

**EASTERN KERN  
AIR POLLUTION CONTROL DISTRICT**



**2017  
ANNUAL AB 2588 AIR TOXICS REPORT**

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District Office  
2700 "M" Street, Suite 302  
Bakersfield, CA 93301  
(661) 862-5250 Fax (661) 862-5251  
[ekapcd@kerncounty.com](mailto:ekapcd@kerncounty.com)  
[www.kernair.org](http://www.kernair.org)

Author: Wunna Aung  
Air Quality Engineer II

Reviewed By: Glen E. Stephens, P.E.  
Air Pollution Control Officer

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## **OVERVIEW OF AIR TOXICS INFORMATION AND ASSESSMENT ACT**

The Air Toxics “Hot Spots” Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987, and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics “Hot Spots” Act are the followings:

- 1) Collect and inventory air toxics emissions data;
- 2) Determine if these emissions are causing localized impacts high enough to expose individuals or population groups to significant health risks; and
- 3) Notify nearby residents if there are significant risks.

There are two broad classes of facilities within the AB 2588 program – “core” facilities and “industry-wide” facilities. Industry-wide facilities are generally small businesses with relatively similar emission profiles. To provide some relief from the burden of reporting, ARB, in cooperation with the California Air Pollution Control Officers Association (CAPCOA), has developed three industry-wide risk assessment guidelines. The three industries covered by industry-wide risk assessment guidelines are: auto body shops, gasoline service stations, and dry cleaning facilities.

The “Auto Body Shop Industry-Wide Risk Assessment Guidelines” was approved by CAPCOA on September 26, 1996, and the “Gasoline Service Station Industry-Wide Risk Assessment Guidelines” was approved in December, 1997 (see “Hot Spots” Risk Assessment at <https://www.arb.ca.gov/ab2588/riskassess.htm>). The “Perchloroethylene (Perc) Dry Cleaner Industry-Wide Risk Assessment Guidelines” will probably not be finalized because the use of Perc is being phased out. On January 25, 2007, the California Air Resources Board (ARB) approved amendments to the Dry Cleaning Air Toxic Control Measure (ATCM) and adopted requirements for Perc manufacturers and distributors. The amendments will, over time, phase out the use of Perc dry cleaning machines and related equipment by January 1, 2023.

Other facilities that are not included in “industry-wide” facilities are “core” facilities. AB 2588 requires those facilities to prepare toxics emission inventory plans (TEIP) and toxic emission inventory reports (TEIR). To accomplish this, California Air Resources Board (ARB) amended Emission Inventory Criteria and Guidelines for the Air Toxics “Hot Spots” Program in August 27, 2007 with effective date of September 26, 2007 (see “Hot Spots” Inventory Guidelines at <https://www.arb.ca.gov/ab2588/2588guid.htm>). In the guidelines, an initial inventory of air toxic emissions and assessment of risks is required for facilities with the followings:

- 1) Facilities whose criteria pollutant emissions (particulate matter, oxides of sulfur, oxides of nitrogen, and volatile organic compounds) are 25 tons per year or more;
- 2) Facilities whose criteria pollutant emissions are 10 tons per year or more but less than 25 tons per year; and
- 3) Facilities emitting less than 10 tons per year of criteria pollutants which belongs to classes defined in Appendix E of ARB’s Emission Inventory Guidelines.

These guidelines place facilities into categories for purposes of update reporting based on calculated risk and exempt “low level” facilities from further update reporting. For facilities still subject to the program, these guidelines specify information to be reported, emission test methods to be used, and toxic substances to be addressed.

Eastern Kern Air Pollution Control District (District) also utilizes air toxics analyses conducted as part of District Rule 210.1 New and Modified Source Review (NSR) process, in-lieu of requiring separate quantification of air toxics emissions to satisfy AB 2588. Guidelines require the NSR permit contain conditions to ensure calculated toxic risk is not exceeded. Providing for integration of the AB 2588 with District's permitting program is a time and cost savings both for the District and affected facilities, while neither public health nor the intent of either program is compromised.

## **ASSESSMENT OF HEALTH RISKS**

Potential public health risk of each facility subject to the program is quantified by using dose-response data. Dose is dependent upon: emission rate of each toxic substance; the toxicity (reference exposure level) of the substance source's stack characteristics, including height, diameter, gas temperature, and gas velocity; meteorological conditions, including ambient temperature, wind speed, and mixing height; and characteristics of the surrounding terrain. Response is based upon "potency slope factors" derived by the U.S. EPA or California Office of Environmental Health Hazard Assessment (OEHHA) from health impact studies that have undergone public and peer review. Dose-response data are developed from animal and/or human studies. Health risk can be quantified using three different methods:

- 1) a prioritization score,
- 2) a screening level risk assessment, or
- 3) a refined risk assessment modeling.

All three methods require use of ARB-approved mathematical dispersion models and U.S. EPA and/or OEHHA approved potency values. Dispersion models are computerized because thousands of calculations are often necessary to yield significant results. In order to assist the districts in prioritizing facilities, CAPCOA, in cooperation with OEHHA and ARB, developed the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines in July 1990. The purpose of the guideline is to provide suggested procedures in performing risk assessment. In 2015, CAPCOA updated these guidelines to incorporate the changes made to the OEHHA risk assessment methodology. The final version of CAPCOA Air Toxics "Hot Spots" Facility Prioritization Guidelines was made available to the public in August 2016 (website: <http://www.capcoa.org>).

Determining a facility's "prioritization score" is the least complex and most health conservative way of characterizing risk. Prioritization scoring procedures defined in above CAPCOA guidelines are only the first steps in a conservative risk representation for a facility and also incorporate many health conservative assumptions to insure potential risk is not underestimated. It considers only emission rate, pollutant potency, and proximity of receptors and assumes no dispersion (dilution). It also assumes all emissions are emitted from one point and calculates prioritization scores from that point to nearest property boundary. The Prioritization Scores (PS) for a facility falls into one of three categories: Low Priority, Intermediate Priority and High Priority. For facilities that are designated as High Priority, the next step is a detailed health risk assessment.

Due to its inherent conservatism, if the prioritization score indicates significant risk, a more detailed risk assessment model is calculated. The "screening model" is the next level of assessment, and includes assumptions to ensure, regardless of source location, assessed risk will not be underestimated. Like the prioritization score model, the "screen model" does

not account for multiple release points; however, it does account for dispersion of pollutants using meteorological data and provides for additional detail regarding emission release characteristics. Results of a screening dispersion analysis are used as input for an exposure assessment model to yield cancerous and non-cancerous health effects.

To best assess air quality impact of a facility on its nearby receptors, a “refined risk assessment model” is used. This model is capable of representing the combined effect of multiple emission points, varying terrain, and multiple receptors at discrete locations. The dispersion model used in refined modeling also utilizes local meteorological data. Refined risk analyses are complex and costly, but produce the most true-to-life assessment of risk. “Refined risk assessment, also, utilizes conservative assumptions; therefore, calculated risk is not underestimated.

### **DISSEMINATION OF TOXIC EMISSIONS AND RISK INFORMATION**

All information collected during this process is disseminated to the public through public meetings where results are presented and discussed. Additionally, the Act specifies all persons located in areas where significant adverse health effects may occur, be individually notified of this risk and permitted an opportunity to discuss estimated risk with the District and the emitting facility. Levels of risk determined by District’s Board of Directors to be significant for purposes of AB2588 public notification are: 1) a cancer risk exceeding 10 in 1 million, or 2) a ratio of the chronic or acute exposure to the reference exposure level (“hazard index”) exceeding 1.0.

These levels of significance were also chosen by most other California air districts and are recommended by CAPCOA. Currently, no facility in the District exceeds cancer risk of 10 in 1 million or a hazard index of 1.0.

As with all emissions information accumulated by the District, Eastern Kern’s air toxic emission inventory is public information and available for public review. The procedure of adoption and modification of the guidelines and fee regulations is a public process and includes noticing, workshops, periods for public comment, and eventual adoption at a public District board meeting. Before District procedures were Board-adopted in January 1994, the draft was subject to a public process. All affected facilities were notified in writing, and the public was notified (an announcement was published in the District newsletter and “The Bakersfield Californian”) of a workshop in Mojave. Public comments were received for 30 days following the workshop, and the revised document was mailed to all parties attending the workshop. The District adoption hearing was “noticed” in the District newsletter and “The Bakersfield Californian” and public comments were received at the District Board adoption hearing. These Public Notification Procedures provide a mechanism to establish a level of significance for cancerous and non-cancerous health risk and identify the procedure by which individuals exposed to significant risk will be notified of this risk by both the District and the facility. Notified individuals are offered the opportunity to attend a public meeting at which results are further discussed. Although the District has these procedures, they have not been used because no East Kern facility poses health risk high enough to trigger public notification.

This annual report ranks and identifies facilities according to cancer and non-cancer risk posed, and describes toxic control measures. After presentation at a public hearing, it is

distributed to the Kern County Board of Supervisors, city councils in the District, the County Health Officer, and ARB.

In the fall of 1998, ARB increased availability of toxics inventory data to the public by posting these data on its web site ([www.arb.ca.gov/ab2588/ab2588.htm](http://www.arb.ca.gov/ab2588/ab2588.htm)), ARB regularly updates this information. The District constantly reviews Eastern Kern data and revises the inventory to reflect changes made at facilities within the District. This Annual Report includes toxic information and data revised from the following facilities: NASA Dryden Flight Research Center, Commodity Resources and Environmental, and Scales Composites, LLC.

## **EVOLUTION OF AIR TOXICS PROGRAM**

The Air Toxics Program has been implemented for over two decades (first reports were submitted in 1990), and much information has been gathered about toxic emission sources and health impacts of air pollutants. The program has been modified over time as better information has become available. In May 1996, the “ARB Emission Inventory Criteria and Guidelines” were modified, and in September 1996, Assembly Bill 564 became law exempting additional low risk facilities from the program. Revised guidelines and mandates of AB564 now base air toxic reporting requirements on the calculated health risk associated with a facility’s toxic emissions rather than total annual emissions of “criteria” pollutants (oxides of nitrogen, oxides of sulfur, particulate matter, carbon monoxide, and volatile organic compounds). Therefore, after initial submittal of a toxic emission inventory plan and report, only those facilities determined to pose intermediate or high level health risk are required to submit a quadrennial update report. This update report, if required, must quantify the following: 1) emissions from units which have an emission increase of greater than 10%; 2) emissions from units emitting a newly listed air toxic air contaminant; 3) emissions of a pollutant for which the unit risk value has been revised; or 4) emissions from new and modified emission units which may result in the facility changing reporting categories due to increased health risk.

With regards to AB 2588 fees, rather than billing all facilities on an annual basis, as had been previously established in ARB’s Fee Regulations, AB 564 requires fees to be collected from intermediate facilities during the year in which a quadrennial report is reviewed. District fees are assessed based on the time associated with each facility in a given calendar year.

Per the revised guidelines, facilities determined to be low level risk are exempt from future reporting requirements and fees, provided: 1) the nearest receptor is no closer, 2) there are no changes to risk calculation procedures, and 3) there are no changes to health effect values which would result in the facility being reclassified as intermediate or high level risk.

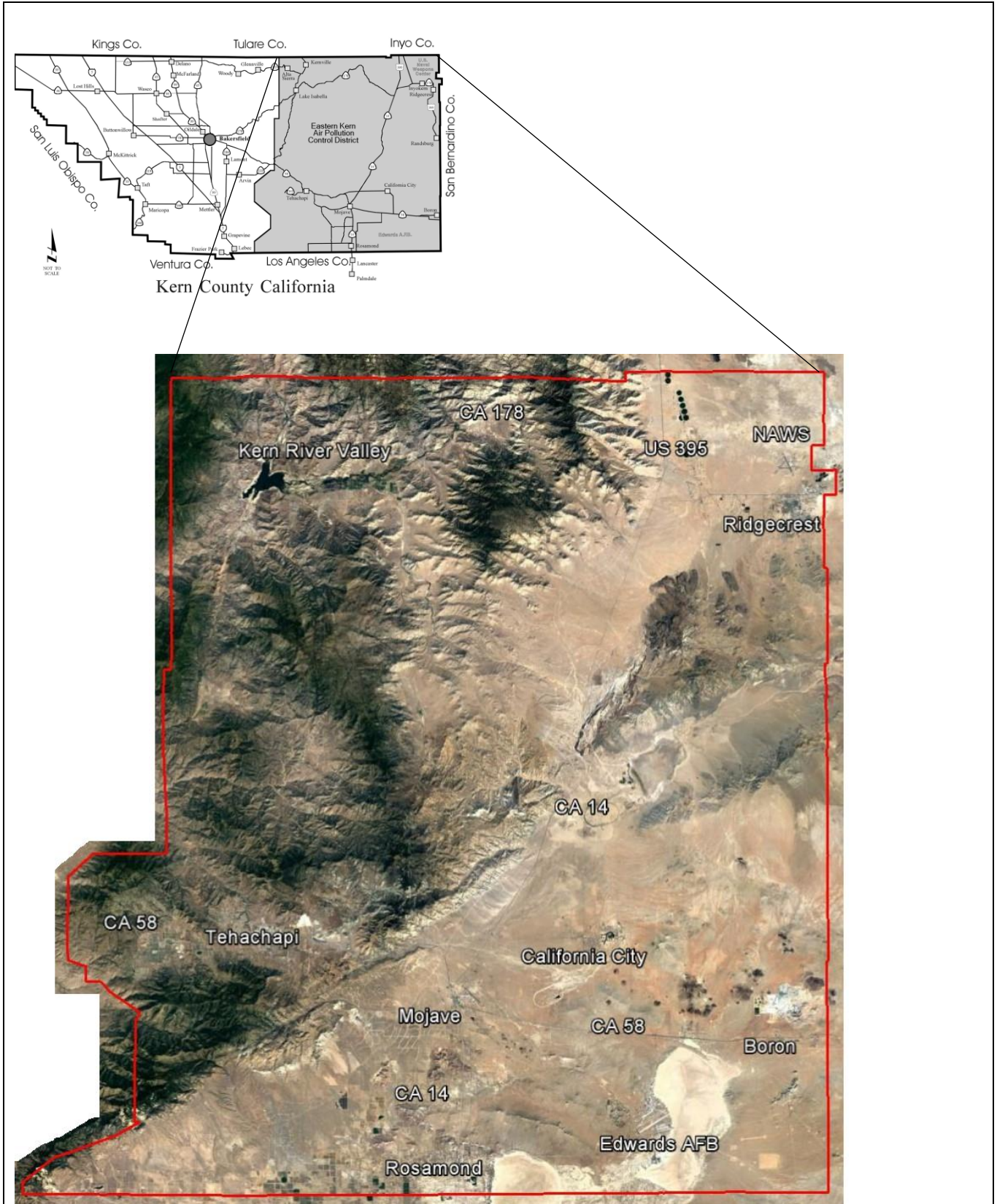
Furthermore, facilities commencing operation or increasing emissions after June 1, 1989, can qualify for exemption from air toxic reporting and fees if the facility will be included in an industry-wide emission inventory, for example, gas stations, auto body shops, and dry cleaners.

Lastly, if a new or modified facility has been subject to New and Modified Source Review (District Rule 210.1), and as part of the permitting process, the District performed a health risk assessment (HRA) of all potential toxic emissions.



**CURRENT STATUS OF EASTERN KERN TOXIC EMISSION SOURCES**

Eastern Kern Air Pollution Control District has jurisdiction of the geographic area shown below.



The District's jurisdiction encompasses 3,704 square miles and has a population of approximately 128,000. The area includes two military bases (Edwards Air Force Base and Naval Air Weapons Station at China Lake), and the cities and communities of Lake Isabella, Tehachapi, Mojave, Rosamond, California City, Ridgecrest, and Boron in the high desert region of Kern County. Overall, the District's sparsely populated area provides significant dispersion potential for most sources within the District's jurisdiction.

District has assessed potential health risk with the implementation of the August 2007 revision to ARB's "Emission Inventory Criteria and Guidelines Report." Each air toxics emission source within the District was placed into one of four categories, based upon potential health risk created by the facility.

**Category No. 1 (High Level Risk)**

There are no East Kern facilities in this category. In other words, no health risk assessment (HRA) prepared for an East Kern facility indicates an increased cancer risk exceeding 10 in 1 million or a total hazard index exceeding 1.0.

**Category No. 2 (Intermediate Level Risk)**

The following facilities have either: 1) an approved health risk assessment showing increased cancer risk is less than 10 in 1 million and a total hazard index (THI) less than 1.0, or 2) a prioritization score less than 10.0, but more than 1.0 (health risk assessment not required).

**Table 1**

Facility Name	Health Risk Assessment		Prioritization Score	
	Cancer	Non-Cancer	Cancer	Non-Cancer
Edwards Air Force Base	0.13 in 1 million	0.81	3.0	2.6
Innovative Coatings Technology (INCOTEC)	7.0 in 1 million	0.05	20.5	0.71
Lehigh Southwest Cement Co.	9.8 in 1 million	0.11	51.97	0.79
California Portland Cement Co.	0.5 in 1 million	0.03	2.0	0.52
National Cement Company	0.3 in 1 million	0.02	3.14	0.36
Naval Air Weapons Station	2.5 in 1 million	0.10	HRA Completed In-Lieu of Prioritization Score	
PRC-DeSoto International	1.0 in 1 million	0.03	6.51	1.63
Scaled Composites	0.8 in 1 million	1.00	3.01	4.44
U.S. Borax, Incorporated	9.82 in 1 million	0.50	28.71	0.15
California Correctional Institution (Tehachapi)	HRA Not Required		4.52	0.01

California Portland, National Cement, Lehigh Cement, INCOTEC, PRC-Desoto International, Naval Air Weapons Station (NAWS) have submitted their toxic emission inventories for 2016. Based on their toxic emissions, cancer and non-cancer risks from health risk assessments did not exceed more than 10 in 1 million as described in Table 1. NASA Dryden Flight Research Center, Scaled Composites, and Commodity Resources & Environmental (CR&E) have submitted their Toxics Emission Inventory Plans; however, only Scaled Composites' Toxics Emission Inventory Report has been submitted and its HRA scores are updated. Health Risk Assessments and Prioritization scores from CR&E will be unchanged.



### Category No. 3 (Low Level Risk)

The following facilities have either: 1) a prioritization score equal to or less than for 1.0 for both carcinogenic and non-carcinogenic pollutants, 2) an approved health risk assessment showing less than 1 in 1 million increased cancer risk and total hazard index less than 0.1 for each toxicological endpoint, 3) a Rule 210.1 health risk analysis showing cancer risk less than 1 in 1 million and total hazard index less than 0.1, or 4) a “de minimis” classification as defined in ARB’s Guidelines.

**Table 2**

Facility Name	Health Risk Assessment		Prioritization Score	
	Cancer	Non-Cancer	Cancer	Non-Cancer
Kemira Water Solutions	HRA Not Required		0.00	0.01
Trical, Inc.	HRA Not Required		0.01	0.70
NASA Dryden Flight Research Center	HRA Not Required		0.31	0.04
Commodity Resource & Environmental	HRA Not Required		0.08	0.02
Indian Wells Valley Cremation	HRA Not Required		Exempt as “de minimis”	
Kern County Waste Management (Lake Isabella Landfill)	HRA Not Required		0.47	0.023
Kern County Waste Management (Ridgecrest Landfill)	HRA Not Required		0.38	0.018
Kern County Waste Management (Tehachapi Landfill)	HRA Not Required		0.00	0.204
Ridgecrest Regional Hospital	HRA Not Required		Exempt as “de minimis”	
Tehachapi Cummings County Water District (TCCWD) - Pump Plant #2	HRA Not Required		0.67	0.42
TCCWD - Pump Plant #3	HRA Not Required		0.67	0.42
TCCWD - Pump Plant #4	HRA Not Required		0.70	0.71
All Wastewater Treatment Plants	HRA Not Required		Exempt as “de minimis”	

De minimis: The probability of health risk to population is very small, and; therefore, is not considered worth the trouble of wasting public time and funds to calculate prioritization score.

### Category No. 4 (New Facilities and Facilities With Increased Criteria Pollutant Emissions)

During 2017 reporting year, District staff evaluated hundreds of applications for ATC subject to Rule 210.1 (NSR). The majority of these projects had no significant impact on facility toxic air contaminant (TAC) emissions. Some of the projects with significant toxic emissions are facilities proposing or installing diesel piston engines. Although, diesel engines were considered an insignificant criteria pollutant emissions source, it was determined in the year 2000 that diesel exhaust has significant non-carcinogenic (acute and chronic) and carcinogenic health risk from diesel particulate matter (DPM). However, all diesel engines permitted have an overall carcinogenic risk of less than 1 in 1 million and an overall non-carcinogenic risk of less than 1.0. Natural gas and liquefied petroleum gas (LPG) fired engines emit significantly less toxic air contaminants (TACs).

Summary of diesel, LPG and natural gas fired engines permitted during calendar year 2017 is listed on Table 3 below, these do not include agricultural engine registrations.

**Table 3**

<b>Rating Range (Brake horsepower)</b>	<b>Number of units</b>
50 – 99	16
100 - 299	12
300 - 599	14
600 - 699	1
700 - 799	0
800 - 899	0
900 - 999	0
1000 - 4999	5
5000 - 10000	0
10000 or greater	0
<b>Total</b>	<b>47</b>

In addition to engines permitted during calendar year 2017, new facilities that emit toxic air contaminants were permitted during 2017. Projects include:

Surface Coating Operations:

There were two new surface coating operations permitted in the District during 2017. Scaled Composites, LLC installed two surface coating operations at their facility located in Mojave. The facility uses coatings that contain TACs; therefore, a prioritization score was obtained for the estimated emissions from the proposed operations. A prioritization score shows low priority; therefore, proposed operations will not pose a significant health risk to the community at large. The other surface coating operations are modifications to existing permits such as replacing the paint spray booth while there is no increase in gallons of coatings used. Therefore, prioritization score for such modifications does not increase and remain low priority.

Other Miscellaneous Operations:

Other projects include natural gas fired boilers, airless-vacuum solvent cleaning operation, abrasive blasting operation, and concrete batching operation. Those operations emit TACs; however, their prioritization scores are low because of more stringent control technologies and distant to nearest receptors. Therefore, those operations do not impose health risks to surround community within the District.

**Health Risk Assessments: Cal Portland, National Cement, and Lehigh Cement**

Health risk assessments (HRAs) for three cement plants in the District were based on toxic emissions generated during 2016. The purpose of the HRAs is to estimate potential off-site human health impacts attributable to toxic emissions from the facilities' operations and compare them with the District Notification Levels under AB 2588. HRAs were based on

toxic emissions from the following areas of emissions from the cement manufacturing facilities:

### **Emissions Sources**

- Kiln
- Grinding
- Quarry
- Material Through Crusher
- Loading/Dumping
- Raw Material Handling and Storage Piles
- Raw Mill
- Kiln Feed and Blending
- Fuel System
- Finish Mills
- Shipping

Over fifty (50) different TACs were utilized to determine the risks for three cement facilities. However, because of different throughputs and control technologies, toxic emissions vary from facilities to facilities. Numerical results from HRAs were updated in Table 1 [above, Category No. 2 (Intermediate Level Risk)]; overall, the results of their HRAs indicate that cancer risks and non-cancer risks estimation for individuals who may be exposed to toxic emissions from CalPortland, National and Lehigh cement facilities under existing operational conditions and who reside, work, or attend school in areas surrounding facilities **do not** exceed the Notification Levels (cancer greater than 10 in 1 million and sum of acute and chronic greater than 1.0) established by the District.

### **PRC DeSoto International Health Risk Assessment Report**

PRC DeSoto is a surface coating manufacturer, mainly for the aerospace industry, located in Mojave. PRC DeSoto completed their TEIR for 2016. Based on their toxic emissions, the District completed HRA in accordance with new 2015 OEHHA Air Toxics Guidance Manual, ARB's Hotspots Analysis Reporting Program (HARP2), Lakes Environmental AERMOD software, and 2016 emission data.

HRA was based on emissions from the following sources at facility:

### **Emission Sources**

- Diesel engines with fire pumps
- Boilers
- Oil heater
- Dust collectors associated with mixing equipment
- Cooling towers associated with reactors and mixing equipment
- Diesel engines with generators
- Spray booths
- Solvent tank truck

Twenty-nine different TACs were analyzed to determine the health risks from the facility. Numerical results for the HRA are updated in Table 1 [above, Category No. 2 (Intermediate Level Risk)]; overall, the results of HRA indicates that cancer risks and non-cancer risks estimation for nearest off-site workers **do not** exceed the Notification Levels (cancer greater than 10 in 1 million and sum of acute and chronic greater than 1.0) established by the District.

### **Innovative Coating Technologies Corporation (INCOTEC)**

Incotec specializes in providing metal treatments for critical components used in aerospace, fastening and transportation industries. The facility is located in Mojave. Incotec completed their TEIR for 2016. Based on their toxic emissions, the District completed HRA in accordance with new 2015 OEHHA Air Toxics Guidance Manual, ARB's Hotspots Analysis Reporting Program (HARP2), Lakes Environmental AERMOD software, and 2016 emission data.

HRA was based on emissions from the following sources at facility:

#### **Emission Sources**

- Paint spray booths
- Dip coating operations
- Vapor spray degreasers
- Distillation units

A total of sixty-two different TACs were analyzed to determine the health risks from the facility. Numerical results for the HRA are updated in Table 1 [above, Category No. 2 (Intermediate Level Risk)]; overall, the results of HRA indicates that cancer risks and non-cancer risks estimation for nearest off-site workers **do not** exceed the Notification Levels (cancer greater than 10 in 1 million and sum of acute and chronic greater than 1.0) established by the District.

### **Naval Air Weapons Station (NAWS)**

NAWS supports the Navy's research, development, acquisition, testing and evaluation (RDAT&E) of cutting-edge weapons systems for the fighter jets. It is located in China Lake near the city of Ridgecrest.

HRA was based on emissions from the following sources at the base:

#### **Emission Sources**

- Paint spray booths
- Natural gas fired boilers
- Gasoline, diesel and propane engines
- Degreasing and solvent cleaning operations
- Gasoline storage and dispensing operations
- Abrasive blasting operations

About 90 different TACs were reported and analyzed to determine the health risks from the facility. Numerical results for the HRA are updated in Table 1 [above, Category No. 2 (Intermediate Level Risk)]; overall, the results of HRA indicates that cancer risks and non-cancer risks estimation for nearest off-site receptors **do not** exceed the Notification Levels (cancer greater than 10 in 1 million and sum of acute and chronic greater than 1.0) established by the District.

### **Industry-Wide Sources**

The three industry-wide sources/facilities determined by ARB are: auto body shops, gasoline service stations, and dry cleaning facilities. ARB developed individual industry-wide risk assessment procedures for those three facilities.

Based on "Auto Body Shop Industry-Wide Risk Assessment Guidelines", all auto body facilities were found to be low priority.

In December 2013, ARB updated the emission factors for gasoline dispensing facilities (GDF). The District process seven (7) GDF applications/modifications during 2017. Based on their throughputs, all applications/modifications have low prioritization scores.

Dry Cleaning ATCM, to phase out use of perchloroethylene (Perc) dry cleaning machines and related equipment by January 1, 2023, has started to phase in. Currently, there are four (4) dry cleaning facilities operating in the District. Only one facility still utilizes perchloroethylene and the other three utilize non-perc solvent. Current evaluation procedures show all dry cleaning facilities are of low risk with carcinogenic health risk of less than 1 in a million and non-carcinogenic Hazard Index is less than 1.0.

### **RISK REDUCTION REQUIREMENTS**

Senate Bill 1731, health risk reduction requirements, was signed into law in 1992 as an adjunct to the Air Toxics "Hot Spots" inventory and assessment requirements. This law requires facilities that pose a significant risk to prepare Risk Reduction and Audit Plans. Risk Reduction and Audit Plans are usually prepared on a facility-by-facility basis; however, ARB has developed ATCM for certain industry types. State law provides these ATCM to be enforced by each local district. Categories identified for ATCM include, for example, diesel piston engines, dry cleaners, medical waste incinerators, nonferrous metal melting, cooling towers using hexavalent chromium, and ethylene oxide sterilizers. Affected sources within the District are now complying with these ATCM. Internet links to ARB's ATCM regulations can be found at <http://www.arb.ca.gov/toxics/atcm/atcm.htm>.

To date, no sources in the District have been required to prepare Risk Reduction and Audit Plans as no facility to date has exceeded Board-adopted significance levels requiring public notification and preparation of Risk Reduction and Audit Plans. (See Page 3 for discussion of risk notification guidelines.)

Diesel emissions continue to be a serious health concern. District requirements to utilize tiered engines, requirement facilities utilize ARB diesel, and assisting facilities to reduce diesel particulate matter (DPM) emissions through the Carl Moyer Grant Program will reduce effects of diesel exhaust.

## **MINIMIZING AIR TOXIC EMISSIONS FROM NEW AND MODIFIED FACILITIES**

In 1974, the District's Board of Supervisors adopted Rule 210.1 (New and Modified New Source Review), last revised in May of 2000. Implementation of this rule has been instrumental in minimizing toxic emissions from new and modified facilities because Rule 210.1 requires all new and modified facilities to utilize Best Available Control Technology (BACT). BACT is applied to criteria pollutant emissions, including oxides of nitrogen (NOx), volatile organic compounds (VOC) and PM. By early 1982, six years before passage of AB2588, the District was actively involved in assessing expected health risk associated with new and modified facilities pursuant to Rule 419 and Section 41700 of the California Health & Safety Code. Since June of 1993, the District has utilized Cal EPA "Guidelines for New and Modified Sources of Toxic Pollutants" to determine if a project is approvable in terms of health risk. This analysis meets criteria specified in the 1997 revision to Cal EPA's "Emission Inventory Criteria and Guidelines for the Air Toxics Hot Spots Program" which allow a district to conduct an alternate evaluation for new and modified sources subject to District permits, i.e., a non-AB2588 process evaluation. Where applicable, the District gives applicants of new projects the choice of complying with the Air Toxics Program either through the permitting process or through submission of an inventory plan and report.

In addition to the District and ARB, the EPA adopts regulations to reduce TAC emissions. EPA utilizes National Emission Standard for Hazardous Air Pollutants (NESHAPs) regulations to reduce TAC emissions from industries with potential of having significant health risk.

## **FUTURE OF THE AIR TOXICS PROGRAM**

In July 2015 ARB released a document called Risk Management Guidance for Stationary Sources of Air Toxics. The document provides guidance that Air Districts may elect to use for incorporating the Office of Environmental Health Hazard Assessment's (OEHHA) new health risk assessment methodology into their stationary source permitting and AB2588 Air Toxic Hot Spots programs. The document also supersedes ARB's Risk Management Guidelines for New and Modified Sources of Toxic Air Pollutants (1993).

For some sources, overall the revised risk assessment results in higher estimated potential cancer risk than would have been calculated with the 2003 OEHHA risk assessment methodology for the same level of emissions and conditions. The new residential potential inhalation cancer risk from the new OEHHA methodology is approximately 1.5 to 3 times higher than was estimated using the 2003 methodology. In addition to aforementioned increase, there are additional increases in potential cancer risk estimates when risk assessments include multiple pathways of exposure (e.g., ingestion of soil or crops, dermal exposure, etc.).

The revised guidelines are to provide air districts with suggested procedures in prioritizing facilities into high, intermediate, and low priority categories as required by the AB2588.

According to CAPCOA progress report, toxic emissions have decreased by 80% over the past 30 years. The District plans to continue to assist in this effort by implementing applicable guidelines and regulations set by state and federal agencies. Additionally, using CAPCOA's 2015 Risk Management Guidance for Stationary Sources of Air Toxics guidelines, the District



is planning to revise Regulation II – Permits (List and Criteria) by increasing carcinogenic health risk threshold to 10 in one million and non-carcinogenic (acute and chronic) health risk threshold to 1.0.

## **SUMMARY**

The District's goal and the purpose of air toxics control measures is to reduce health risks to levels deemed acceptable when weighed against the benefit to the public of the activity producing the risk. When weighing risk versus benefit, overall health risk posed by a facility must be considered rather than the fact an individual process may use or emit a substance that has very high unit risk value, for example, dioxin or chromium. In other words, even though a facility may emit a highly toxic substance, if the emission rate is low and dispersion is good, health risk can be low, i.e., acceptable. Dispersion is a function of air flow (wind patterns) and distance to a receptor (person). Any facility with potential to emit toxic substances in significant quantities is required to provide highly efficient methods of controlling these emissions as well as provide a method of continuously monitoring and ensuring compliance with required air pollution control measures. A facility with potential to emit these substances in very small quantities provides no greater risk (and often much less) to nearby residents than these residents exposing themselves to by engaging in day-to-day activities. For example, health risk resulting from living adjacent to a freeway, walking across the street, riding in a car, flying in an airplane, practicing poor eating and/or drinking habits or by smoking exceed health risk posed by Eastern Kern industrial facilities.

No facility in Eastern Kern County poses an increased cancer risk of more than 10 in 1 million after 30 years of exposure. This value can be put into perspective by considering risk posed by some other active and passive events in our lives. Using information from the National Center for Health Statistics it was determined: the risk of death by exposure to smoke, fire, and flames is 10 in 13,440, the risk of death by firearms discharge is 10 in 66,090, and the risk of death by lightning is 10 in 1.3 millions.

Generally, development of the unit risk value for a toxic pollutant consists of identifying carcinogenic, chronic, or acute effects on the most sensitive animal species tested and then using this as the expected impact on humans. Consequently, unit risk values are very health-conservative, and, as a result, health risk assessment procedures required to be followed for the District's Air Toxics Program result in very health conservative assessments of risk.