

**EASTERN KERN
AIR POLLUTION CONTROL DISTRICT**



**2015
ANNUAL AB2588 AIR TOXICS REPORT**

November 10, 2016

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OVERVIEW OF AIR TOXICS INFORMATION AND ASSESSMENT ACT

The Air Toxics Information and Assessment Act became law in 1987 when Governor Deukmajian signed Assembly Bill 2588 (AB2588). The purpose of the program is to: 1) inventory air toxics emissions, 2) determine if these emissions are causing localized ambient concentrations of air toxics high enough to expose individuals or population groups to significant health risk, and 3) inform the public of significant risk.

To accomplish this, an initial inventory of air toxic emissions and assessment of risk was required of all facilities: 1) emitting greater than 10 tons/yr of “criteria” pollutants (oxides of nitrogen, volatile organic compounds, oxides of sulfur, and particulate matter) and/or 2) certain “named” categories of facilities emitting less than 10 tons/yr of criteria pollutants, but handling materials which could pose significant risk. (See Page 4 for changes to these requirements.)

During the past 29 years, types of facilities having potential to emit significant levels of air toxics have been identified and their impact on health risk has been quantified. Consequently, the most recent (August 27, 2007) California Air Resources Board (ARB) Air Toxics Guidelines list specific facilities subject to air toxics emissions inventorying and reporting (see Emission Inventory Criteria and Guidelines for the Air Toxics "Hot Spots" Program Report, Appendix C – web site: <http://www.arb.ca.gov/ab2588/2588guid.htm>). 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. The final version of the Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments developed by the Office of Environmental Health Hazard Assessment (OEHHA) and ARB was made available to the public in February of 2015. OEHHA, earlier, developed three Technical Support Documents (TSDs) in response to this statutory requirement, which provided the scientific basis for values used in assessing risk from exposure to facility emissions. The three TSDs describe non-cancer risk assessment (derivation of acute, 8-hour and chronic reference exposure levels), derivation of cancer potency factors, and exposure assessment methodology including stochastic risk assessment.

State Guidelines now allow local air districts, such as Eastern Kern Air Pollution Control District (District), to utilize air toxics analyses conducted as part of its Rule 210.1, New and Modified Source Review (NSR) process, in-lieu of requiring separate quantification of air toxics emissions to satisfy AB2588. Guidelines require the NSR permit contain conditions to ensure calculated toxic risk is not exceeded. Providing for integration of AB2588 with District’s permitting program is a time and cost savings for both the District and affected facilities, while neither public health nor the intent of either program is compromised.

Some of the District’s smallest emitters are subject to the AB2588 program, for example auto body shops, dry cleaners, and gasoline retailers. To provide some relief from the burden of reporting, these sources are identified in the Program as “industry-wide” sources. ARB, in cooperation with the California Air Pollution Control Officers Association (CAPCOA), has adopted and continues to develop health risk guidelines, risk reduction plans, and audit plans that Districts may utilize to assess, reduce, and verify toxics emissions from industry-wide sources. The “Auto Body Shop Industry-Wide Risk Assessment Guidelines” was approved

by CAPCOA September 26, 1996, and the “Gasoline Service Station Industry-Wide Risk Assessment Guidelines” was approved in December, 1997 (Appendix E updated in November 2001). The “Perchloroethylene (Perc) Dry Cleaner Industry-Wide Risk Assessment” will probably not be finalized because the use of Perc is being phased out. On January 25, 2007, 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.

ASSESSMENT OF RISK

Potential public health risk of each facility subject to the program is quantified using dose-response data. Dose is dependent upon: emission rate of the 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. Environmental Protection Agency (U.S. EPA) or OEHHA from health impact studies that have undergone public and peer review. Dose-response data are developed from animal and/or human studies. Currently, the “Air Toxics Hot Spots Program Risk Assessment Guidance Manual for Preparation of Health Risk Assessments” (Guidance Manual), published by the California Environmental Protection Agency (Cal-EPA) and OEHHA, August 2003, is utilized for preparing health risk assessments. The Guidance Manual is a concise description of algorithms, recommended exposure variables, cancer, and non-cancer health values needed to perform a health risk assessment. The Guidance Manual supersedes risk assessment methods presented in “CAPCOA Air Toxics Hot Spots Program”, Revised 1992; and “Risk Assessment Guidelines, October 1993.”

Health risk can be quantified using three different methods: 1) a “prioritization score,” 2) a screening level risk assessment, or 3) 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.

Determining a facility’s “prioritization score” is the least complex and most health conservative way of characterizing risk. This procedure incorporates 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 located nearest the property boundary.

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 review and 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 facilities 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), 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. During the 2015 reporting year (this Annual Report is based on 2014 and 2015 data, reported in 2015 because of the time required for sources to gather, process, and submit data), updates were made at Trical, Inc. in Mojave and U.S. Borax in Boron.

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 since then. 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 (TAC); 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 AB2588 fees, rather than billing all facilities on an annual basis, as had been previously established in ARB’s Fee Regulations, AB564 requires fees to be collected from intermediate facilities during the year in which a quadrennial report is reviewed. District fees, if assessed, are limited to \$125 per facility.

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.

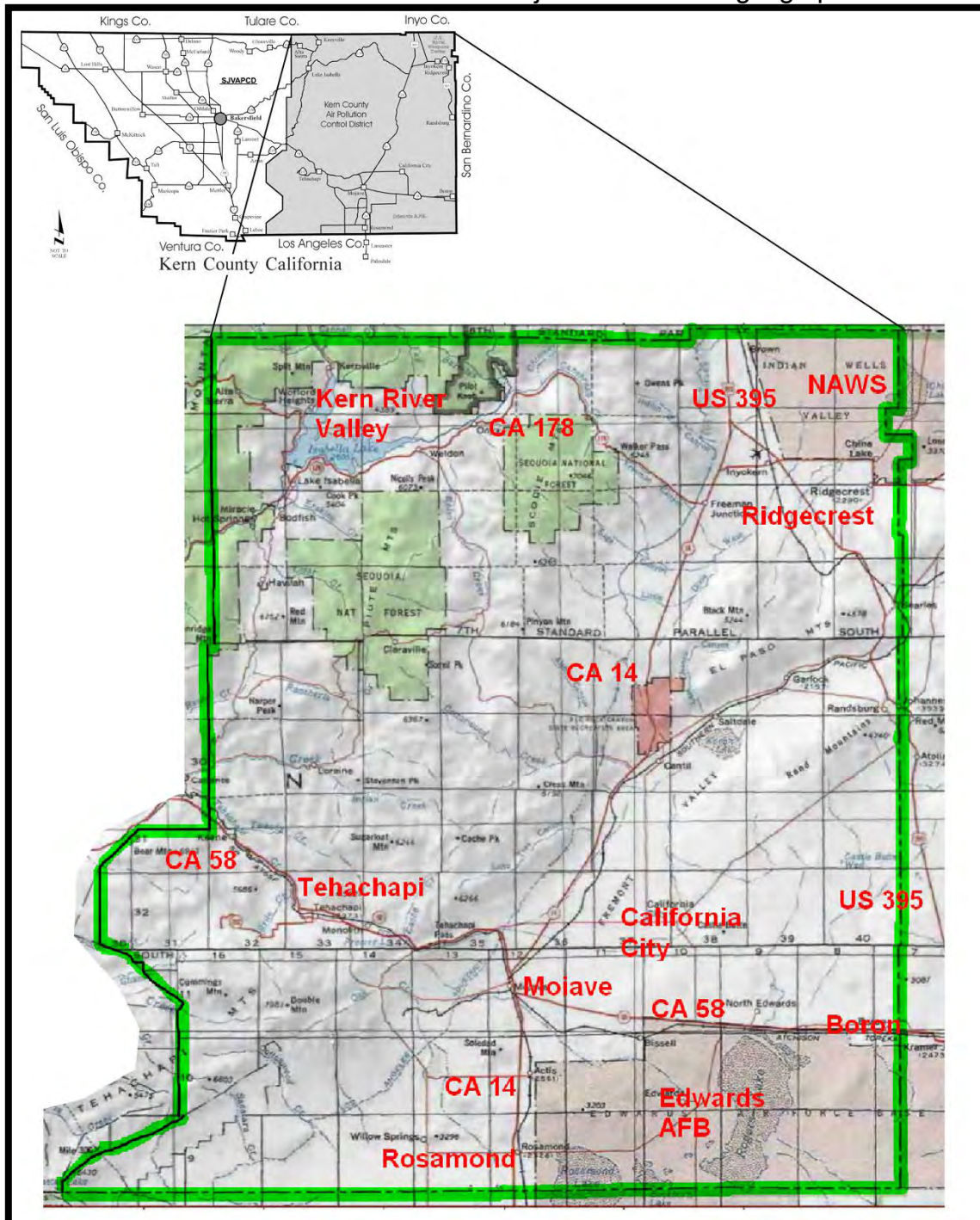
Furthermore, facilities commencing operation or increasing emissions after June 1, 1989, can qualify for exemption from air toxic reporting and fees if the facility will be included in an industry-wide emission inventory, for example, gas stations, auto body shops, and dry cleaners.

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 determined the health risk of all potential TAC emissions, that risk assessment can be used in lieu of an air toxic plan and report. A project completed for National Cement Company (NCC) is an example of how this process works. NCC proposed to modify their kiln by including coal as an approved fuel (currently NCC is only allowed to use natural gas, petroleum coke, and crushed tires as fuel). Before issuance of their Authority to Construct (ATC) for the modified operation, a health risk assessment was completed

for the use of coal as a fuel for the kiln. The impact of the project's TAC emissions were assessed during the District's Rule 210.1 analysis. Results of the evaluation showed the health risk from the proposed facility would be insignificant. Such evaluations must satisfy any additional requirements, such as update reporting, as specified in the "Emission Inventory Criteria and Guidelines Report as amended May 1997." A health risk assessment conducted for purposes of Rule 210.1 is prepared in the same manner as one for the Air Toxics Program.

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 3704 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. Additionally, the District has significant wind flow through the Tehachapi Mountains, from Rosamond through Mojave, and from Indian Wells Valley through Ridgecrest. Overall, the District's sparsely populated area provides significant dispersion potential for most sources within the District's jurisdiction.

The 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
Commodity Resource and Environmental	0.81 in 1 million	0.18	3.25	0.74
Edwards Air Force Base	0.13 in 1 million	0.81	3.0	2.6
Innovative Coatings Technology	5.33 in 1 million	0.01	27.99	2.24
Kemira Water Solutions	NA	0.30	NA	2.20
Lehigh Southwest Cement Co.	5 in 1 million	0.7	HRA Completed 2010	
NASA Dryden Flight Research Center	0.29 in 1 million	0.39	0.31	0.04
National Cement Company of California	2.06 in 1 million	0.28	2.06	0.28
Naval Air Weapons Station	0.03 in 1 million	0.26	1.38	8.18
Trical, Inc.	3.24 in 1 million	0.87	HRA Completed In-Lieu of Prioritization Score	
PRC-DeSoto International	0.78 in 1 million	0.34	4.26	1.76
U.S. Borax, Incorporated	9.82 in 1 million	0.95	2.61	0.09

Trical, Incorporated has submitted a Toxics Emissions Inventory Plan; however, the final report is pending. Therefore, the current Health Assessment will be unchanged.

Category No. 3 (Low Level Risk)

The following facilities have either: 1) a prioritization score equal to or less than 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
California Correctional Institute at Tehachapi (CCI)	Not Required	Not Required	0.57	0.38
California Portland Cement Co.	Not Required	Not Required	0.45	0.37
Indian Wells Valley Cremation	Not Required	Not Required	Exempt as “de minimis”	
Kern County Waste Management (Lake Isabella Landfill)	Not Required	Not Required	0.47	0.023
Kern County Waste Management (Ridgecrest Landfill)	Not Required	Not Required	0.38	0.018
Ridgecrest Community Hospital	Not Required	Not Required	Exempt as “de minimis”	
Tehachapi Cummings County Water District (TCCWD) - Pump Plant #2	Not Required	Not Required	0.56	0.008
TCCWD - Pump Plant #3	Not Required	Not Required	0.56	0.008
TCCWD - Pump Plant #4	Not Required	Not Required	0.12	0.002
All Wastewater Treatment Plants	Not Required	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 2015 reporting year, District staff evaluated over a hundred ATC applications subject to Rule 210.1 (NSR). The majority of these projects had no significant impact on facility TAC emissions. The majority of projects with significant TAC emissions are facilities proposing or installing diesel piston engines. Although, diesel engines were considered an insignificant emissions source, it was determined diesel exhaust has significant non-carcinogenic (acute and chronic) and carcinogenic health risk. Largest constituents of health risk from diesel engine exhaust are from acrolein (non-carcinogenic) and diesel particulate matter (carcinogenic). 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.

Table 3 summarizes diesel engines permitted during calendar year 2015. These do not include agricultural engine registrations.

Table 3

Rating Range (Brake horsepower)	Number of units
50 – 99	3
100 - 299	5
300 - 599	7
600 - 699	0
700 - 799	0
800 - 899	0
900 - 999	0
1000 - 4999	1
5000 - 10000	0
10000 or greater	0
Total	16

In addition to engines permitted during calendar year 2015, the following new facilities that emit TACs were proposed and permitted during 2015:

Surface Coating Operations:

There was only one surface coating operations permitted in the District in 2015. Preferred Paint and Body installed a paint spray booth in 2015. Preferred Paint and Body is an automotive body shop located in Ridgecrest. The body shop uses coatings that contain TACs: therefore, a screening risk assessment was completed for the estimated emissions from the proposed facility. Screening risk assessment showed toxic emissions from the facility were not significant and would not pose a significant health risk to the community at large.

Coating Manufacturing:

PRC DeSoto International manufactures surface coatings for the aerospace industry. In 2015 PRC DeSoto installed a new mixer used to manufacture sealants. Some of the sealants manufactured have TAC emissions. However, PRC Desoto has a very effective vapor control system to minimize TAC emissions. Screening risk assessment showed toxic emissions from the facility were not significant and would not pose a significant health risk to the community at large.

Vapor Spray Degreasing Operation:

INCOTECH installed a vapor degreasing unit utilizing perc as the degreasing solvent. Perc was widely utilized as a cleaning medium for dry cleaners. Perc use is being phased-out because it is a TAC. However, based on the proposed usage, screening risk assessment showed toxic emissions from the facility were not significant and would not pose a significant health risk to the community at large.

For calendar year 2015, the District had no existing facilities that increased their TAC emissions.

U.S. Borax AB2588 Health Risk Assessment Report

The U.S. Borax AB2588 Health Risk Assessment (HRA) report was completed as a regular quadrennial update.

U.S. Borax is located in the rural Southeast Desert portion of Kern County, near the town of Boron, California. This facility's principal products are borates and boric acid. Borates and boric acid are used in myriad of products including fuels, fertilizers, and additives for ceramics and glass. The facility consists of numerous buildings and 155 sources of TAC emissions.

TAC emissions from the facility were inventoried for the year 2014 and submitted in the Toxic Emission Inventory Report (TEIR). The list of emitted substances is list in Table 4 below:

Table 4

Antimony	Arsenic	Barium	Beryllium
Cadmium	Hexavalent Chromium	Cobalt	Copper
Lead	Manganese	Mercury	Nickel
Selenium	Silver	Thallium	Vanadium
Zinc	Diesel Exhaust (PM)	Benzene	Ethyl Benzene
Xylenes	Methyl isobutyl ketone (Hexone)	Acetone	Methyl n-Amyl Ketone
Methyl n-Propyl Ketone	1-Methoxy-2-Propanol Acetate	n-Butyl Acetate	Nitrate
n-Butyl Propionate			

Releases from US Borax are continuous. Permitted sources are all stationary point sources. The area sources involve the open-mine pit, stockpiles, over-burden piles, gangue piles, hauling and dumping. A short list of point sources is detailed in Table 5 below:

Table 5

Primary Crusher & Ore Stacking	10-Mol Dryers	Anhydrous Boric Acid (ABA) Fusing Plant
Boilers	10-Mol Crushing/Screening Operations	ABA Cooling / Milling / Screening / Storage /Load Out
Neobor Rotary Drying Operation	10-Mol Rail Car Load Out	Portable Compressor
5-Mol Screening	10-Mol Packing Operation	Research Pilot Plant
5-Mol High Speed Conveying	Line 7 Fusing	Soda Ash Receiving/storage/Handling
5-Mol Rail Car Load Out	Line 7 Cooling/Milling/Screening	5-Mol Fines Receiving / Handling and Storage
5-mol Packing Operation	Anhydrous Borax (AB) Packing	Boric Acid Ore Reclaim Operation
5-Mol Furnace feed	AB Screening / Load Out East	Boric Acid Rotary Reactor Scrubber
Boric Acid Conveying and Truck Load Out	Boric Acid Bulk-Pak Loading Operation	Stand-By Secondary Crushing System
Boric Acid Pneumatic Conveying to Storage Operation	Bulk Container Pneumatic Loading	Secondary Screening & Crushing Operation
Boric Acid Conveying to Rail Car	Abrasive Blasting Operation	Bag Rejecter
Cooling Towers	Domes	Outdoor Abrasive Blasting Operation
Diatomaceous Earth Receiving and Storage	Ammonium Nitrate Storage / Unloading Operation #2	Air Compressor
48 MW Cogeneration Facility	Boric Acid Dryer	Generator w/diesel piston Engine
Paint Spray Booths	Granubor II Manufacturing	Engines with Pump
Gasoline Storage and Dispensing System	Boric Acid Conveying and Truck Load Out	Boric Acid Pneumatic Conveying to Storage Operation

All emission sources are detailed by source, emission type, permit (if applicable), UTM coordinates, stack height, emission temperature, stack diameter, and emission flow rates. All emission rates for toxic substances emitted by US Borax are detailed annually and hourly by chemical.

Emissions were quantified for the two separate source types. The point source emissions were quantified by the permitted values. The area source emissions were quantified by averaging the actual values recorded in the Emission Inventory Program (EIP) from 2011 through 2014. The annual emissions from each permitted source as well as each area source were multiplied by the ratio of the chemical weight to total weight of solid medium (mg/kg). This provided quantified emissions of each identified chemical for every emission source. In order to obtain the hourly emissions, each of those values was divided by the number of hours in a year (8760 hrs/yr) because US Borax is a continuous operation. A separate list of substances emitted from U.S. Borax is provided in Table 4 above. Chemicals without health risk values include: Acetone, Methyl-n-Amyl Ketone, Methyl n-Propyl Ketone, n-Butyl Propionate, n-Butyl Acetate, 1-Methoxy 2-Propanol Acetate, and Nitrate.

The resulting ambient air concentrations have been calculated using an approved air dispersion model. These concentrations have been used to conservatively estimate the increased individual carcinogenic risk that might occur as a result of 30-year exposure duration for residences and sensitive populations. Concentrations of compounds with non-carcinogenic adverse health effects were used to calculate hazard indices (ratio of expected ambient air concentrations to acceptable exposure) for Acute, Chronic, and 8-hour exposure durations. The results for the maximum impacts are listed in Table 6 below:

CASE	RISK	VALUE
Point of Maximum Impact	Maximum Excess Cancer Risk	9.82 x 10 ⁻⁶
Point of Maximum Impact	Maximum Excess Chronic Hazard Index	0.471
Point of Maximum Impact	Maximum Excess Acute Hazard Index	0.447
Point of Maximum Impact	Maximum Excess 8-Hour Hazard Index	0.0195

Based on the HRA numerical results listed in Table 6, U.S. Borax emissions do not pose a significant cancer risks and non-cancer hazard risk to the community at large. The facility **does not** exceed the District's Notification Levels (cancer greater than 10 in 1 million and sum of acute and chronic greater than 1.0).

Industry-Wide Sources

December 2013 the ARB updated the emission factors for gasoline dispensing facilities (GDF). The District has approximately 70-GDF high, medium or low priority. Currently, 4 GDFs are high priority (prioritization scores greater than 1). Based on calculations, high priority GDFs have carcinogenic health risk of less than 1 in a million and non-carcinogenic (acute and chronic) Hazard Index is less than 1.0. The updated GDF emissions factors lowered calculated emissions for all GDFs; however, high priority facilities are unchanged.

The District currently has approximately 10-auto body shops. Based on the CAPCOA "Auto Body Shop Industry-Wide Risk Assessment Guidelines," Hazard Index for all auto body facilities are less than 1.0. Therefore, auto body facilities were found to be low priority. New formulated paints with lower toxicity and lower hydrocarbon content is the reason for the low priority.

Dry Cleaning ATCM, to phase out use of perc dry cleaning machines and related equipment by January 1, 2023, has commenced implementation. Current evaluation procedures show all East Kern dry cleaners 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 diesel engines, requirement for facilities to utilize ARB "clean" diesel fuels, and assisting facilities to reduce diesel particulate matter (PM) 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 (NSR), 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. Control of these pollutants also reduce TAC emissions. By early 1982, six years before passage of AB2588, the District was actively involved in accessing 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 allows 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. Often EPA utilizes National Emission Standard for Hazardous Air Pollutants (NESHAPs) regulations reduce TAC emissions from industries with potential to have significant health risk. Currently, EPA is implementing a NESHAPs regulation to reduce mercury (Hg), hydrochloric acid (HCl), particulate matter (PM), and total hydrocarbon (THC) emissions from cement manufacturing. Full implementation is expected by October 2016. Preliminary source tests from CalPortland Cement Company, Lehigh Southwest Cement Company, and National Cement shows all facilities will meet the EPA emission requirements.

FUTURE OF THE AIR TOXICS PROGRAM

Minimizing TAC emissions continue to be an important part of the District’s mission. In August 2016, the Toxics and Risk Managers Committee (TARMAC) of CAPCOA revised Air Toxic “Hot Spots” Program Facility Prioritization Guidelines. These guidelines were revised in response to revisions to the State’s underlying health risk assessment procedure guidelines. The Committee consulted with ARB and OEHHA staff in updating these guidelines.

The revised guidelines are to provide air pollution control and air quality management districts with suggested procedures in prioritizing facilities into high, intermediate, and low priority categories as required by the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Air Toxics "Hot Spots" Act) in accordance with Health and Safety Code §44344.4(c). This law established a statewide program for inventory of air toxics emissions from individual facilities as well as requirements for risk assessment and public notification.

According to CAPCOA progress report, TAC 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.

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 East Kern industrial facilities.

No facility in Eastern Kern County poses an increased cancer risk of more than 10 in 1 million after 70 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 a tornado is 17 in 1 million, the risk of death by car accident is 10,000 in 1 million, and the risk of death by air travel accident is 50 in 1 million.

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.