

**EASTERN KERN
AIR POLLUTION CONTROL DISTRICT**



**2010
ANNUAL AB2588 AIR TOXICS REPORT**

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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 24 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.

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 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, 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” has not yet been finalized. However, 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.

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 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. 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 supercedes 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 comment, and eventual adoption at a public ARB 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), 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 2010 reporting year (this Annual Report is based on 2009 and 2010 data, reported in 2010 because of the time required for sources to gather, process, and submit data), updates were made at Lehigh Southwest Cement Company. Several changes were made during 2010 reporting year; these changes represent a possible increased health risk to the nearby community (details presented later in this document).

EVOLUTION OF AIR TOXICS PROGRAM

The Air Toxics Program has been implemented for 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 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.

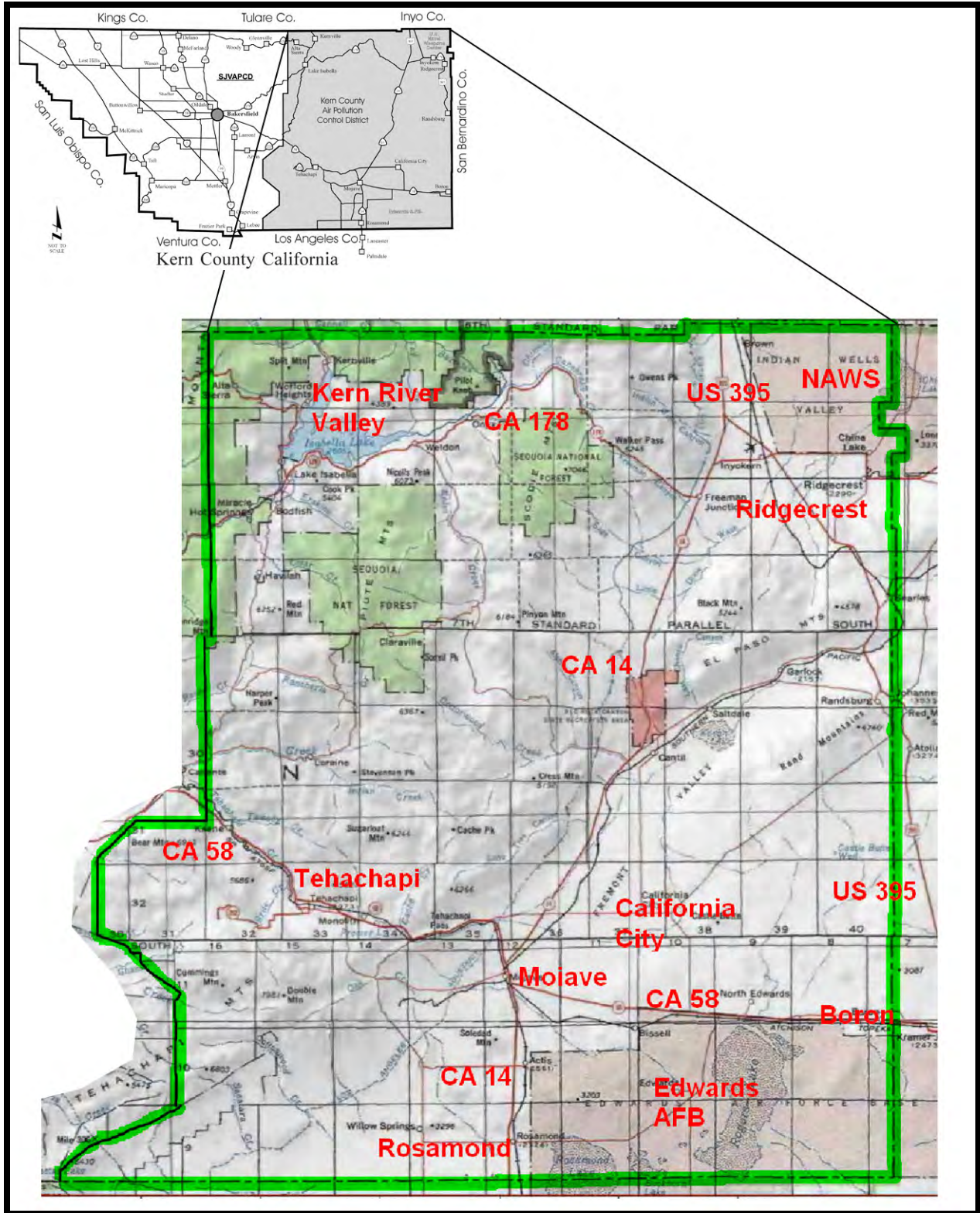
Per the revised guidelines, facilities determined to be low level risk are exempt from future reporting requirements and fees, provided: 1) the nearest receptor is no closer, 2) there are no changes to risk calculation procedures, and 3) there are no changes to health effect values which would result 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 toxic emissions, that risk assessment can be used in lieu of an air toxic plan and report. The Beacon Solar, LLC (solar power plant) facility is as an example of how this process works. Before issuance of their Documents of Compliance (DOC), health impact of the project's toxic air contaminant emissions was 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.

District has assessed potential health risk with the implementation of the May 1996 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
Niklor Chemical Company, 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
Rand Mining Incorporated	0.04 in 1 million	0.10	0.26	1.01
U.S. Borax, Incorporated	0.16 in 1 million	0.96	2.61	0.09

Lehigh Southwest Cement Company (Lehigh) has submitted preliminary and final report for their toxic emissions. Health Risk Assessment for Lehigh, shown above, represents results for Lehigh's most recent health risk assessment and modeling report. Final information shows facility will remain at an Intermediate Level Risk.

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	Heath Risk Assessment		Prioritization Score	
	Cancer	Non-Cancer	Cancer	Non-Cancer
Asphalt Construction Company	Not Required	Not Required	0.001	0.01
Cal-Ci-Co Rock	Not Required	Not Required	0.01	0.002
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
Granite Construction Company	Not Required	Not Required	0.02	0.04
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
Mojave Cogeneration Company	Not Required	Not Required	0.02	0.01
Ridgecrest Community Hospital	Not Required	Not Required	Exempt as “de minimis”	
Progress Rail Services	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 2010 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 emissions. The majority of projects with significant toxic 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.

Summarization of diesel engine permitted during calendar year 2010 is listed on Table 3 below.

Table 3

Rating Range (Brake horsepower)	Number of units
50 – 100	3
101 - 150	5
151 - 200	6
201 - 300	5
301 - 400	1
401 – 500	2
501 – 600	1
601 – 700	0
701 – 800	1
Greater than 801	1
Total	25

In addition to engines permitted during calendar year 2010, new facilities that emit toxic air contaminants were proposed and permitted during 2010. Projects include:

Car Care Center

Car Care Center is a gasoline storage and dispensing facility (GDF) at Edwards Air Force Base with 20,000-gallon and 12,000-gallon storage tanks. There are toxic air contaminants in gasoline; therefore, a screening risk assessment was completed for the estimated emissions from the proposed facility. Screening risk assessment showed toxic emissions from the GDF were not significant and would not pose a significant health risk to the community at large.

Firequick

Firequick is a facility that manufactures flares used in the firefighting industry (flares are used to create firebreaks to control a spreading fire). Facility utilizes flammable and explosive materials in their flare manufacturing operation. Some of the materials used in the flare manufacturing operation have been deemed, by the California Office of Environmental Health Hazard Assessment (OEHHA) to be hazardous (toxic). However, based on the amount emitted and the facility and remote location of the facility, toxic emissions from the facility are not significant and would not pose a significant health risk to the community at large.

Granite Construction

Granite Construction utilizes a Crumb Rubber Blending Plant in the manufacture of road asphalt. Heaters from the Crumb Rubber Plant emit some toxic air contaminants. However, given the asphalt oil and crumb rubber are not overheated, toxic emissions from the Plant heater emit an insignificant amount toxic emissions. A screening health risk assessment completed for the project shows toxic emissions from the facility are not significant and would not pose a significant health risk to the community at large.

Tehachapi Collision Center

Tehachapi Collision Center is a facility performs automotive paint and body work. For this operation the District is concerned with toxic emissions from surface coatings (paint) and solvents used at the facility. A screening health risk assessment completed for the project shows, although the facility has toxic air contaminant emissions, toxic emissions from the facility are not significant and would not pose a significant health risk to the community at large.

For calendar year 2010, the District had no existing facilities that increased their toxic air contaminant emissions. District received an AB2588 Assessment report from Lehigh Southwest Cement Company.

Lehigh Southwest Cement Company AB2588 Assessment Report

High levels of mercury emissions from two tests conducted in the 1990's were found at Lehigh; these emissions were included in the non-cancer portion of the facility's risk assessment. While these levels of mercury did not make the Lehigh facility a Category No. 1 (High Level Risk), they had, until 2006, the highest reported mercury emissions from a cement kiln stack in the United States. Lehigh was directed by the District to include mercury emissions testing in their annual source test beginning in 2006. Testing in 2006 for total mercury emissions showed there was less than one-third of the emissions of the tests completed in the 1990's; additionally, emissions from test conducted in 2007 were about one-quarter of the emissions from the 2006 results. While the District expected to see reduced mercury emissions, because the source had removed some raw materials that they had identified as high in mercury, the widely disparate results for 2006 and 2007 prompted the District to request more extensive testing be conducted the following year.

For the 2008 source test, Lehigh was directed to conduct additional mercury testing by three different methods. Two of the methods for total mercury were utilized: Method 436 (ARB method) and modified Method 30B (United States Environmental Protection Agency {EPA} method). In addition to total mercury, a speciated mercury test called FAMS (flue gas adsorbent mercury speciation) was utilized to test for mercury emissions (FAMS method is still awaiting EPA approval). Method 436 tests were conducted followed by simultaneous Method 30B and FAMS tests. All three methodologies resulted in similar emissions, because emission results are similar, District staff has high confidence in the accuracy of the mercury emission estimates from the kiln.

During 2009 Lehigh completed additional testing for mercury and other toxic air contaminants (TAC) in compliance with United States Environmental Protection Agency Maximum Achievable Control Technology (MACT) compliance. District staff recently approved the protocol for modeling and health risk assessment (HRA) for Lehigh SW facility's based on kiln TAC emissions and other facility sources. The District received Lehigh's AB2588 HRA Report in September 2010. The assessment report was based on emissions generated in 2008 (higher emissions year than 2009). The purpose of the HRA is to estimate potential off-site human health impacts attributable to emissions from the Facility operations and compare them with the District Notification Levels under AB2588.

HRA was based on emissions from the following areas of emissions from the cement manufacturing facility:

Emissions Sources (Table 4)

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

Over fifty (50) different TAC were utilized do to determine the facility risk. TAC used in the evaluation includes the following: Formaldehyde, Acetaldehyde, Hydrogen chloride, (hydrochloric acid), Mercury, and Diesel Particulate Matter. Numerical results for the HRA are entered in Table 1 [above, Category No. 2 (Intermediate Level Risk)]; overall, the results of the HRA indicates that cancer risks and non-cancer risk hazard estimates for individuals who may be exposed to Lehigh SW emissions under existing operational conditions and who reside, work, or attend school in areas surrounding Facility **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

CAPCOA “Gasoline Service Station Industry-Wide Risk Assessment Guidelines” were used to prioritize additional service stations in 2004. Approximately sixty East Kern gasoline stations are medium or low priority. Four stations have prioritization scores greater than 1. However, risk assessment of each of these four gasoline-dispensing facilities showed carcinogenic health risk of less than 1 in a million and non-carcinogenic (acute and chronic) Hazard Index is less than 1.0. CAPCOA “Auto Body Shop Industry-Wide Risk Assessment Guidelines” were used to prioritize four automotive painting operations permitted in 2004. All four were found to be low priority.

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. 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.)

As previously mentioned, ATCM for dry cleaners was implemented by the ARB in 2007. District has only 6 dry-cleaning facilities (including the California Correctional Institution {CCI}); therefore, the ATCM for dry cleaning operation will not affect many District sources. However, beginning in 2010 dry cleaning machines utilizing Perc will be phase out. Regulation requires units at co-residential facilities be removed by 2010. Additionally, all close loop machines with primary and secondary controls be removed from service by 2010 or 15-years after manufacture (which ever comes later). If the age of machine cannot be determined, unit shall be removed by 2010. Finally, all dry cleaning machines utilizing Perc shall be removed from service by 2023. One of the six dry cleaning facilities in the District replaced their Perc machine in 2009, and one is scheduled to be replaced later this year. However, because of economic downturn, two Perc dry cleaning facilities are no longer in business, and CCI removed their facility in 2009. Therefore, one facility with a Perc machine manufactured in 2/1999 is due for removal in 2014, the other facility with a Perc machine manufactured in 2003 and is due for removal in 2018.

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 (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 (New and Modified New Source Review). 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 (NO_x), 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 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 generates 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 developing a NESHAPs regulation to reduce mercury emissions from cement manufacturing industry.

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 heart disease is 200,000 in 1 million, the risk of death by car accident is 10,000 in 1 million, and the risk of death by drowning is 112 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.