of facility

V. Procedures for Public Meetings

This section establishes the procedures for scheduling and other logistics for public meetings (Table ~~4~~3). Public meetings are required after the approval of a ~~Health Risk Assessment~~HRA where the health risk is greater than or equal to the Notification Risk Level or the health risk of a Risk Reduction Plan Progress Report is greater than or equal to the Significant Risk Level. Public meetings offer the public an opportunity to learn more about the results of the ~~Health Risk Assessment~~HRA and how ~~toxic~~ health risk is determined and mitigated, and to directly ask questions of the South Coast AQMD staff and facility representatives. As a result, the facility owner or operator or representative that can respond on behalf of the facility must be present at the public meeting. The South Coast AQMD staff will work with the facility owner or operator to schedule a date for the public meeting that is typically within 30 days of distribution of Public Notification Materials. The date, time, and location of a public meeting must be provided within the Public Notification Materials. The South Coast AQMD staff will schedule the meeting on a weekday evening or weekend and at a location that is ADA compliant. South Coast AQMD staff will prioritize selection of locations that are ~~and~~ convenient for community members. The South Coast AQMD staff will reserve a venue for the public meeting, arrange for audio and visual equipment and personnel, and language translation, if necessary~~. Pursuant to Rule 307.1, the facility owner or operator shall either directly pay or reimburse the South Coast AQMD for the public meeting costs, including, but not limited to renting of the venue, audio visual equipment and personnel, translation, and any other costs (e.g., parking, etc.)~~.

Facility operators are encouraged to work closely with the South Coast AQMD staff regarding the meeting agenda. The recommended agenda includes a presentation followed by a question and answer period. -It is recommended that the following topics be included in the presentation:

- Purpose of the meeting;
- Overview of the AB 2588 program;
- Description of the facility: type of operation, processes involved, and materials used or produced at the facility;
- Description of the health risk assessment process;
- Description of facility emissions and results of the Health Risk Assessment;
- Description of facility's recent compliance history with South Coast AQMD;
- Facility's projects or plans to reduce toxic emissions or risk; and
- Applicable current or future regulatory programs to reduce risks from air toxics.

A pre-meeting should be arranged between the South Coast AQMD and facility staff to finalize meeting plans, including the appropriate persons to attend and assist in the presentation. The South Coast AQMD staff will be prepared to modify the meeting agenda in response to reasonable needs of the attendees. These sessions provide the public with an opportunity to ask questions directly to experts, learn more generally about toxic risk and provide feedback to the South Coast AQMD and facility. Informational materials should also be made available at the sessions.

Table 3 — Procedures for Public Meetings

Procedure	Schedule	Responsibility
Coordination meeting to identify the appropriate date for public meeting	Before distribution of Public Notification materials	South Coast AQMD staff and owner or operator of facility
Arrange for venue, audio visual equipment and personnel, translation (if necessary), parking, security, and any other meeting logistics.	Within 30 days of distribution of Public Notification Materials	South Coast AQMD staff
Pay for venue, audio visual equipment and personnel, translation, and any other costs	Within 60 days of facility's receipt of invoice	Owner or operator of facility
Participate in public meeting.	Public notification meeting	South Coast AQMD staff and owner or operator of facility

VI. Costs Related to Public Notification

Pursuant to Rule 307.1, the facility owner or operator is responsible for all costs relating to the public notification. Examples of these items include, but are not limited, to the following:

- renting of the venue, audio visual equipment and personnel, translators, parking rental, security (if necessary);
- printing and distribution of all Public Notification Material;
- translation of all Public Notification Material;
- envelopes necessary for public distribution of material.: and
- necessary postage.

~~VI.~~VII. Public Notification Procedures for Facilities Participating in the Voluntary Risk Reduction Program

This section provides the public notification procedures for facilities participating in the Rule 1402 Voluntary Risk Reduction Program. Pursuant to ~~paragraph (q)(3) of~~ Rule 1402 (q)(3), the South

Coast AQMD staff will conduct public notification for facilities that are eligible and that elect to participate in the Rule 1402 Voluntary Risk Reduction Program. Under Rule 1402, facilities that elect to participate in the Voluntary Risk Reduction Program commit to implementing risk reduction measures that will reduce their total facility risk below the Rule 1402 Voluntary Risk Threshold which is a Maximum Individual Cancer Risk of ten chances 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 South Coast AQMD rule. The public notification for facilities participating in the Rule 1402 Voluntary Risk Reduction Program will be placed on the South Coast AQMD's website and will be included in the AB 2588 annual report. The public notification will include the following information:

- Background information about the 2015 update to the Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments that includes:
    - A description of how the updated OEHHA Guidance results in a higher estimated health risk from the facility compared to the previous Guidance;
    - Explanation that a facility's estimated health risk will increase using OEHHA's updated Guidance compared to estimates using the previous OEHHA Guidance even if emissions at the facility stay the same and potentially even if emissions decrease.
- Background information about the Voluntary Risk Reduction Program and that facilities that are participating are committing to risk reductions that:
    - Account for changes in risk estimates based on the Revised OEHHA Guidance; and
    - Risk reductions go beyond what is required through regulatory requirements.
- A list of participating facilities – Facility Name, Facility ID, and Street Address

~~VII.~~VIII. ~~Additional Suggestions on~~ Risk Communication Following Public Notification Process

Facility operators may choose to continue their dialogue with the community after they have completed their notification requirements. This dialogue could take the form of newsletters, facility tours, or additional public meetings. The South Coast AQMD encourages these efforts and requests that facilities keep the South Coast AQMD informed about their communication activities.

~~VIII.~~IX. Additional Resources

CARB AB 2588 Air Toxics "Hot Spots" Program

OEHHA Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments

South Coast AQMD Air Toxics "Hot Spots" Program (AB 2588)

South Coast AQMD Facility Prioritization Procedures for AB 2588 Program

South Coast AQMD Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program

~~South Coast AQMD Rules 307.1, 1401, and 1402 Staff Report~~

South Coast AQMD Rule 307.1 - Alternative Fees for Air Toxics Emissions Inventory

South Coast AQMD Rule 1402 – Control of Toxic Substance from Existing Sources

South Coast AQMD Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot -Spots" Information and Assessment Act

Appendix A – Verification Form for Distribution of Public Notification Materials~~ces and Health Risk Assessments~~

South Coast Air Quality Management District

Form R1402

Verification Form for Distribution of Public Notices and Health Risk Assessments

Mail To:
South Coast AQMD - AB 2588 Program
21865 Copley Dr.
Diamond Bar, CA 91765

Tel: (909) 396-3616
www.aqmd.gov

Section A – Facility Information			
Facility Name (Business Name of Operator):			**South Coast AQMD Facility ID:**
Facility Location Address:		**Facility Mailing Address:** ☐ Check here if same as facility location address	
Street Address _____ , CA _____ City Zip Code		Street Address _____ , _____ City State Zip Code	
Facility Contact:			
Name	Title	Phone Number	E-Mail
Section B – Verification of Public Notification Requirements			
Dates of Distribution:			
	Public notice materials to all addresses in the area of impact.		
	Public notice materials to students and parents of students attending schools in the area of impact.		
Section C – List of Attachments			
The following documents have been attached:			
☐	Proof of distribution of the notice materials to all addresses required.		
☐	List of schools for which notices were distributed to parents of attending children.		
Section D – Authorization/Signature: I hereby certify that all the information contained herein are true and correct.			
Signature of Responsible Official:		Title of Responsible Official:	
Print Name of Responsible Official:		Date Signed (mm/dd/yy):	
Phone Number of Responsible Official:		Email Address of Responsible Official:	

Appendix B – Sample South Coast AQMD Public Notification Materials

South Coast Air Quality Management District

NOTICE OF PUBLIC MEETING TO DISCUSS HEALTH RISK ASSESSMENT FOR A FACILITY IN YOUR NEIGHBORHOOD

The following business in your neighborhood has been emitting toxic air pollutants that could potentially cause a risk to public health. ***[FACILITY NAME]*** has been required to conduct a Health Risk Assessment (HRA) to evaluate how emissions are released and dispersed from ***[FACILITY NAME]***, and the potential impact those releases may have to public health.

Business Name	Location Address	Type of Business
[FACILITY NAME]	*[FACILITY ADDRESS]*	*[TYPE OF BUSINESS]*

As the air pollution control agency for this area, South Coast Air Quality Management District (South Coast AQMD) will hold a public meeting to answer questions about the results of ***[FACILITY NAME] [INVENTORY YEAR]*** Approved HRA. Officials from ***[FACILITY NAME]*** will also attend the meeting to answer questions about their operations and future plans to reduce emissions impacting your neighborhood. South Coast AQMD will hold the public meeting via video conferencing and by telephone. The audience will be able to participate during the public comment period.

Date & Time	Meeting Details
[DATE & TIME]	*[MEETING DETAILS]*

INSTRUCTIONS FOR ELECTRONIC PARTICIPATION

Instructions for Participating in a Virtual Meeting as an Attendee

- As an attendee, you will have the opportunity to virtually raise your hand and provide public comment.
- Before joining the call, please silence your other communication devices such as your cell phone or desk phone. This will prevent any feedback or interruptions during the meeting.
- Please Note: During the meeting, all participants will be placed on mute by the host. You will not be able to mute or unmute your lines manually.
- Speakers will be limited to a total of three (3) minutes for their opportunity to provide comments. This time may be reduced if there are a large number of commenters to ensure that all comments can be heard. A countdown timer will be displayed on the screen for each public comment.
- Once you raise your hand to provide public comment, your name will be added to the speaker list. Your name will be called when it is your turn to comment. The host will then unmute your line.

Directions for Video Zoom on a Desktop/Laptop/Smartphone

- If you would like to make a public comment, please click on the “Participants” button on the bottom of the screen.
- A list of participants will appear on the right side of the screen for computers and on a new screen for smartphones. At the bottom of the list, please click on the grey “Raise Hand” button.
- This will signal to the host that you would like to provide a public comment and you will be added to the list.
- Please Note: At the bottom of your screen, please click the “Interpretation” button and select either “English” or “Spanish”.

Directions for Telephone Line Only

- If you would like to make a public comment, please dial *9 on your keypad to signal that you would like to comment
- Please Note: There is no interpretation feature available when joining via telephone dial-in.

South Coast Air Quality Management District

Summary of Health Risk Assessment

The approved HRA, which used ***[INVENTORY YEAR]*** data, showed that pollutants (***[PRIMARY TAC RISK DRIVER]***) from ***[FACILITY NAME]*** may cause an increased health risk for people who live and work in the area as seen in the attached Facility Risk Map (***[Figure 1]***).

The attached information sheet provides additional background on the business, air pollutants and health risks. The following table shows the estimated, potential health risks from the ***[INVENTORY YEAR]*** Approved HRA.

	[INVENTORY YEAR] **Approved HRA**
Maximum probability of cancer for those living closest to the facility (30 year exposure)	***[XX]*** chances in-one-million
Maximum additional cases of cancer (70 year exposure)	***[XX]***
Maximum short-term non-cancer health effects (1 hour exposure)	***[XX]*** times higher than state health based guidelines

For more information about South Coast AQMD programs to control toxic air pollution or the public meeting, please contact Victoria Moaveni of South Coast AQMD at (909) 396-2455 or vmoaveni@aqmd.gov. For more information about the facility, please contact ***[FACILITY CONTACT NAME]*** at ***[FACILITY CONTACT NAME]*** or ***[CONTACT EMAIL]***.

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*Disability and language-related accommodations can be requested to allow participation in the **[FACILITY NAME]** Rule 1402 public notification meeting. The agenda will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Gov't Code Section 54954.2(a)). In addition, other documents may be requested in alternative formats and languages. Any disability or language-related accommodation must be requested as soon as practicable. Requests will be accommodated unless providing the accommodation would result in a fundamental alteration or undue burden to the District. Please contact the AB 2588 Hotline at (909) 396-3610 from 7:00 a.m. to 5:30 p.m., Tuesday through Friday, or send the request to AB2588@aqmd.gov.*

South Coast Air Quality Management District

[INVENTORY YEAR] Approved HRA Facility Risk Map (Figure 1)
[FACILITY NAME]
(South Coast AQMD ID No. _[FACILITY ID]_)
[FACILITY CITY], California

[FACILITY NAME]
Public Notification Area Map

Cancer Risk 10 chances in-one-million (Yellow Contour)

[FACILITY NAME] (Red Outline)

Public Notification Required if:

- Maximum probability of cancer for those living closest to the facility is greater than 10 chances in-one-million
- Maximum probability of cancer for those working closest to the facility is greater than 10 chances in-one-million
- Long-term non-cancer health effects are greater than state health-based guidelines
- Short-term non-cancer health effects are greater than state health-based guidelines

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
aqmd.gov • 1-800-CUT-SMOG

South Coast Air Quality Management District

INFORMATION SHEET

What are toxic air pollutants?
Chemicals that can cause cancer and other adverse health effects such as harm to the human respiratory system are known as toxic substances. When these toxic substances are released in the air, they are called toxic air pollutants. Toxic air pollutants come from a variety of sources including chemical plants, large manufacturers, businesses and cars and trucks. Many products used at home, such as cleaners and paint thinners also contain toxic air pollutants.

What toxic air pollutants does this facility emit?
Exposure to elevated concentrations of ***[PRIMARY TAC RISK DRIVERS]*** can have potential cancer and non-cancer health risks. Long and short term health-based levels have been established by the California Office of Environmental Health Hazard Assessment (OEHHA).

The facility emits the following toxic air pollutants as a result of ***[MAJOR FACILITY PROCESSES PRODUCING PRIMARY TAC DRIVERS]***:

Pollutants	Possible Health Effects

How was the health risk from this facility determined?
The ***[INVENTORY YEAR]*** Approved HRA used estimated amounts of pollutants released from operations at ***[FACILITY NAME].*** That information is inputted into a computer-based model that evaluates air quality dispersion and predicts air pollution concentrations throughout the community. The results are then measured against exposure levels determined by OEHHA to predict potential impacts to people's health.

OEHHA updated their health effects guidance in March 2015 to specifically include new information that provides more insight on how toxic air pollutants can have a greater impact on children than they do on adults. This newer methodology led to stricter health standards, which in turn resulted in health risk estimates that are approximately 3.7 times more conservative than those using previous methods. This method of determining risk may differ from other regulatory programs, such as public notification being carried out under Proposition 65.

What did the Health Risk Assessment find?
An HRA is currently the best method for estimating the amount of exposure to a chemical over a long period of time and the potential health impacts.

The ***[INVENTORY YEAR]*** Approved HRA for ***[FACILITY NAME]*** was calculated using a 30-year conservative exposure measurement that assumed a person would be continually exposed to emissions from a facility for 30 years.

The ***[INVENTORY YEAR]*** Approved HRA, based on known information at the time, found that people who live in the area shown on the Facility Risk Map (Figure 1), if continuously exposed for 30 years, would have a maximum of ***[xx]*** chances in-one-million of developing cancer mainly due to ***[PRIMARY TAC RISK DRIVERS]*** emissions from this facility. Those who work in the area would have a maximum of ***[XX]*** chances in-one-million of developing cancer. The risk is primarily due to ***[MAJOR FACILITY PROCESSES PRODUCING PRIMARY TAC DRIVERS]***.

What is being done to reduce the health risks from this facility?
South Coast AQMD Rule 1402 — Control of Toxic Air Contaminants from Existing Sources applies to facilities that exceed specific risk thresholds (e.g., cancer risk greater than 25 chances chances in-one-million) and requires the facility to submit a plan to reduce its risk below thresholds and implement this risk reduction plan within two and a half years after approval.

In this case, ***[FACILITY NAME]*** is required to conduct both public notification and risk reduction. South Coast AQMD has also developed other programs designed to prevent pollution and reduce exposure to toxic air pollution, such as air toxic regulations specific to certain sources.

What is the cancer risk from toxic air contaminants in general?
The Multiple Air Toxics Exposure Study IV (MATES IV) presents estimates of cancer risk throughout South Coast AQMD's four county jurisdiction. The estimated risk for cancer from all toxic air contaminants emitted from all sources (cars, trucks, factories, power plants, etc.) is about 900 chances in-one-million .

How can I get more information?
Page ES-3 of MATES IV Executive Summary, available at: http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15

A copy of South Coast AQMD's approved health risk assessment for ***[FACILITY NAME]*** is available online at: [URL] or at the following library:

South Coast AQMD Library

21865 Copley Drive Diamond Bar, CA 91765
(909) 396 - 2600
Tue - Thu: 10 AM - 5 PM Fri: 8 AM - 3 PM
Sat, Sun, Mon: Closed

Appendix C – Sample South Coast AQMD Modified Public Notification

Notification of Facilities Participating in the Rule 1402 Voluntary Risk Reduction Program

Updated September18, 2019

South Coast AQMD's Rule 1402 – Control of Toxic Air Contaminants from Existing Sources includes a Voluntary Risk Reduction Program. Facilities that participate in the Voluntary Risk Reduction Program reduce their health risks sooner and below the thresholds required under Rule 1402. Facilities that participate in this program have already had a Health Risk Assessment (HRA) approved by South Coast AQMD that shows the facility's risks were below risk reduction thresholds at the time of HRA approval. An HRA is a study that estimates how a facility's emissions affect people's health risks in the surrounding community.

On March 6, 2015, the California Office of Environmental Health Hazard Assessment (OEHHA) approved revisions to its guidelines (2015 OEHHA Guidelines) that are used by all air districts throughout the state to prepare HRAs. The 2015 OEHHA Guidelines incorporates age sensitivity factors which will increase cancer risk estimates to residential and sensitive receptors by approximately three times, and more than three times in some cases depending on whether the TAC has multiple pathways of exposure in addition to inhalation. Under the 2015 OEHHA Guidelines, even though the toxic emissions from a facility have not increased, the estimated cancer risk to a residential receptor will increase. Cancer risks for offsite worker receptors are similar between the existing and revised methodology because the methodology for adulthood exposures remains relatively unchanged. The Voluntary Risk Reduction Program provides an opportunity for participating facilities to address the increase in their estimated cancer risk due to the 2015 OEHHA Guidelines.

Table 1 below lists the facilities that have elected to participate in the Voluntary Risk Reduction Program and have an approved Voluntary Risk Reduction Plan.

Questions about the South Coast AQMD's Voluntary Risk Reduction Program or this Notification can be directed to AB 2588 staff at (909) 396-3616 or AB2588@aqmd.gov.

Table 1
List of Facilities with an Approved Voluntary Risk Reduction Plan

South Coast AQMD Facility ID	Facility Name	Address

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~~ October ~~2018~~2020

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* (2015 OEHHA Guidance Manual). The 2015 OEHHA Guidance Manual 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 (South Coast AQMD). This version of the Supplemental Guidelines updates the previous September 2018 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 September 2018 version include:

- Reorganizing the document to improve readability and more closely follow the paths a facility may take under Assembly Bill 2588 (AB 2588) and South Coast AQMD Rule 1402

- ~~Adding additional guidelines, including~~Providing additional guidance on source tests, clarifying requirements for receptor grids, Air Toxics Inventory Reports (ATIR), Risk Reduction Plans (RRP), and Potentially High Risk Level facilities

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 1.5 ~~3.6~~ and Table 2~~3~~; note that these references are for the current version of this guideline dated ~~September~~October 2020);

- Adding a~~n~~ Health Risk Assessment (HRA) Summary Form (refer to Attachment A to Appendix B);

- Removing tables that are updated frequently and are listed in other South Coast AQMD rules or guidelines and including a reference to the applicable table(s) in the existing South Coast AQMD rule or guidelines instead; and

- Updating terms and acronyms (refer to Appendix G).

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Introduction

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 (TAC) 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. South Coast AQMD 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 South Coast AQMD'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, South Coast AQMD staff prioritizes facilities, using a procedure approved by the Governing Board, into three categories: high, intermediate, and low priority. High priority facilities[1] 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.

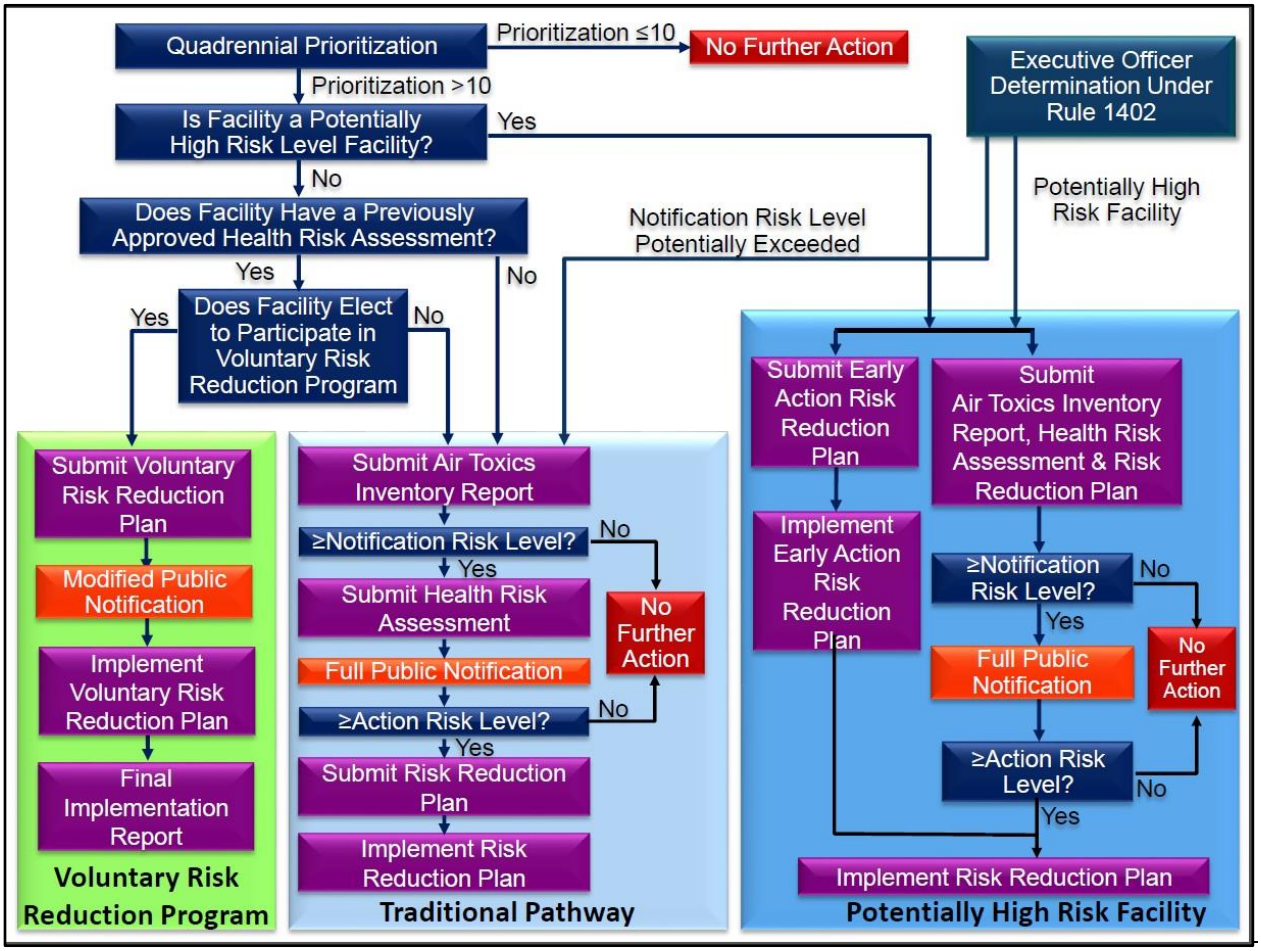
- *Health Risk Assessment* - From the detailed reported toxic emissions submitted through the ATIR, high priority facilities must prepare ~~a Health Risk Assessment (HRA~~an HRA).

- *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.

[1] A high priority facility has separate meaning from the Potentially High Risk Level Facility definition of Rule 1402 (see Chapter 6).

- *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.



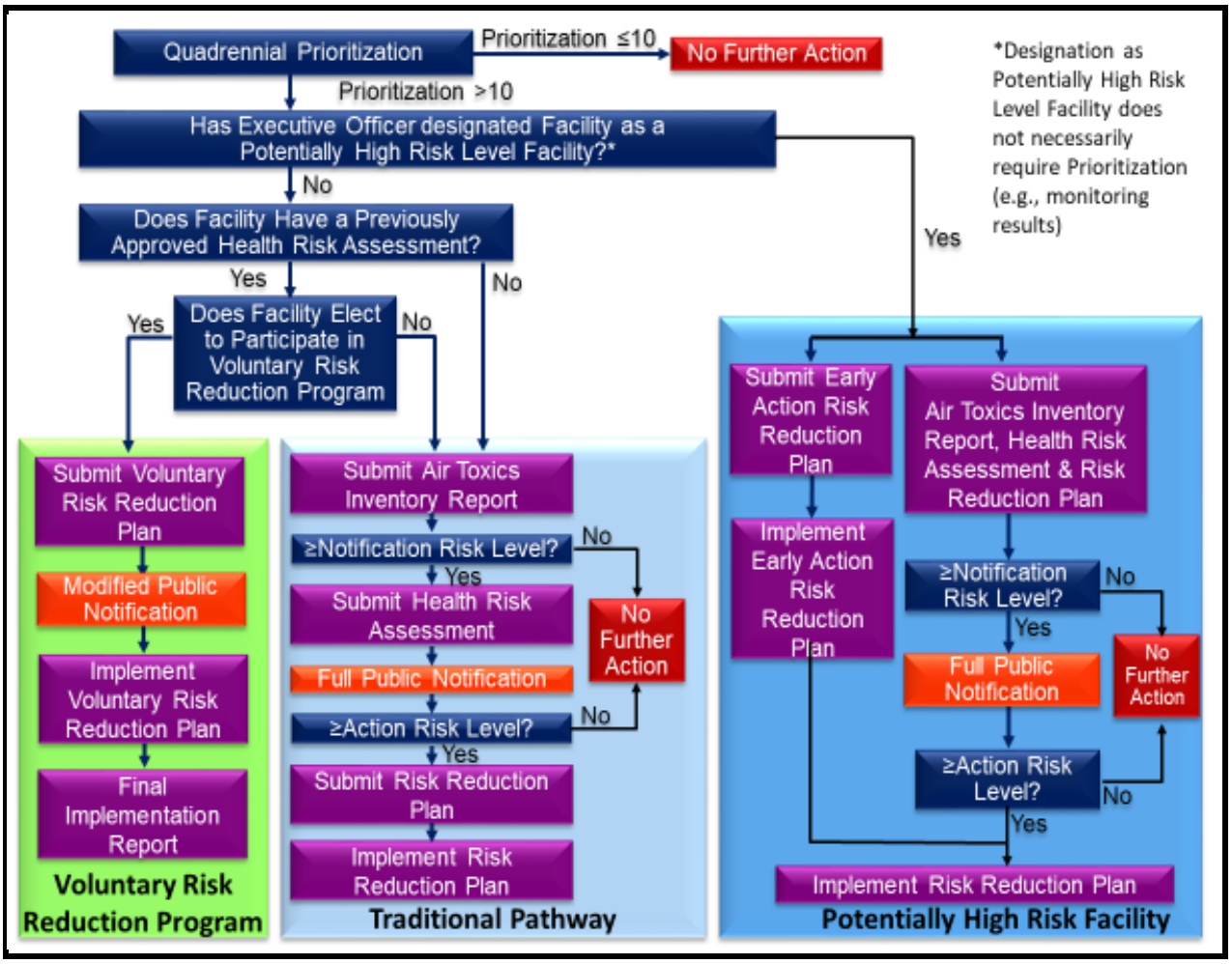


Figure 1 — Overview of the AB 2588 Program and illustration of the paths by which a facility may follow

These Supplemental Guidelines are to be used in conjunction with the ~~document~~ 2015 OEHHA Guidance Manual 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" (2015 OEHHA Guidance Manual)~~.[2] Facilities required to submit health risk assessments to the ~~South Coast Air Quality Management District (~~South Coast AQMD~~)~~ must follow the 2015 OEHHA Guidance Manual pursuant to Health and Safety Code 44360(b)(2). Since the 2015 OEHHA Guidance Manual defers to the local air district for specific,

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

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 South Coast AQMD.

A certification form must be submitted to South Coast AQMD with all documents and correspondence relating to health risk assessments.[3]

Please visit South Coast AQMD'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.[4] Questions may be emailed to AB2588@aqmd.gov or asked via phone at (909) 396-3610.

[3] https://www.aqmd.gov/docs/default-source/aqmd-forms/AB2588/ab2588-certification-form.pdf ~~http://www.aqmd.gov/home/research/forms~~

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

1. Emissions Reporting

1.1 Facilities Subject to AB 2588 Reporting Requirements

South Coast AQMD'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~~ the ~~toxic air contaminants (TAC)~~TACs and ozone depleting compounds (ODC) specified in South Coast AQMD's Rule 301(e). The list of compounds can be found in Rule 301, Table IV.[5] ~~(shown in Table 1 below).~~ The report comprises the annual emissions report for ~~toxic air contaminants~~TACs.

- 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~~TACs 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 Reporting Procedures*.[6] This report comprises the quadrennial emissions report for ~~toxic air contaminants~~TACs.

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 South Coast AQMD's website.[7]

~~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

[5] https://www.aqmd.gov/docs/default-source/rule-book/reg-iii/rule-301-July-2019.pdf
[6] https://www.aqmd.gov/docs/default-source/planning/risk-assessment/quadrennial_atir_procedure.pdf
[7] https://www.aqmd.gov/home/rules-compliance/compliance/annual-emission-reporting

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;[8]
- Their emissions exceed one or more of the reporting thresholds in Table I or II in *Rule 1402 – Control of Toxic Air Contaminants From Existing Sources*;[9] or
- The Executive Officer of South Coast AQMD determines that emissions levels from the facility have the potential to cause an exceedance of risk reduction thresholds.

1.2 Quadrennial Emissions Reporting and Base Year Emissions Inventory

Facilities subject to the AB 2588 Program must provide a quadrennial emissions report for ~~toxic air contaminants~~TACs. These substances are listed in Table A-1 of ~~*Reporting Procedures for AB 2588 Facilities for Reporting their*~~ *Quadrennial Air Toxics Emissions Inventory Reporting Procedures*, 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 emissions report for ~~toxic air contaminants~~TACs, 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.~~1.4 Prioritization Procedure. A facility's prioritization score determines its fees and ~~if~~ whether it is necessary to prepare an ATIR or VRRP (if eligible).

When a facility is notified to prepare an ATIR or VRRP, the quadrennial ~~toxic air contaminants~~TACs 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 RRP~~Risk Reduction Plan (RRP)~~.

1.2.1 Toxic Air Contaminants Reporting Requirements

Facilities subject to the submittal of HRAs under the AB 2588 Program must estimate and submit their ATIR using the latest approved version of the Hotspots Analysis and Reporting Program

[8] https://www.arb.ca.gov/ab2588/2588guid.htm
[9] https://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1402.pdf

(HARP).[10] This ATIR ~~should~~ shall 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 Guidance Manual. ~~–~~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)~~. South Coast AQMD 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, South Coast AQMD 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.

1.2.2 Diesel Particulate Matter Emissions

Diesel particulate matter ~~emissions~~ was~~ere~~ identified as a ~~toxic air contaminant~~TAC by CARB in 1998~~,~~ and ~~were~~ added to the list of compounds in South Coast AQMD *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 South Coast AQMD Governing Board adopted separate public notification procedures for emergency DICEs.[11]

1.2.3 Control Efficiencies

Control efficiencies shall be included in emissions calculations when applicable. For example, spray booths may include a transfer efficiency and a filter efficiency. Some devices with air pollution control devices may have a capture efficiency and a collection efficiency. Control efficiencies may not apply to every type of TAC from a device, as some air pollution control devices are designed for only specific types of TACs.

[10] https://ww2.arb.ca.gov/our-work/programs/hot-spots-analysis-reporting-program~~http://www.arb.ca.gov/toxics/harp/harp.htm~~

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

Please note that control efficiency is an input to both AER and the Emission Inventory Module (EIM) in HARP. However, unlike the AER software, EIM currently does not use the control efficiency for any calculation purposes (i.e., controlled emissions are entered separately). Emissions calculations that include control efficiencies in the EIM shall be included as part of the supporting documentation for the ATIR.

1.3 Changes to Emissions and Process Data

1.3.1 Computational Errors

Computational errors in the quadrennial emissions inventory report must be reported to South Coast AQMD staff as soon as they are 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.

If computational errors or conservative assumptions were made in the quadrennial emissions report for ~~toxic air contaminants~~TACs ~~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 South Coast AQMD 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 process rates in years other than the quadrennial emissions reporting year cannot be used to re-categorize a facility. See Section ~~3.3.2~~4.10 for further details.

1.3.2 Source Test Results

Source test results may be used for quadrennial reporting only if they have been previously approved by South Coast AQMD. 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.

Facilities may conduct a source test after being notified to submit an ATIR. Under these circumstances, the ATIR must still be submitted by the original deadline for all other devices that are not being source tested. Facilities shall submit a source test protocol to South Coast AQMD for approval. Within 120 days of the source test protocol approval date, the facility shall submit a source test report based on the approved source test protocol. The actual source test must be scheduled as soon as possible since it may take some time to prepare the source test report once the source test is completed. Within 30 days of the source test report approval date, the facility shall submit the portion of the ATIR for the specific device or process for which the source test was conducted. ~~If new source test results are available and have been previously submitted to and approved by South Coast AQMD, 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.~~Please refer to South Coast AQMD Rule 1402 (d)(3) for more information on source test requirements.

Data from any new or yet to be completed source tests will not be approved for use in the preparation of the required HRA ~~if~~ once an ATIR has already been approved without the use of those source tests. In other words, data from any source tests after the approval of the ATIR~~Under rare instances, a source test may have been conducted prior to approval of ATIR. In such cases, However, if a facility has already conducted and completed the source test with an - approved source test protocol, and all supporting documentation is provided to AB 2588 Program staff, it may be considered for approval. staff will notify the facility in writing if these 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.~~ cannot be used in the HRA.

If a facility wishes to provide unapproved source test data ~~for informational purposes only~~, it must be presented in an alternate HRA for informational purposes only (i.e., as an appendix to the HRA). See Section 4.11 for information and requirements regarding alternate HRAs. 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.

1.3.3 Verifiable Emission Reductions

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

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

Examples of verifiable emission reductions include:

- Misreporting of throughput information, inaccurate emission factors, and incorrect emission calculation methodology. In order for this to be considered as a verified emissions reduction, the facility must provide documentation for the corrections, such as copies of the original records for throughput and calculation methodology to substantiate the corrected emissions. ~~provide ???? to show incorrect information previously used.~~

- 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 South Coast AQMD. 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 South Coast AQMD must be sent to AB 2588 Program staff.

- Air ~~p~~Ppollution control equipment which has been issued a ~~p~~Permit~~ to~~ C~~c~~onstruct, has been installed, and was in operation. A ~~Provide a~~ copy of the ~~permit~~Permit~~ to~~ ~~C~~c~~onstruct (and P~~p~~ermit~~ to~~ O~~o~~perate, if issued)~~, and show~~ calculations for emission reductions, and~~. Provide the~~ references for any emission factors used in the calculations must be provided. 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 South Coast AQMD 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.~~

~~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 South Coast AQMD requesting emission reduction credits and/or the surrender of South Coast AQMD 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.

1.3.4 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 South Coast AQMD staff the necessary documentation to be exempt from reporting requirements of the AB 2588 Program.

1.3.5 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~~decide whether the facility ~~should~~ shall submit an ATIR. Factors that must be

considered include the status of permits granted to the facility by South Coast AQMD 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.

1.4 Prioritization Procedure

The AB 2588 Program requires South Coast AQMD 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, South Coast AQMD'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 South Coast AQMD uses to determine that the facility may pose a significant risk to receptors. South Coast AQMD's Prioritization Procedure also includes adjustment factors for exposure period, averaging times, and the treatment of multipathway pollutants. The Prioritization Procedure is available at South Coast AQMD's website.[12]

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 the ranking: high priority, intermediate priority, and low priority. Facilities designated as high priority are notified by South Coast AQMD staff of their priority score ~~,~~and are 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~~categorized as "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 emissions inventory. Table 2 summarizes the priority score categories and the actions required by each category.

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

Table 1 — 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

1.4.1 Meteorological Stations

For prioritization purposes, data from the most representative meteorological station should be used. In most cases, this would be the nearest station by distance. However, an intervening terrain feature may dictate the use of an alternate station.

~~1.4.1~~1.4.2 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~~South Coast AQMD 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.~~

1.4.3 Priority Score Calculation

The primary factors that affect the priority score are the emissions inventory and distances to receptors. For more information on how the priority score is calculated, see the Prioritization Procedure at South Coast AQMD's website.12

1.5 Notification for High Priority Score Facilities and Next Steps

~~South Coast AQMD 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 South Coast AQMD staff~~Facilities with priority scores considered High Priority~~, the facility~~ will be informed~~,~~ in writing to prepare an ATIR or a VRRP (if eligible). South Coast AQMD staff may allow High Priority facilities to be re-prioritized after any errors or other problems with their quadrennial emissions report are corrected and verified. ~~The following sections discuss the criteria used for evaluating requests to reprioritize a facility.~~

Pursuant to South Coast AQMD Rule 1402 (e), South Coast AQMD staff may require the facility to prepare an ~~Health Risk Assessment (~~HRA~~)~~ if emissions levels from the facility have the potential to exceed the Notification Risk Level. ~~The South Coast AQMD Governing Board has adopted risk levels for purposes of public notification pursuant to the AB 2588 Program.~~ If the HRA determines that risks meet or exceed the Notification Risk Level, then public notification will be required. Additional

information regarding South Coast AQMD's public notification procedures are available in Section 4.9 and on the AB 2588 website.[13] In addition, if the HRA determines that risks meet or exceed the ~~South Coast AQMD Rule 1402 establishes a~~Action ~~r~~Risk ~~l~~Level~~s that require risk reduction~~, then a ~~Risk Reduction Plan~~RRP will also be required~~;~~. Both the Notification Risk Level and the Action Risk Level as defined by South Coast AQMD Rule 1402 ~~the levels~~ are summarized in Table 2 below ~~and the elements to include in a RRP are included in Appendix D of these Supplemental Guidelines~~. ~~Additional information regarding South Coast AQMD's public notification procedures are available on the website.~~[16]

Rule 1402 also includes a provision to allow facilities to participate in the Voluntary Risk Reduction Program. ~~If facilities choose to participate, they~~Participating facilities voluntarily reduce their health risk beyond the Action Risk Level to below the Voluntary Risk Threshold (note this is equivalent to the Notification Risk Level; see Table 2) 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 South Coast AQMD's Voluntary Risk Reduction Program are available on South Coast AQMD's website.[14]

[13] https://www.aqmd.gov/nav/about/public-notices/ab-2588-notices

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

Table 2 — Public Notification, Risk Reduction, and Voluntary Risk Reduction Levels[15]

Risk Level/Threshold	Cancer Risk	Non-cancer Risk	Cancer Burden
Public Notification Level	10 chances in-one-~~a~~ million	Hazard Index of 1	--
Action Risk Level	25 chances in-one-~~a~~ million	Hazard Index of 3~~*~~	0.5
Significant Risk Level	100 chances in-one-~~a~~ million	Hazard Index of 5	--
Voluntary Risk Threshold	10 chances in-one-~~a~~ million	Hazard Index of 1	--

~~2.~~

[15] See Rule 1402 for complete definitions as lead concentrations also apply for certain risk levels

2. Air Toxics Inventory Reports

2.1 ATIR Format

An ATIR shall be prepared by using the latest approved version of CARB's HARP. 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.

In general, an ATIR submittal should include a report summary, EIM data, and supporting documentation. See Appendix A for a list of required information for a complete ATIR submittal.

It is critical for a submitted ATIR to be as accurate as possible. The emissions inventory of an approved ATIR determines whether an HRA is required, which in turn determines whether public notification and risk reduction are required. If an HRA is necessary, then the emissions inventory from the approved ATIR will be used to calculate risk. With very few exceptions, once an HRA is required, the emissions inventory from the approved ATIR may not be changed. Source tests that are conducted after approval of the ATIR may not be used as part of the resulting HRA. For more on source tests and their usage in calculating emissions, see Section 1.3.2.

Any information that a facility deems as a trade secret or exempt from the public records act must be clearly marked. The same holds true for processes which can be identified as confidential in the Process Data tab in EIM.

2.1.1 ~~ATIR~~ Report Summary

The report summary summarizes the results and methodology of the ATIR. Important information about the facility and its processes is described here. Additionally, any significant changes between the AER and the submitted ATIR shall ~~also~~ be described here. Facility plot plans showing emission source locations, property line, and buildings shall be included. Any supporting documentation included in the submittal shall also be listed and described.

2.1.2 Emissions Inventory Module

The EIM is the emissions inventory database tool for HARP. An ATIR submittal must include an associated EIM file that describe facility, device, process, emissions, and stack data.

An EIM file shall provide a complete profile of each itemized emission. A device operates and generates emissions through a process. The emissions are calculated using process data, emission factors, and control efficiencies data. Each device is also connected to a release point in EIM. The database format uses a relational data structure that makes it possible to describe the emissions inventory. Not all source types are currently supported by EIM. For example, EIM does not have an option for circular area sources and polygon area sources. For these situations, the emissions for these sources must be described in the report summary and provided in the supporting documentation in as close a format to the EIM as possible. Please contact AB 2588 Program staff for questions on how to present data in a format that is not currently supported by EIM.

The emissions from each device and process should be clearly itemized instead of combined with other processes when possible. For example, a device that combusts more than one type of fuel should have a separate process for each type of fuel instead of combining all emissions from all types of fuel into one process. There are certain scenarios where entry to EIM may not be feasible. In such instances, a simplified version of the data may be inputted, with the actual calculations provided in the supporting documentation of the ATIR. Facilities shall contact AB 2588 Program staff to discuss these situations prior to doing so.

~~*2.1.1*~~*2.1.3 Supporting Documentation~~s~~*

All documents necessary for reproducing the results of the ATIR shall be included in the ATIR submittal, such as assumptions and information required to substantiate each emissions calculation. For example, source tests approved by South Coast AQMD or material safety data sheets that were used to derive emission factors must be included. Any emissions calculations that were done outside EIM shall also be included.

3. Air Dispersion Modeling

Air dispersion modeling is performed for the exposure assessment component of the HRA. In this ~~guideline~~chapter, ~~A~~ 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"[16] and~~/or~~ the ~~2015 OEHHA HRA Guidelines~~2015 OEHHA Guidance Manual.

3.1 Facility Description and Source Information

The HRA ~~should~~ must contain a brief description of the facility and its activities as shown in the detailed HRA outline provided in Appendix B. Table 3~~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~~ shall be provided showing all source locations ~~including their elevations above sea level~~, building dimensions, and the property boundary. The operating schedule, the maximum hourly emission rates, the annual average emission rates, and the source parameters listed in Table 4 are ~~necessary~~ required elements to accurately characterize the source emissions. Please refer to the detailed outline provided in Appendix B for additional information and guidance.

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

~~Table 2 —~~Table 3 — Required Facility Information

Information on the Facility and Its Surroundings
- Location (i.e., address and Universal Transverse Mercator (UTM) coordinates in World Geodetic System 1984 (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

~~Table 3 —~~Table 4 — Required Source Information

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~~flow
- 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

3.2 Model Selection and Model Options

All modeling files~~HRAs~~ prepared for the AB 2588 Program ~~must~~ shall use the most recent version of AERMOD~~HARP.,~~ U.S. EPA's air quality dispersion model~~,~~. AERMOD~~,~~ is ~~used by~~included in HARP for the exposure assessment.~~, but may also.~~ AERMOD can also be obtained from U.S. EPA's website or through third party software programs and be used in its standalone form ~~or third party software programs.~~ 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. 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.[17] Table 5 summarizes the default

[17] https://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide.pdf ~~https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models~~

dispersion modeling assumptions recommended by South Coast AQMD. ~~AERMOD-ready meteorological data are available on South Coast AQMD's website.~~

~~Table 4 —~~ Table 5 — Summary of South Coast AQMD 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 South Coast AQMD website. See Section 3.3.

~~AERMOD should be executed using the urban dispersion parameters (i.e., URBAN), which is~~ South Coast AQMD policy for all air quality impact analyses in its jurisdiction requires use of urban dispersion coefficient. The U.S. EPA regulatory default options ~~should~~ shall be used for all projects. If non-default options are used, a justification ~~must~~ shall be included ~~and SCAQMDSouth Coast AQMD staff approval is needed. We recommend that modelers~~ Please contact AB 2588 Program staff prior to using any non-default options.

3.3 Meteorological Data

South Coast AQMD has AERMOD-ready meteorological data for the South Coast Air Basin available on the South Coast AQMD 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.[18]

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~~ shall contact AB 2588 Program staff regarding the most representative meteorological station, if necessary. ~~The data are available on the following South Coast AQMD website~~

3.4 Receptor Grid

Air dispersion modeling is required to estimate (a) annual average concentrations and to ~~calculate~~locate the ~~Maximum Individual Cancer Risk (MICR),~~receptors showing the maximum ~~chronic HI~~cancer risks, the maximum non-cancer hazard indices (HI), the zones of impact, and

[18] https://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod ~~http://www.aqmd.gov/home/air-quality/meteorological-data/~~

~~excess~~ cancer burden and (b) peak hourly concentrations to calculate the health impact from substances with ~~acute~~ non-cancer acute health effects. ~~To achieve these goals, the~~All receptors shall be set to the elevation (i.e. no flagpole receptors), so that ground-level concentrations are analyzed.[19] For air dispersion modeling, an initial 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~~ centered on the facility with a maximum ~~impacted receptors (i.e., peak cancer risk and peak hazard indices) a grid~~ receptor spacing of 100 meters ~~or less must~~shall be used. ~~All receptors should be identified in UTM coordinates. Receptor grid points outside of the facility boundary must~~This initial 100 meter receptor grid shall be placed so that individual grid points are ~~placed~~located at UTM coordinates ending in "00" (e.g., grid point UTM East 572300 and UTM North 3731000). ~~Receptor~~This receptor grid shall be of sufficient extent to clearly identify the zone of impact (see Section 4.6 for discussion on zone of impact). Additional receptor grids with ~~less than 100 meter~~ finer spacing ~~must include~~may be required to identify the points of maximum impacts. If a finer receptor grid is warranted, the coarser grid ~~points at UTM coordinates ending in "00." Elevations must be provided for all receptor grids~~need not overlap with the finer grid. All receptors shall be defined in terms of UTM coordinates and a WGS84 spatial reference system.

Receptors on the facility boundary must be placed along the boundary ~~following the maximum~~using 20 meters spacing ~~requirements shown in Table 6.~~. Sensitive receptors must be identified~~.~~. Locations of the sensitive receptors shall also be provided by exact UTM coordinates. Elevations must be provided for all receptors~~.~~
using the AERMAP program provided by U.S. EPA in accordance to Section 3.6.

~~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~~

3.5 Source Data

~~-~~Emission sources are categorized into four basic types: point, area, volume, and open pit sources. Please refer to the AERMOD User Guide and the HARP ADMRT User Manual[20] for the required data for each type of source. Some types of sources may have special situations.

~~*3.4.1*~~*3.5.1 Point Sources*

Emission release points with raincaps may be modeled as a capped source using the POINTCAP option in AERMOD. Horizontal releases may be modeled using the POINTHOR option. ~~or which~~

[19] In instances where elevated receptor heights may be warranted, please consult with AB 2588 Program staff.
[20] https://ww3.arb.ca.gov/toxics/harp/docs2/harp2admrtuserguide.pdf

~~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~~ shall be consulted before proceeding with modeling.

~~*3.4.2*~~*3.5.2 Area Sources*

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~~ must be subdivided to achieve a 10 to 1 or less aspect ratio for all sub-areas.

The EIM module currently is not capable of handling polygonal area sources. If use of any polygonal or area sources is needed, these must be addressed outside of EIM. Facilities shall submit all documentation necessary for modeling any such area sources, separately from EIM files.

3.5.3 Volume Sources

Receptor placement is important for volume sources that have "exclusion zones." Concentrations may not be correctly calculated for receptors located within the exclusion zone. The exclusion zone for any volume source is defined as 2.15 times the initial lateral dispersion coefficient (sigma y) + 1 meter from the center of the volume source.

3.6 Elevation Data

The AERMOD modeling system includes AERMAP, which is a terrain data pre-processor. Terrain data, available from the United States Geological Survey (USGS), is used by AERMAP to produce terrain base elevations for each receptor and source and a hill height scale value for each receptor.

The most recent version of AERMAP shall be used to determine elevations for receptors, sources, buildings, and terrain. It is highly recommended that National Elevation Dataset (NED) data in GeoTIFF format be used as input into AERMAP, per the recommendation in the U.S. EPA's AERMOD Implementation Guide. A resolution of 1/3 arc-second (approximately 10 meters) is preferred, although 1 arc-second (approximately 30 meters) is also acceptable.

Although NED data is preferred as an input to AERMAP, Digital Elevation Model (DEM) data may still be used since the Air Dispersion Modeling and Risk Tool (ADMRT) module in HARP currently only supports DEM data. However, DEM data is static and has not been updated by USGS for a number of years. For facilities relying solely on HARP for dispersion modeling, DEM data will be allowed until the time when HARP is updated to support NED data.

4. Health Risk Assessments

4.1 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*~~2015 OEHHA Guidance Manual.[21] This guidance manual has undergone public and peer review, was endorsed by the California Scientific Review Panel ~~(SRP)~~, and released in final version ~~approved~~ by OEHHA in March 2015.

The ~~2015 OEHHA HRA Guidelines~~2015 OEHHA Guidance Manual[2] 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~~ As ~~described in the 2015 OEHHA HRA Guidelines,~~.

~~"~~As 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~~.~~ To promote consistency across the state for all facility risk assessments and allow comparison across facilities.")[22] ~~(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)~~

As such, South Coast AQMD requires that all HRAs for the AB 2588 Program ~~contain~~ include ~~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~~ shall 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 both ~~OEHHA, CARB, and SCAQMD~~South Coast AQMD and OEHHA.

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

[22] See Sections 2.5.3 and 8.1.1 of the 2015 OEHHA Guidance Manual~~https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0~~

4.1.1 Calculating Risk

~~SCAQMD requires that a~~All HRAs prepared for the AB 2588 Program ~~be prepared~~ in accordance with OEHHA and CARB guidance[2] ~~and~~ shall use ~~using~~ the latest approved version of HARP at the time of submittal. 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 chronic 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, 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 for residential exposures. In accordance with these guidelines, South Coast AQMD ~~recommends~~ requires ~~Derived Risk Calculations using~~use of 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.

4.2 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 the HRA~~all HRAs submitted to South Coast AQMD~~; a sample of the form can be downloaded from South Coast AQMD's AB 2588 Program website.[23] ~~.~~ 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~~ shall be sent to AB 2588 Program staff. The HRA ~~should~~ shall also be submitted electronically (i.e., PDF format). Any trade secret or other public records act exempt information must be clearly identified for possible redaction since HRAs and all other documents submitted to the AB 2588 Program staff are subject to public records requests.[24]

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

4.3 HARP

HARP is designed to meet the programmatic requirements of the AB 2588 Program~~-~~. ~~and t~~The ADMRT module is required to be used for all HRAs.~~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.~~"

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 6. Any emissions factor development, emission rate calculations, or approved source test protocol and reports must be submitted in standard readable electronic file format (e.g., in Microsoft Excel). For any items that have

[23] https://www.aqmd.gov/docs/default-source/aqmd-forms/AB2588/ab2588-hra-summary-form.pdf
[24] http://www.aqmd.gov/docs/default-source/default-document-library/Guidelines/pra-guidelines.pdf

previously been submitted to South Coast AQMD (such as source test reports)~~If these items have been attached to the AER report~~, please ~~refer to it in make~~include an appropriate reference in references section of the HRA report (see HRA format in Appendix B)~~the cover letter to avoid a redundant submittal~~.

~~Table 5 —~~Table 6 — Required Files ~~that must be provided with~~for HRA s~~S~~ubmittals

File Type	Notes
HRA Input HRA Output	All files created by CARB's ~~Air Dispersion Modeling and Risk Tool (~~ADMRT~~)~~ Module
Dispersion Modeling Input Dispersion Modeling Output	All AERMOD and BPIP files used in the HRA including terrain data. ~~All meteorological data files including any AERMET files if default South Coast AQMD meteorological data is not used.~~
Emission Inventory ~~Input~~Module ~~Emission Inventory Output~~	The transaction file ~~All files~~ created by CARB's ~~Emission Inventory Module (~~EIM~~)~~, only if it is different from the approved ATIR.
Emission Calculations	Provided in standard electronic format (e.g., Excel) and documented references (i.e. sample calculations); applicable only if emissions vary from the approved ATIR.
~~Source Tests~~	~~Only South Coast AQMD approved source tests can be used. South Coast AQMD approval must be included in submittal.~~
Air Monitoring Data	~~Any monitoring data used in the HRA should be provided.~~ South Coast AQMD station name and meteorological version; otherwise, all meteorological data files including any AERMET files if default South Coast AQMD meteorological data is not used.

4.4 South Coast AQMD's Default Assumptions for HRAs

All HRAs prepared for South Coast AQMD 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 7 and Table 8 summarizes the default ~~HRA~~ assumptions required by South Coast AQMD for preparation of a Tier 1 HRA. Deviations from these defaults must be approved by South Coast AQMD 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~~ shall be used for the non-inhalation pathways, ~~. The HRA should assume default values in HARP for all pathways with the exception of~~ and the dermal pathway ~~which should assume~~shall use 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~~ shall 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~~ shall be used for estimating cancer risks at residential receptors. To estimate ~~chronic~~ non-cancer chronic risks at residential receptors the "OEHHA Derived Method" risk calculation option ~~should~~ shall be used. The ~~8-hour chronic~~ non-cancer 8-hour chronic risk ~~should~~ shall also be calculated for ~~residential~~ receptors for any source that operates at least 8 hours per day~~, and~~ 5 days per week.

Population exposure analyses shall be included with the HRA. The number of people who reside within the 1 x 10^{-6}, 1 x 10^{-5}, and 1x 10^{-4} cancer risk isopleths shall be provided. For non-cancer exposure, the number of people who reside within the 0.5, 1, and 5 ~~hazard index~~HI isopleths shall likewise be reported. Use of HARP software to calculate the population exposure is preferred. Use of alternative methods must first be discussed and granted approval for use by the AB 2588 Program staff.

Furthermore, a cancer burden analysis shall be provided. The area of impact shall first be delineated from the results of the residential cancer analysis. All census receptors within the 1 x 10^{-6} area of impact[25] shall be identified. A residential cancer risk over a 70 year exposure is then determined for these census receptors. The cancer burden is the sum of the 70 year cancer risk at each census receptor multiplied by the population for each census receptor.

[25] Th~~is~~e zone of impact is determined using the 30 year exposure duration.

Table 7 — Summary of South Coast AQMD Tier 1 HRA Scenarios

Analysis Type	Exposure Period	Intake Scenario
Residential cancer	30 year exposure	RMP using derived method
Worker cancer	25 year exposure	OEHHA derived method
Residential non-cancer chronic	N/A (REL only)[26]	OEHHA derived method
Worker non-cancer chronic	N/A (REL only)[26]	OEHHA derived method
Non-cancer chronic 8-hr	N/A (REL only)[26]	OEHHA derived method
Population wide cancer burden	70 year exposure	RMP using derived method

~~Table 6 —~~Table 8 — Summary of South Coast AQMD ~~Health Risk Assessment Guidance~~Mandatory Exposure Pathways and Settings

Parameter	Assumptions
~~Multipathway~~Pathway	
Inhalation	Required for ~~residential and worker~~ all receptors
Dermal	Required for ~~residential and worker~~ all receptors
Soil	Required for ~~residential and worker~~ all 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~~Rate	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~~

[26] Based on Reference Exposure Levels; see 2015 OEHHA Guidance Manual for detail

~~Method" risk calculation option should~~ shall ~~be used for estimating cancer and non-cancer chronic risks at worker receptors.~~

The ~~air~~ concentration ~~that~~ to which ~~the neighboring~~ workers are exposed ~~breathe when present at work is~~may be 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~~However, the off-site worker ~~is~~may be impacted ~~by the toxic emissions~~ only during work hours. Thus, the model-predicted concentrations must be adjusted by a multiplying factor, the worker adjustment factor (WAF), ~~(worker adjustment 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).[27] ~~Please refer to the 2015 OEHHA HRA Guidelines~~2015 OEHHA Guidance Manual ~~for further information.~~

~~The adjustment factors for all possible operating schedules are provided in Tables 5.1 and 5.2 of SC~~AQMD ~~*Permit Application Package "N" For Use in Conjunction with the Risk Assessment Procedures for Rules 1401, 1401.1, and 212.*~~ 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 ~~worker adjustment factors~~WAF factors ~~s in Tables 5.1 and 5.2 should~~shall only be applied when estimating worker cancer risks and non-cancer chronic 8-hour HI for facilities that do not operate continuously. The adjustments are not applicable to residential cancer risks and to residential or worker non-cancer chronic ~~non-cancer~~ risks.

4.5 Receptors for Maxima~~l~~~~um~~ Exposure~~ed Individual~~ and Point of Maximum Impact

The HRA shall include evaluations to show the following receptors: the Maximally Exposed Individual Resident (MEIR); the Maximally Exposed Individual Worker (MEIW~~R~~); and the Point of Maximum Impact (PMI). As part of the ~~evalution~~evaluation~~To identify the location of the maximum exposed individual, it is necessary to examin~~,~~e~~ current land use and allowable land use shall be identified ~~in the vicinity of the point of maximum impact~~ (residential, commercial/industrial, or mixed use). ~~Currently, t~~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)~~HIs must be provided for both the most exposed residential and the most exposed worker ~~commercial/industrial~~ receptors. The non-cancer acute HI must be provided for the offsite ~~point of maximum impact (~~PMI~~)~~. Additionally, cancer

[27] See Sections 4.12.2.1, 4.12.3.1, and 5.4.1.2 5.4.1.4 from the 2015 OEHHA Guidance Manual.
See also Tables 5.1 and 5.2 of South Coast AQMD *Permit Application Package "N" For Use in Conjunction with the Risk Assessment Procedures for Rules 1401, 1401.1, and 212.* here:
~~http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf~~https://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf

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 s~~Section 4.6.

4.6 Zone of Impact

Using air dispersion modeling and risk analysis, a zone of impact shall be determined for cancer and for non-cancer risks. ~~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, South Coast AQMD requires that~~ For cancer risk, the zone of impact ~~the HRA must~~shall encompass the entire geographic area subject to an added lifetime cancer risk (all pathways) of one chances in~~-~~one~~-~~million or greater (i.e. $\geq 1.0 \times 10^{-6}$). Likewise, ~~For~~ for non-cancer risks, the analysis must bound the area subject to an HI greater than or equal to one half (≥ 0.5). The air dispersion modeling and risk analysis process may be required to be repeated with a larger receptor grid in order to correctly determine the zone of impacts.

4.7 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 a discussion of the location, zoning and potential future land uses shall be included ~~with~~ in the HRA~~must be discussed~~. ~~Updated information on current land uses is requested~~ shall be provided ~~when updated emission estimates are reported to South Coast AQMD.~~

4.8 Maps

Maps showing the location of the facility and sources within the facility in relation to the zone of impact must be submitted. ~~Dispersion modeling for sources should~~ shall 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~~ shall be plotted on the ~~-~~street map provided using HARP at cancer risk intervals of 1, 10, 25, and 100 chances in~~-~~one~~-~~ ~~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 receptors of maximal exposure and the ~~point of maximum impact PMI~~ 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.

4.9 Public Notification

Public notification shall be conducted when risk is found to exceed the Notification Risk Level of Rule 1402. See the *South Coast AQMD Public Notification Procedures for Facilities Under the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402*[28] for details on the requirements and the notification process.

~~4.9~~

4.10 ~~Use of~~ Emissions Differing from ~~after the Quadrennial~~ Base Year Inventory~~Reporting Year~~

~~HRAs in t~~The AB 2588 Program takes a 'snapshot' of a base year emissions inventory, which is ~~determined by the HRA request letter. This base year is commonly~~ typically the most recent quadrennial emissions reporting year. The ATIR is developed for th~~is~~e base year and the HRA is conducted using this ATIR. In some cases, more recent emissions are substantially different than the base year emissions of a facility due to modifications. Facilities ~~can~~ may 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~~provided 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 as supplemental information in the notification materials.

The facility ~~should~~ shall 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 ~~annual~~ emissions following reductions.~~after the proposed future reductions are complete~~. The two risk estimates must be presented separately in the HRA submitted to South Coast AQMD. The risk estimate determined from emissions not derived from the base year inventory shall be shown in a supplemental appendix to the HRA. ~~The dual estimate provides a backup in case reductions proposed by the facility are not implemented as planned.~~ Note that ~~any new emissions or~~ emission increases~~,~~ due to process changes and/or new equipment~~,~~ must also be quantified ~~and included in any HRA which incorporates emission reductions since the quadrennial emissions inventory was prepared~~.

4.11 Uncertainty Analyses and Alternate HRA

The 2015 OEHHA ~~HRA Guidelines~~Guidance Manual describes uncertainty analyses ~~(or~~ and ~~conducting of~~ HRAs with alternate assumptions~~) that~~ (i.e., alternate HRAs). These may be ~~provided~~included only at the discretion of ~~SCAQMD. SCAQMD~~South Coast AQMD. Factors for allowing ~~The~~ an Alternate HRA ~~is~~ include whether the information provides value and if underlying assumptions are acceptable to staff. ~~Regardless, any~~ Alternate HRAs ~~for informational~~

[28] https://www.aqmd.gov/docs/default-source/planning/risk-assessment/pn_procedures.pdf

~~purposes only and is~~are not ~~reviewed or~~ approved by South Coast AQMD and are not allowable ~~; neither will it be used~~ for ~~comparison to Rule 1402 risk levels~~for determining the Rule 1402 Action Risk Level or Notification Risk Level.

Any alternate analysis that South Coast AQMD staff ~~will allow such analyses to be included as one of~~allows shall meet 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~~following requirements:

- ~~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, discussion, and information relating to an alternate analysis (including any unapproved source test data) must appear under a separate title such as "Alternate Analysis" in an appendix to the HRA.

    - If an alternate HRA is ~~mixed~~ integrated together with the HRA Tier-1 analysis and not presented in a separate appendix of the document as required by OEHHA and ~~SCAQMD~~South Coast AQMD guidelines, the HRA will be considered unacceptable and returned to the facility owner/operator for revision.

    - ~~Failure to comply with these guidelines are grounds for rejection of 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.~~

- 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.

Failure to comply with these guidelines are grounds for rejection of the primary HRA in accordance with Rule 1402(e).

5. Risk Reduction Plans

5.1 Risk Reduction Measures

An ~~Risk Reduction Plan~~RRP shall propose risk reduction measures that reduce or eliminate risk associated with emissions of ~~toxic air contaminants~~TACs that are real, permanent, quantifiable, and enforceable. Letters of intent or internal memos mandating new company policy are not considered verifiable emission reductions.

Risk reduction measures shall be as specific as possible with details on what actions will be taken to reduce or eliminate risk. Examples of risk reduction measures include permit modifications of a device generating a significant portion of the ~~toxic air contaminants~~TACs contributing to the risk, installation of additional air pollution control devices, and conducting source tests to demonstrate that the facility's emissions will result in risks below the Action Risk Level.

~~*5.1.1 Implementation Schedule*~~

~~*5.1.2 Time Extensions*~~

~~a~~

5.2 Updated ATIR and HRA

The RRP shall include an updated ATIR and HRA that includes the proposed risk reduction measures. The updated ATIR and HRA must demonstrate that the risk reduction measures will reduce or eliminate risk to below the Action Risk Level.

5.3 Progress Reports

Progress reports shall be submitted 12 months after RRP approval. The progress reports shall describe any progress that has been made in implementing the risk reduction measures and provide an updated timeline to full implementation. See Appendix E for a full list of items to be included in a Risk Reduction Progress Report

6. Potentially High Risk Level Facilities

Potentially High Risk Level facilities are those facilities that have been determined to have a likely potential to either exceed or has~~s~~ve exceeded the Significant Risk Level as specified in Rule 1402 (g)(1). Facilities are designated as Potentially High Risk Level facilities by South Coast AQMD. Prior to the official designation, staff will meet with the facility representatives to obtain any relevant information. The designation is in written form and will include information substantiating the designation such as findings from the evaluation of relevant ambient monitoring data, source test data, compliance data, emissions data as well as site visits.

Following the designation, a Potentially High Risk Level facility must submit the Initial Information for the ATIR, Early Action Reduction Plan, ATIR, HRA and RRP. With the exception of the Early Action Reduction Plan, facilities that are notified under the traditional path must also submit these documents. However, Potentially High Risk Level facilities are required to submit the HRA and RRP on an expedited timeline of 180 days following designation. The purpose of the expedited timeline is to quickly reduce potential health risk to the public.

The Early Action Reduction Plan shall include the facility name, location address, and South Coast AQMD facility identification number. The devices and processes that account for the estimated risk from the facility shall be identified. The Early Action Reduction Plan shall also identify risk reduction measure(s) to be implemented to quickly reduce emissions that drive risk. Note that these risk reduction measures may also be proposed for the final RRP. Examples of risk reduction measures include housekeeping provisions, process changes, physical modifications, as well as operational curtailments. These measures are not required to be permanent but must remain in place for the duration stated in the approval for the Early Action Reduction Plan. Finally, a schedule for implementing the specified risk reduction measures shall be provided. The schedule may be enforced as part of the approval for the Early Action Reduction Plan.

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
- Report emission control equipment and efficiency by source and by substance.
- Facility total emission rate by substance for all ~~emittants~~ devices including the following information (2015 OEHHA Guidance Manual 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~~lb/hr and g/s)
- ~~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 emissions inventory methods indicating whether emissions are measured or estimated
- A list of ~~S~~supporting documentation such as source test reports ~~and South Coast AQMD approval letter if emissions are measured~~or material safety data sheets included in the submittal along with a description of each supporting document and which emissions refer to it

2. **~~Use HARP's Emissions Inventory Module~~EIM**:~~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 numbers used by the facility
- Source names
- South Coast AQMD permit numbers if available
- Source locations using UTM coordinates (in meters) with a WGS84 projection
- Source base elevations (m)
- Source heights (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 rates (ACFM) if applicable
- Stack gas exit temperatures (K)
- Number of operating hours per day
- Number of operating days per week
- Number of operating weeks per year
- Annual process rates for each device and process
- Maximum hourly process rates for each device and process
- Controlled and uncontrolled emission factors for each ~~toxic air contaminant~~TAC reported

3. **Supporting Documentation (note these are separate from EIM):** emission calculations and documents used to substantiate emissions calculations. This includes, but is not limited to:

- Source test reports approved by South Coast AQMD
- Material safety data sheets
- Manufacturer specifications
- Emissions calculations in which a simplified version was inputted into EIM. The full detailed emissions calculations and the basis for calculations shall be included here. Provide the spreadsheet calculations if they were used. Provide separate sample calculation details to substantiate methodology as needed. If spreadsheets were used for emissions calculations, they should be provided ~~them here~~
- Reference sources for emission factors that do not use South Coast AQMD defaults
- Control efficiencies used in emissions calculations and the references and calculations used to determine the percentage. Clearly indicate control efficiencies used for each specific ~~which~~ emissions calculations ~~use which control efficiencies~~

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~~ location address
- South Coast AQMD 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~~lb/hr and ~~lbs~~lb/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 location addresses, where available) and description of any sensitive receptors that are above a cancer risk of ten chances 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 chances in one million risk contour), if applicable. Also show the 10, 25, and 100 chances in one million risk contours, if applicable. If the cancer burden is greater than 0.5, then a map showing the 1 chances in one million risk contour based on a 70-year lifetime ~~should~~ shall 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 Guidance Manual[2]

- 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 non-cancer 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

Report the following information regarding the facility and its surroundings:

- Facility name
- South Coast AQMD 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~~ shall 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 the 2015 OEHHA Guidance Manual[2]. 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 (e.g., EIM release ID)
- 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 emissions inventory methods indicating whether emissions are measured or estimated.

Report emission rates for each toxic substance, grouped by source, in table form including the following information (see Appendix K of the 2015 OEHHA Guidance Manual). 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~~lb/yr ~~and g/s~~). Radionuclides are reported in curies/yr
- Maximum one~~-~~hour emissions for each substance (~~lbs~~lb/hr ~~and g/s~~). Radionuclides are reported in millicuries/yr
- Report facility total emission rates by substance for all ~~emittants~~ devices including the following information (see Appendix K of the 2015 OEHHA Guidance Manual). This information should be in the main body of the report
- Substance name and associated CAS number
- Annual average emissions for each substance (~~lbs~~lb/yr and g/s). Radionuclides are reported in curies/yr
- Maximum one-hour emissions for each substance (~~lbs~~lb/hr and g/s).

~~Radionuclides are reported in millicuries/yr~~

B.3 Air Dispersion Modeling

- The HRA ~~should~~ shall indicate the source and time period of the meteorological data used. ~~Include the meteorological data electronically with the HRA.~~ South Coast AQMD has AERMOD-ready meteorological data for available stations in the South Coast Air Basin available for ~~. This data can be~~ download~~ed~~ from South Coast AQMD's website. Submit the meteorological data if it is not provided by South Coast AQMD

- Include proper justification for using the meteorological data. The nearest representative meteorological station ~~should~~ shall be ~~chosen for modeling~~used. 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~~ shall 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 within the zone of impact~~required by South Coast AQMD~~, include tables that summarize the annual average concentrations calculated for all substances
- For the PMI, MEIR, MEIW, and any sensitive receptors required by South Coast AQMD, 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~~ shall 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 acute 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 chronic (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 chances in ~~–~~ a one ~~–~~ 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 non-cancer 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

References to other documents cited within HRA shall be included in this section. References to standard guidance documents are not required.

IV. Appendices

The appendices ~~should~~ shall 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~~ shall be provided electronically (e.g., uploaded to South Coast AQMD's OnBase system or on USB ~~Flash~~ flash ~~Drive~~drive). All appendices and the information they contain ~~should~~ shall 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~~non-Tier 1 evaluations with supporting information)

Computer Files

The list of electronic files that must be submitted for the HRA are found in Table ~~7~~6 ~~of Chapter 3~~ of this document. They must be useable (i.e., unencrypted and can be opened by native applications such as HARP programs~~can be opened and run in AERMOD/HARP if file is an AERMOD/HARP file~~). Any supplementary files ~~should~~ shall 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[23] ~~should~~ shall 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 South Coast AQMD 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) ~~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 chances ~~in~~ n-one-~~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 chances in-~~a~~-one-~~-~~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. South Coast AQMD 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 South Coast AQMD 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~~ are required to follow the *Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program* ~~that are available online~~. The owner or operator is responsible for preparing ~~a~~an RRP that identifies the risk reduction measures ~~that should~~to be implemented. Implementation of these measures ~~will in order to reduce~~will reduce the impact of the total facility emissions below the Action Risk Levels.

ELEMENTS OF A RISK REDUCTION PLAN

1. The name, address, and South Coast AQMD 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 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 South Coast AQMD 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~~TACs 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 South Coast AQMD 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 South Coast AQMD 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
2015 OEHHA Guidance Manual	Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments
AB 2588	Air Toxics "Hot Spots" Information and Assessment Act
ADMRT	Air Dispersion Modeling and Risk Tool
AER	Annual Emissions Reporting
ATIR	Air Toxics Inventory Report
CARB	California Air Resources Board
CAS	Chemical Abstracts Service
DEM	Digital Elevation Model
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
NED	National Elevation Dataset
ODC	Ozone Depleting Compound
OEHHA	Office of Environmental Health Hazard Assessment
PMI	Point of Maximum Impact
REL	Reference Exposure Level
RRP	Risk Reduction Plan
SB 1731	Facility Air Toxic Contaminant Risk Audit and Reduction Plan
SIC	Standard Industrial Code
South Coast AQMD	South Coast Air Quality Management District
TAC	Toxic Air Contaminant
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VRRP	Voluntary Risk Reduction Plan
WAF	Worker Adjustment Factor
WGS84	World Geodetic System 1984

AB 2588 Toxic Hot Spots
2019 Annual Report

Board Meeting
September 4, 2020

South Coast AQMD

Introduction

- AB 2588 Program Annual Report summarizes
  - Activities implemented under AB 2588 “Hot Spots Act” consistent with state law
  - South Coast AQMD activities to reduce toxic air contaminants
  - Future activities relating to AB 2588
  - Updates to AB 2588 Guidance
- H&S Code §44363 requires a public hearing to present results of Annual Report

South Coast AQMD

Goals and Objectives of AB 2588

- Collect emissions data for air toxics
- Identify facilities with localized impacts
- Determine potential health risks
- Provide public notification
- Reduce significant risks

AB 2588 is one piece of South Coast AQMD's overall approach to air toxics

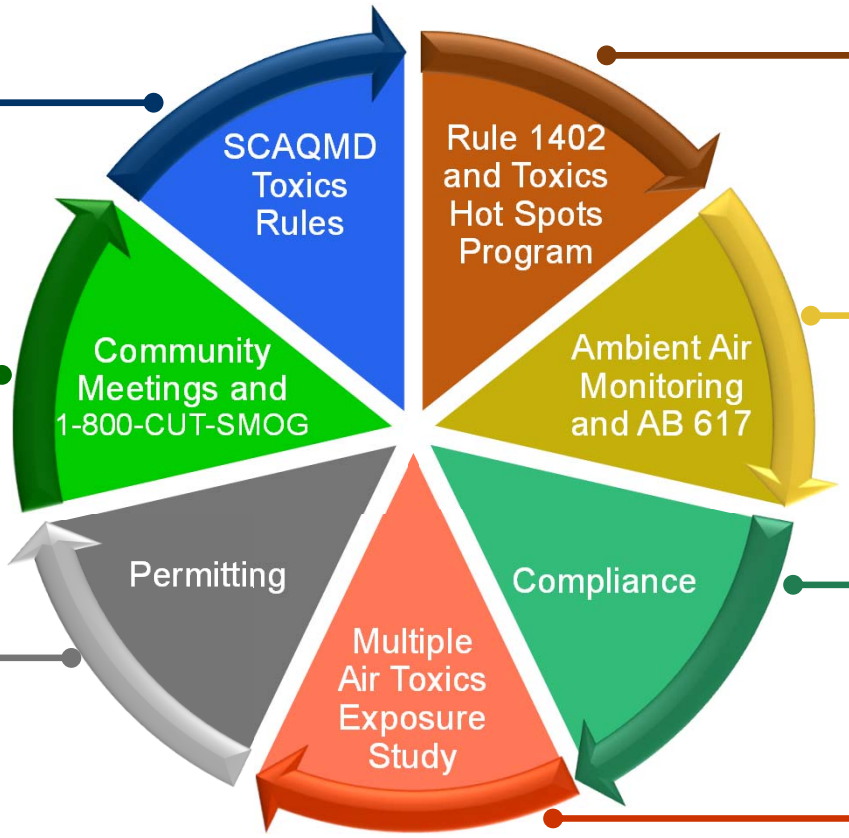
South Coast AQMD

AB 2588 is one Component of the Air Toxics Program

Over 25 rules to reduce toxic air contaminants

Community meetings and direct public communication 1-800-CUT SMOG

All new and modified sources are evaluated for toxics during permitting (Rules 1401 and 1401.1



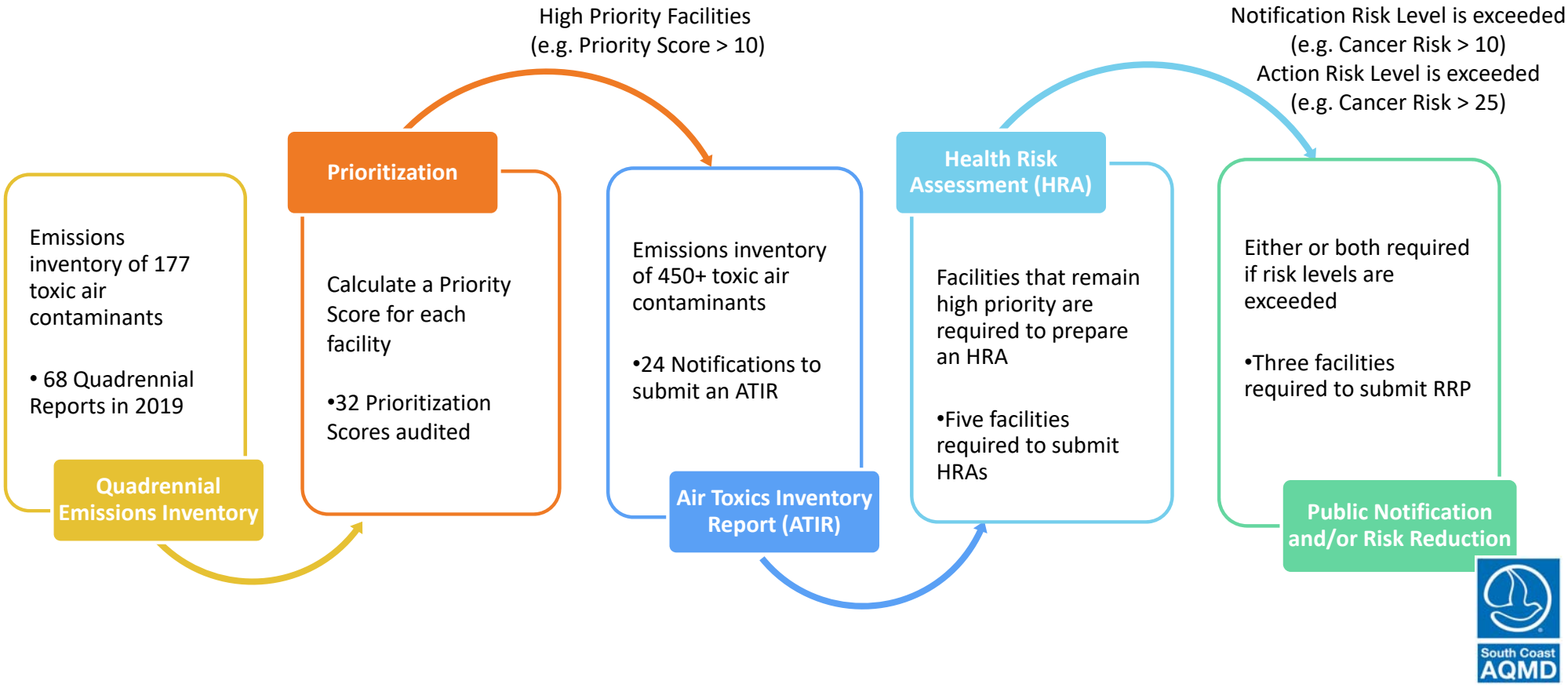
Requires Health Risk Assessments, Risk Reduction Plans, and Public Notification

Ambient monitoring near facilities and community monitoring

Ensures facilities are complying with South Coast AQMD rules and regulations

Measures regional toxic air contaminants throughout air basin

AB 2588 Traditional Process for 'Core' Facilities



Typical Pathways for Facilities in Rule 1402

Traditional Approach

Facilities with cancer risks <100 chances in-one-million

- Air Toxic Inventory Report
- Health Risk Assessment
- Public Notification (if cancer risks > 10 in-one-million)
- Risk Reduction Plan (if cancer risks > 25 in-one-million)

Voluntary Risk Reduction Program

Facilities with cancer risks <100 chances in-one-million and approved Health Risk Assessment

- Air Toxic Inventory Report
- Voluntary Risk Reduction Plan committing to reduce cancer risks below 10 in-one-million
- Modified Public Notification

Potentially High Risk Level

Facilities with potential cancer risks >100 chances in-one-million

- Early Action Reduction Plan
- Air Toxic Inventory Report
- Health Risk Assessment
- Public Notification (if cancer risks > 10 per million)
- Risk Reduction Plan (if cancer risks > 25 per million)

South Coast AQMD

Reviews in 2019

123
Reviews

3

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

112

Traditional AB 2588
- 68 Quadrennial Emission Reports
- 31 Air Toxics Inventory Reports
- 10 Health Risk Assessments
- 3 Risk Reduction Plans

5

Voluntary Risk Reduction Program
- 5 Voluntary Risk Reduction Plans

3

Potentially High Risk Level Facilities
- 1 Health Risk Assessment
- 2 Risk Reduction Plans

South Coast AQMD

Other Key Toxics-Related Activities in 2019

Rulemaking

Amended Rule 1407 to further reduce emissions of arsenic, cadmium, and nickel by establishing new requirements such as control efficiency requirements and mass emissions limits.

Adopted Rule 1480 to require facilities designated as a Metal Toxic Air Contaminant Monitoring Facility to conduct air monitoring and sampling.

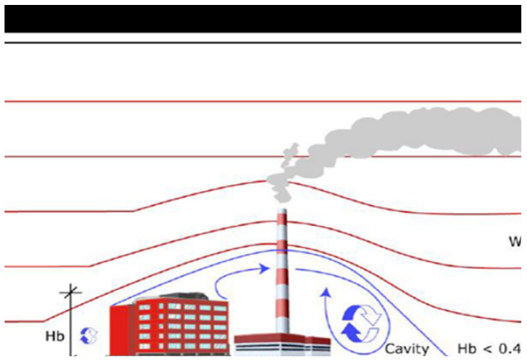
Special Monitoring

Continued air monitoring in Paramount

Continued mobile monitoring campaign in the Greater Los Angeles Area

Conducted air monitoring in West Rancho Dominguez Area

Rules 1420.2 & 1466



Reviewed air dispersion modeling for lead emissions from three facilities under Rule 1420.2

Reviewed requests for alternative PM10 limits for one facility under 1466 to ensure toxics in PM10 pose no adverse health effects

South Coast AQMD

Projected 2020 Toxics-Related Activities

- Audit quadrennial emissions inventories for approximately 130 facilities
- Track development of potential additions or revisions to health values by OEHHA
- Work with CARB and through the CAPCOA Toxics and Risk Managers Committee (TARMAC) regarding:
  - Updates to the AB 2588 guidelines, including review of additional chemicals to be added for evaluating risk
  - Amendments to CTR (Criteria and Toxics Reporting) guidelines that will overlap with the updated AB 2588 guidelines
- Work with CARB to develop or update HRA guidance for Industrywide Sources (i.e., gasoline dispensing facilities)

South Coast AQMD

Updates to AB 2588 Guidances

- Facility Prioritization Procedures for the AB 2588 Program
  - Correction to calculation of cancer score for workers and calculation of non-cancer score
  - Provide additional clarification on worker adjustment factor (WAF)
- Public Notification Procedures
  - Provide additional clarification on the requirements for conducting public notification and public meetings
- AB 2588 and Rule 1402 Supplemental Guidelines
  - Provide additional clarification for implementation of the AB 2588 Program and Rule 1402 to ensure consistency with guidance in other AB 2588 documents

South Coast AQMD

Recommendation

- Receive and File the 2019 Annual Report on the AB 2588 Program
- Approve Updates to:
  - Facility Prioritization Procedure
  - Public Notification Procedures
  - AB 2588 and Rule 1402 Supplemental Guidelines