EASTERN KERN
AIR POLLUTION CONTROL DISTRICT

2019
ANNUAL AB 2588 AIR TOXICS REPORT

September 3, 2020

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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 32 years, numerous 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 California Air Resources Board (ARB) air toxics guidelines list (August 27, 2007) 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 also place facilities into categories for purposes of update reporting based on calculated risk, and exempt "low priority" facilities from further update reporting. For facilities still subject to the program, these guidelines specify facility information to be reported, toxic substances to be addressed, and test methods to be used for quantifying emissions. 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 had earlier developed three Technical Support Documents (TSDs) 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 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 integration of the AB2588 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.

Some of the District's smallest emitters are subject to the AB2588 program, including 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" was never finalized; however, 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 on January 25, 2007. The amendments required phasing out the use of Perc dry cleaning machines and related equipment by January 1, 2023.

ASSESSMENT OF HEALTH RISKS

Potential public health risk of each facility subject to the program is quantified by using dose-response data developed from animal and/or human studies. Dose is calculated using mathematical modeling techniques, and is dependent upon the following data: emission rate of each toxic substance; the toxicity (reference exposure level) of the substance; release point characteristics, including stack 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", approved by the U.S. Environmental Protection Agency (U.S. EPA) or OEHHA, derived from health impact studies that have undergone public and peer review. Currently, the "Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments" (Guidance Manual), published by OEHHA in 2015, 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, and the air modeling protocols needed to perform a health risk assessment. The Guidance Manual updates the previous version (2003), and reflects advances in the field of risk assessment along with explicit consideration of infants and children.

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 make use of mathematical dispersion models approved by ARB as well as U.S. EPA and/or OEHHA approved potency values. Dispersion models are computerized, as several thousand 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 guidelines provide suggested procedures in performing risk assessment. In 2015, CAPCOA updated these guidelines to incorporate OEHHA revisions to 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" (PS) is the least complex and most health conservative way of characterizing risk. The procedure incorporates many health conservative assumptions to insure potential risk is not underestimated. The score is calculated using either the Emissions and Potency Procedure (EPP) or the Dispersion Adjustment Procedure (DAP), which are described in the previously mentioned CAPCOA guidelines. The EPP considers only emission rate, pollutant potency, and proximity of receptors, while the DAP also considers dispersion due to release height.

Due to its inherent conservatism, if the prioritization score indicates significant risk, a more detailed risk assessment model is calculated. The next level of assessment is the "screening model", and includes assumptions to ensure that, regardless of source location or meteorological conditions, 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 carcinogenic (cancerous) and non-carcinogenic 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. The 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 recommended exposure level (referred to as a "hazard index") exceeding 1.0.

These levels of significance have also been chosen by most other California air districts, and are values 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 adopted by the Board 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 yet

been used, as no facility in East Kern has been determined to pose a 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 regularly reviews facility data and revises the inventory to reflect changes made at facilities within the District. This Annual Report includes updates to toxic information and data revisions from the following facilities: Edwards Air Force Base, Golden Queen Mining Company, Trical Inc., and US Borax.

EVOLUTION OF AIR TOXICS PROGRAM

The Air Toxics Program has been implemented for approximately three 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; 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, such as 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 presented by all potential TAC emissions, that risk assessment may be used in lieu of an air toxic plan and report.

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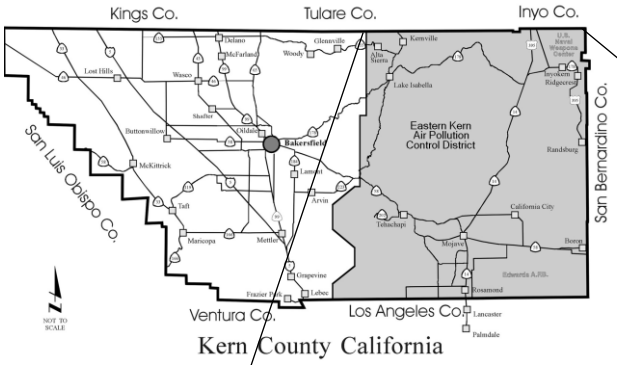
CURRENT STATUS OF EASTERN KERN TOXIC EMISSION SOURCES

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 137,000. 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.

The District has assessed potential health risk from facilities through implementation of the August 2007 revision to ARB's "Emission Inventory Criteria and Guidelines (EICG)" 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 currently considered to be a High Level Risk. 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
California Correctional Institution (Tehachapi)	Not Required	Not Required	4.52	0.01
California Portland Cement Co.	Not Required	Not Required	7.21	0.67
Edwards Air Force Base	Not Required	Not Required	2.23	3.04
Golden Queen Mining Co.	Pending	Pending	Pending	Pending
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
National Cement Company	0.67 in 1 million	0.14	HRA Completed In-Lieu of Prioritization Score	
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
Tehachapi Cummings County Water District (TCCWD) - Pump Plant #3	Not Required	Not Required	5.09	1.52
U.S. Borax, Incorporated	9.64 in 1 million	0.38	HRA Completed In-Lieu of Prioritization Score	

Additionally, facilities that would be low priority but emit 5 or more tons per year of any one hazardous air pollutant (HAP) or 12.5 tons of total HAP are considered intermediate facilities.

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
Commodity Resource & Environmental	HRA Not Required		0.08	0.02
Indian Wells Valley Cremation	HRA Not Required		Exempt as "de minimis"	
Kemira Water Solutions	0.11 in 1 million	0.07	23.02	1.22
Kern County Waste Management (Lake Isabella Landfill)	HRA Not Required		0.47	0.02
Kern County Waste Management (Ridgecrest Landfill)	HRA Not Required		0.38	0.02
Kern County Waste Management (Tehachapi Landfill)	HRA Not Required		0.00	0.20
NASA Armstrong Flight Research Center	HRA Not Required		0.31	0.04
Ridgecrest Regional Hospital	HRA Not Required		Exempt as "de minimis"	
TCCWD - Pump Plant #2	HRA Not Required		0.90	0.28
TCCWD - Pump Plant #4	HRA Not Required		0.97	0.70
Trical, Inc.	HRA Not Required		0.09	0.89
Wastewater Treatment Plants (All)	HRA Not Required		Exempt as "de minimis"	

De minimis: The probability of the facility to present a health risk the public is very small; therefore, calculating a prioritization score for the facility is not effective use of District resources

Category No. 4 (New Facilities and Facilities with Increased Emissions)

During 2019 calendar year, District staff evaluated over 100 applications for projects 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 most frequent projects with potentially significant toxic emissions are facilities proposing to install diesel piston engines. Although diesel engines are generally considered an insignificant criteria pollutant emissions source, it was determined by ARB that diesel exhaust presents a significant carcinogenic and non-carcinogenic health risk due to diesel particulate matter (DPM) emissions. All permitted diesel engines have a carcinogenic risk of less than 10 in 1 million and a non-carcinogenic hazard index of less than 1.0. Natural gas and liquefied petroleum gas (LPG) fired engines emit significantly less TAC. A summary of internal combustion engines permitted during calendar year 2019 is listed in Table 3; these do not include agricultural engine registrations.

Table 3

Rating Range (Brake horsepower)	Number of units
50 – 99	7
100 - 299	6
300 - 599	11
600 - 699	0
700 - 799	3
800 - 899	0
900 - 999	0
1000 - 4999	0
5000 - 9999	0
10000 or greater	0
Total	27

In addition to piston engines, the following new and modified facilities that emit toxic air contaminants were permitted during 2019:

Surface Coating Operations:

There were two new surface coating operations permitted in the District during 2019. Northrop Grumman Systems Corp. installed new portable aircraft surface coating equipment, and INCOTEC installed a new spray booth. Both operations are located at Mojave Air & Space Port. The coatings used by each operation contain TACs; therefore, a prioritization score was obtained during the application evaluation process for the estimated emissions from proposed operations. The prioritization score showed a “low priority” risk to the public as a result of the proposed surface coating operations; therefore, neither is anticipated to pose a significant health risk.

Rocket Engine Testing Operations

Whittinghill Aerospace LLC modified their rocket engine testing operation to include use of monomethyl hydrazine (MMH) fuel. MMH vapors are extremely toxic, but rapidly degrade in the presence of ozone. OEHHA does not have a published health risk value for MMH to be able to perform a prioritization; however, dispersion modeling using AERMOD indicated that maximum 1-hour ground level concentrations of MMH would not expose off-site receptors to levels in excess of OSHA 1-hr permissible exposure limit (PEL), NIOSH 2-hour recommended exposure limit (REL), or California Division of Industrial Safety 8-hr PEL (8 CCR §5155, Table AC-1). Therefore, MMH emissions are not expected to present a significant health risk to the public.

Virgin Orbit had new rocket engine test stands and a solvent cleaning operation permitted in 2019. TAC emissions are from kerosene fuel combustion and isopropyl alcohol solvent use. The prioritization score showed a “low priority” risk to the public; therefore, they are not expected to present a significant health risk.

Other Miscellaneous Operations:

Other projects with TAC emissions include cutting grinding, and sanding operations, aggregate crushing/screening operations, natural gas fired boiler, and two nitric acid dip cleaning operations. These projects were deemed low priority, and therefore do not pose significant health risks to surrounding communities.

Core Facility Updates

Edwards Air Force Base

Edwards Air Force Base (EAFB) is an air force installation located 15 miles east of Rosamond, whose operations focus on research, development, and testing of aerospace systems. TAC emissions from the facility were determine based on calendar year 2019 activities.

There are no receptors within 0.9 miles of base operations. The primary drivers of carcinogenic risk (>70% of prioritization score) are PAH emissions from miscellaneous natural gas combustion, as well as benzene, naphthalene, formaldehyde, and 1,3-butadiene emissions from testing of jet engines. Noncancer risk is driven (>50% of prioritization score) by jet engine and rocket motor testing emissions, primarily from acrolein, benzene, formaldehyde, and hydrochloric acid. Overall, both carcinogenic and non-carcinogenic risk were deemed to be intermediate priority based on prioritization score. Therefore, Edwards AFB will continue to be subject to quadrennial updates to health risk prioritization.

US Borax

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

US Borax is located in the rural southeast desert portion of Kern County near the town of Boron, California. The facility's chief products are borates and boric acid, which are used in a myriad of other products that include fertilizers, ceramics, lubricants, and fire-retardant polymers. Toxic emissions from the facility, described below, consist of metals released as part of ore processing operations and facility fuel combustion, as well as organic gases emitted from fuel combustion, gasoline dispensing, and surface coating operations. Pollutants assessed for US Borax are as follows:

US Borax submitted a Health Risk Assessment to the District for risk prioritization, utilizing the Hotspots Analysis and Reporting tool (HARP2) and AERMOD dispersion modeling software. Using meteorological, terrain, emission release point, and emissions quantity information, the carcinogenic and non-carcinogenic risk was quantified for nearby residential and worksite receptors, and the locations of maximum impact for risk were identified. At the points of maximum impact, the carcinogenic risk was estimated at 9.64 in one million, and the total (acute + chronic) non-carcinogenic hazard index was 0.383. These results indicate that US Borax is an "intermediate priority" facility. Therefore, while the expected risk presented is not significant enough to require public notification, US Borax will continue to be subject to quadrennial updates for toxic risk prioritization.

Golden Queen Mining Company

Golden Queen Mining Company operates a gold & silver mining operation at Soledad Mountain, located southwest of Mojave. Major components of the operation include drilling, blasting, hauling, & crushing of ore, cyanide heap leaching, Merrill-Crowe Facility, fuel dispensing, and operation of stationary diesel engines.

Golden Queen Mining's Toxic Emission Inventory Plan (TEIP) was approved earlier this year by the District; the final toxics inventory is still being compiled at the time of publication of the draft report, and therefore prioritization for the facility is pending submittal of the inventory.

Trical Inc.

Trical Inc. operates an agricultural chemical receiving, storage, and packaging operation south of Mojave. The primary chemicals handled at the facility are 1,3-dichloropropene, propylene oxide, methyl bromide, and chloropicrin. Chemicals are delivered to the facility by rail or truck, where they are transferred to onsite storage tanks or filling stations. The facility also utilizes an abrasive blasting operation for reconditioning storage tanks. Additionally, there is an emergency generator set and firewater pump at the facility, each driven by a diesel piston engine. Toxic substances assessed for Trical are as follows:

The nearest worksite receptor to the Trical facility is located just under ¼ mile to the northwest, and the nearest residence is located approximately ¾ mile to the northwest. The primary cancer risk driver is diesel exhaust emissions from the emergency use engines, and the primary noncancer risk driver are fugitive chloropicrin emissions from connectors and valves. Overall, toxic emissions were deemed to be a "low priority" for both cancer and noncancer health risk.

Industry-Wide Sources

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

No new auto body shops were permitted in 2019, and there were no modifications to existing auto body shops. Based on "Auto Body Shop Industry-Wide Risk Assessment Guidelines", all auto body facilities located in the District have been found to be "low priority" for health risk.

In December 2013, ARB updated the emission factors for gasoline dispensing facilities (GDF). 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 a 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 processed two application for new GDF and 13 applications to modify existing GDF during 2019. Based on the maximum allowable throughputs and receptor proximity for each GDF, all modified facilities received low prioritization scores.

Phase out of perchloroethylene (Perc) dry cleaning machines by District permitted facilities was recently completed. During 2019, the only remaining dry cleaning facility still utilizing Perc submitted an application to replace their existing system with a new hydrocarbon solvent system; operation of the new equipment commenced in February of 2020.

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 Pages 3-4 for discussion of risk notification guidelines.)

Exposure to diesel exhaust emissions continue to be a primary public health concern in California. District requirements to utilize tiered engines, ARB approved diesel fuel, and assisting businesses to replace older diesel engines with newer, less polluting engines through the Carl Moyer Grant Program will reduce the exposure of eastern Kern County residents to 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.

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 intended 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 reports, 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.

CARB is currently revising the EICG for the air toxics inventory in response to the updated OEHHA guidance and the passing of the Criteria Pollutant and Toxics Emissions Reporting (CTR) regulation in 2019. The currently proposed revisions include 1) adding several hundred air pollutants to the list of substances required to be quantified, 2) updates to the expected emissions from different facility types, and 3) changes to facility categories that will be required to report their toxic emissions.

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 such as dioxins or hexavalent chromium. In other words, even though a facility may emit a highly toxic substance, if the emission rate is low and dispersion is good, the public health risk can be considered 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 effective 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 toxic substances in very small quantities presents no greater health risk (and often much less) to nearby residents than what residents expose themselves to by engaging in day-to-day activities. For example, the health risk presented 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 currently poses an increase in cancer risk of more than 10 in 1 million, based on an assessment of 30 years of exposure to carcinogenic emissions.

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 falls is 112 per 1 million, the risk of death by firearms discharge is 122 per 1 million, and the rate of death from motor vehicle accidents is 124 per 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 a health conservative assessment of risk.