San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

Date: April 7, 2017

To: Clerk to the County Boards of Supervisors for the San Joaquin Valley
Clerk to City Council Members of incorporated cities in the San Joaquin Valley
County Public Health Officers for the counties in the San Joaquin Valley

From: Arnaud Marjollet, Director of Permit Services

RE: **2016 Annual Report on Toxic Emissions from Valley Facilities**

As required by State Law, the attached Annual Toxics Report is being distributed to city and county officials throughout the San Joaquin Valley. A copy of this report is being made available through each County and City Clerk, as well as to all County Public Health Officers in the San Joaquin Valley.

This report describes emissions of toxic air contaminants from Valley facilities, and the actions taken by the District and affected facilities to reduce those emissions. The District is providing you with this report to keep you informed of air toxics issues that may affect you and the communities you serve.

Should you or your staff have any questions regarding this report or the District's air toxics programs, please call me or Brian Clements at (559) 230-5900.

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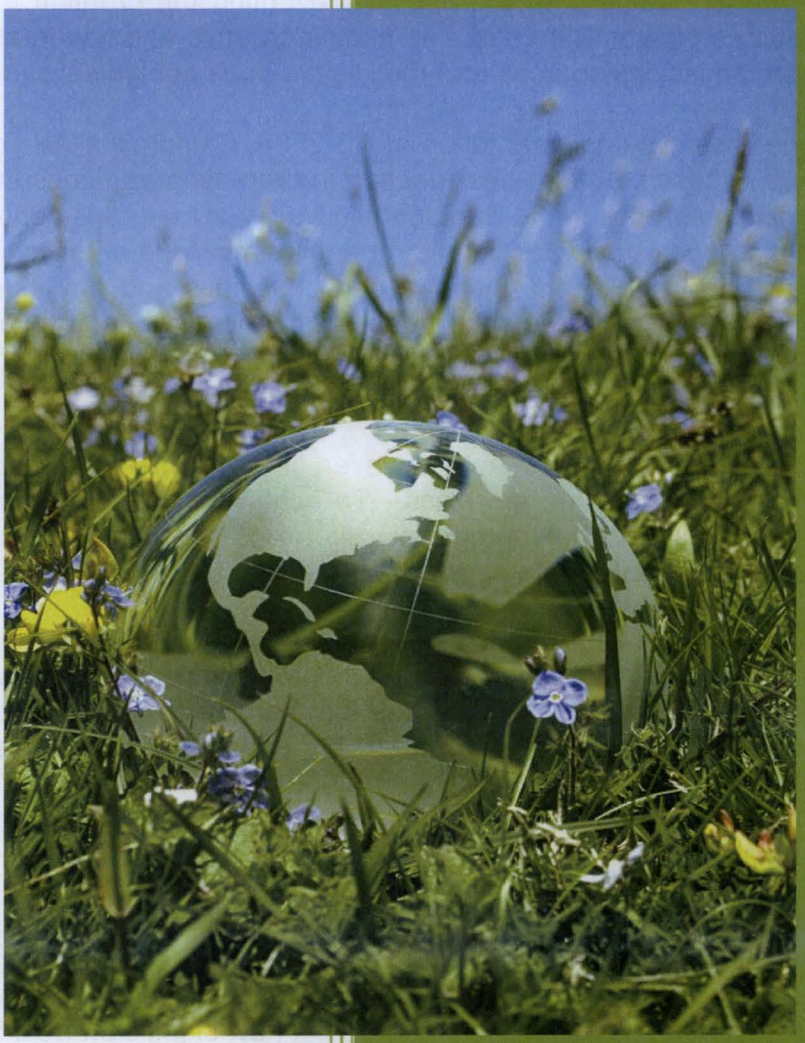
San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

2016

Annual Air Toxics Report



March 16, 2017

Executive Summary

The San Joaquin Valley Air Pollution Control District has spent the last two decades implementing and integrating a wide variety of methods reducing toxic air contaminant emissions in the San Joaquin Valley. Based on the latest California Toxics Inventory available from ARB, only 14% of all air toxics in the San Joaquin Valley in 2010 were emitted from stationary sources of pollution under the direct control and regulation of the District, while 52% came from mobile sources such as cars and trucks, and the remaining 34% was emitted from area-wide sources like road dust, paints, solvents, and other consumer products. Mobile and area-wide sources of emissions are generally under the regulatory authority of the State of California and the federal government.

The District's integrated approach to addressing and reducing risks from toxic air contaminants has taken three main paths: reducing air toxic emissions from existing stationary sources of emissions; preventing the creation of new or modified stationary sources of significant risk; and finding creative and cooperative methods of reducing risk from emissions sources that the District does not typically regulate.

The District's implementation of AB 2588, California's *Air Toxics "Hot Spots" Information and Assessment Act*, has resulted in dramatic reductions in emissions of air toxics from existing sources in the San Joaquin Valley. Under this right-to-know law, the District has worked with Valley facilities to quantify emissions of air toxics, determine the health risk caused by those emissions, report emissions and any significant risks through written public reports and neighborhood public meetings, and take steps to reduce such risks. As a result of this effort, and the resulting emissions reductions, no Valley facility currently poses a significant risk under this program.

The state Hot Spots Act, however, is only one part of the District's comprehensive program to regulate air toxics. To achieve maximum efficiency and effectiveness, the District operates an integrated air toxics program that harmonizes local, state, and federal mandates wherever possible.

A number of regulations have also been adopted by the District, the state, and the federal government, and implemented through the District's integrated air toxics program, to directly reduce existing emissions from specific types of facilities and sources of air toxic compounds. Examples of emissions sources that have drastically reduced toxic air contaminant emissions in the San Joaquin Valley because of such rules include dry cleaners, chrome platers, gas stations, and diesel internal combustion engines.

In addition to the above efforts to reduce emissions from existing sources of air pollution, the District also performs comprehensive and conservative emissions evaluation and computer modeling before issuing permits to new sources of emissions to assure the District does not allow the creation of a new significant health risk.

These risk evaluation processes were revised in 2015 as the District implemented the state Office of Environmental Health Hazard Assessment's (OEHHA's) revised Guidance on Preparation of Health Risk Assessments that was adopted by OEHHA in early March 2015 (see Appendix A). The District's health risk assessment processes and policies were updated accordingly and implemented July 1, 2015. This revised guidance was designed to incorporate the Governing Board's guidance to implement all of the OEHHAs revisions to provide enhanced protection of children, and the public overall, while preventing unreasonable restrictions on permitting actions.

OEHHA's revised guidance is also being incorporated into the District's implementation of the AB 2588 Hot Spots Program. Since the calculated health risk under the new methodologies is higher than previous estimates, air toxics facilities subject to the AB 2588 Air Toxics "Hot Spots" program are being reassessed. Under this health risk reassessment process, each facility is required to prepare a revised Toxic Emission Inventory Plan (TEIP) and a Toxic Emission Inventory Report (TEIR) in order to provide site-specific inventories of air emissions of toxic substances.

Under its integrated air toxics program, the District has also implemented numerous methods of reducing emissions from mobile sources and other sources of emissions that the District does not traditionally regulate. For instance, the District developed the first Indirect Source Review rule in the nation, designed to reduce emissions from construction equipment and mobile sources associated with new developments. The District also provides assistance and guidance to the cities and counties in the San Joaquin Valley so that they can be assured that land-use decisions are based on a full understanding of the potential for increasing emissions of air toxics and new air toxics risks can be avoided. One of the most effective methods of reducing emissions of air toxics from emissions sources not directly regulated by the District has been the incentive grant programs that have leveraged hundreds of millions of dollars in reducing emissions from diesel internal combustion engines on trucks, tractors and agricultural irrigation operations.

Finally, the District's "Health-Risk Reduction Strategy" to prioritize air pollution control measures that provide the most health-protective result is the cornerstone in developing and implementing future risk-reduction efforts that provide the maximum public health benefit.

This Annual Air Toxics Report for 2016 more fully describes the District's ongoing efforts to regulate and reduce air toxic emissions. An electronic version of this report may be found at: http://www.valleyair.org/busind/pto/air_toxics_annual_reports.htm.

Questions regarding the District's integrated air toxics programs may be directed to:

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Summary of Toxic Air Contaminants in the San Joaquin Valley

The U.S. EPA and the California Air Resources Board have identified over 700 substances that are emitted into the air that may affect human health. Some of these substances are considered to be carcinogens (cancer-causing), while others are known to have other adverse health effects. As part of ongoing efforts to identify and assess potential health risks to the public, the District has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Valley. The State has developed similar inventories for mobile sources of air pollution. These District and State inventories have been combined into the California Air Resources Board's California Toxics Inventory (CTI), which provides the latest emissions estimates available for hazardous air pollutants of concern from all sources. A summary of the CTI data for key pollutants, based on the draft 2010 CTI (most current version released), is presented in Table 1 below.

Table 1 - San Joaquin Valley Hazardous Air Pollutant Emissions

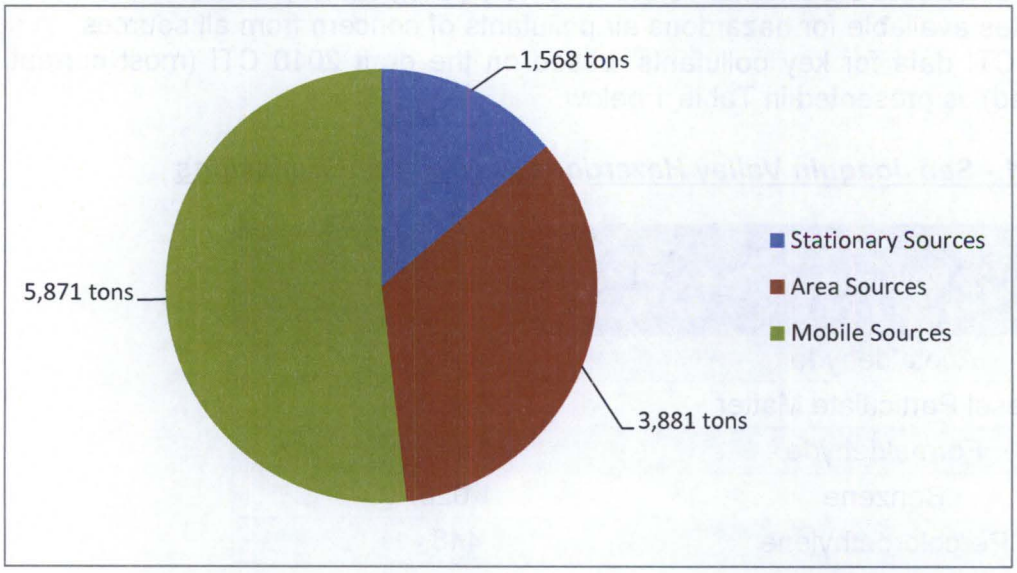
Pollutant	2010 CTI (tons/yr)
Acetaldehyde	3,512
Diesel Particulate Matter	2,520
Formaldehyde	2,318
Benzene	1,020
Perchloroethylene	448
1,3-Butadiene	269
Methylene Chloride	247
p-Dichlorobenzene	130
Carbon Tetrachloride	0
Chromium, Hexavalent	0

A more detailed summary of emissions estimates for the San Joaquin Valley is provided in Table A-1 in Appendix B.

Toxic Air Contaminants, otherwise known as "air toxics", are emitted from mobile sources (i.e., cars, trucks, buses, tractors, etc.), which are primarily regulated by the State and U.S.EPA; area sources (i.e., consumer products, dry cleaners), which are regulated the State, U.S.EPA, and the District; and from stationary sources regulated primarily by the District. Figure 1 below shows a comparison of mobile, area and stationary sources emissions of hazardous air pollutants in the San Joaquin Valley. Of these sources approximately 86% of hazardous air pollutant emissions occurring in the Valley are from mobile sources and area sources.

Stationary sources include point source emissions provided by facility operators and/or air districts and aggregated point source emissions estimated by the ARB and/or air districts. This stationary source information is included in the CTI pursuant to the Air Toxics "Hot Spots" Act of 1987 (AB 2588). Area-wide sources are sources without specific locations such as paved or unpaved roads or consumer products, which spread out over large areas. Mobile sources consist of on-road vehicles such as passenger cars and trucks, motorcycles, busses, and heavy-duty trucks and other mobile sources. The "Other mobile" source category includes but is not limited to trains, ships, off-road equipment, off-road motorcycles, and boats.

Figure 1 – Comparison of Mobile, Area, and Stationary Source Emissions



Stationary Area sources were reported with the Stationary Point sources, and the "Area Sources" category contains only area-wide sources as defined above and by the California Air Resources Board (CARB). The District and CARB continued their collaborative efforts to improve the toxics emissions inventories in 2016.

Although mobile sources are primarily regulated by the State and U.S.EPA, the District has developed grant and incentive programs to assist in risk reduction from these sources. For example, the Heavy-Duty Engine Program, which is the District's largest and most successful incentive program, utilizes incentive funds to repower, replace, or retrofit existing high-polluting diesel equipment or vehicles. This program has significantly reduced diesel particulate matter and associated public health risk in the Valley.

The National Air Toxics Assessment (NATA)

The National Air Toxics Assessment (NATA) is the federal EPA's ongoing program for evaluating air toxics in the United States. The NATA provides estimates for communities of the risk of developing cancer or other serious health effects from breathing toxic air contaminants. This program is intended to help identify sources of pollution that result in potential health risks for the public, but does not identify or quantify the actual health risk generated by any individual source of air toxics.

In response to past NATA reports from EPA that contained numerous errors and misstatements regarding emissions and associated health risk, the District has investigated and provided multiple corrections to EPA. EPA's latest NATA Report incorporates many corrections from the District, and shows that the Valley has few facilities with the potential to cause adverse health impacts from toxic emissions. More information on the NATA can be found at this link: http://www.epa.gov/national-air-toxics-assessment.

Summary of California's Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

Implementation

The Air Toxics "Hot Spots" Information and Assessment Act was enacted in September 1987. Under this act, stationary sources are required to report the types and quantities of certain toxic substances their facilities routinely release into the air. The goals of the Air Toxics "Hot Spots" Act are:

- to identify Valley facilities that release toxic air contaminants as a result of their day to day operations,
- to collect and quantify emission data,
- to identify facilities causing localized impacts,
- to determine facility-wide health risks,
- to notify nearby residents and businesses of significant risk facilities in their vicinity, and
- to require that significant-risk facilities reduce their risks below the level of significance in accordance with the provisions of the "Emissions Inventory Criteria and Guidelines Report" adopted by the Air Resources Board.

A flowchart summarizing the AB2588 Toxic "Hot Spots" implementation process is provided in Appendix C.

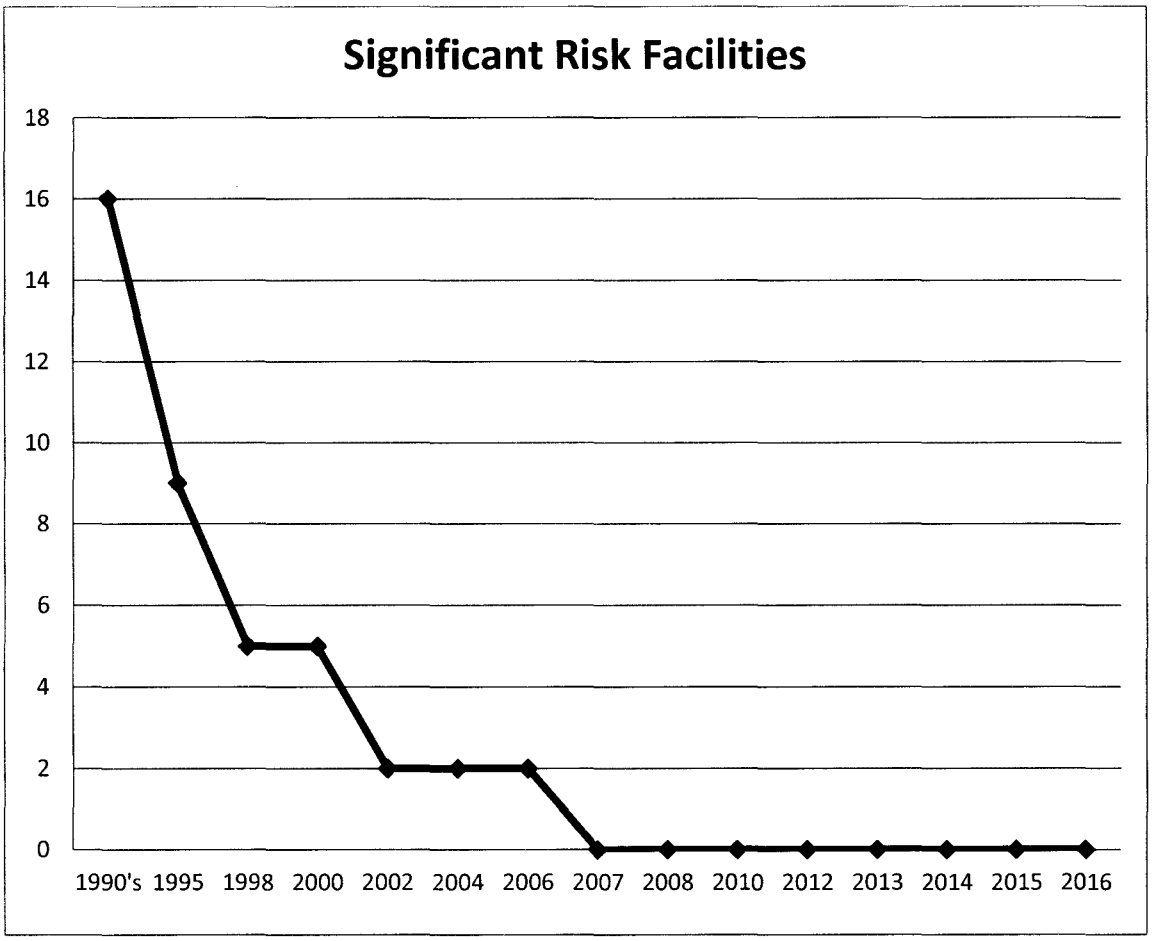
The District's implementation of the Air Toxics Hot Spots requirements has resulted in significant reductions in the public's exposure to toxic air contaminants. The public notification required under the Air Toxics Hot Spots program for facilities found to pose a significant risk to the public is one motivating factor for facility operators to pursue such reductions in risk. Implementation of this regulation was a significant driver for hundreds of facilities throughout the Valley to switch from burning fuel oil to natural gas in combustion equipment, add air pollution control equipment, and reduce the use of toxic compounds.

Assessing the Risk to the Public

The State Air Toxics "Hot Spots" Act requires the District to compile an inventory of toxic emissions from Valley facilities, prioritize facilities for health risk assessment, evaluate public health risks for facilities ranked as high priority, and notify individuals who may be impacted by any significant health risks. Although the Hot Spots program is primarily a public notification program, the public awareness achieved through the Hot Spots program has led many Valley businesses to voluntarily reduce their toxic emissions to ease community concerns.

Since 2007, no Valley facility has posed a significant risk under the State of California's Air Toxics Hot Spots program (see Figure 2 below).

Figure 2 – Number of Significant Risk Facilities



Prioritizing Facilities

After the approval of the updated facility's Toxic Emission Inventory Plan (TEIP) & Toxic Emissions Inventory Report (TEIR), which is required if there has been a significant increase in emissions since the facility's previous report submittal, the new data from the reports are entered into the California Emission Inventory Data and Reporting System (CEIDARS). The District then prioritizes these facilities using computerized spreadsheets and database programs. As part of this process, very conservative assumptions are utilized, with many safety factors built in to determine the worst-case health risk to possible receptors. The purpose of those safety factors is to ensure that the most sensitive receptors (children, elderly, pregnant women and people with weakened immune systems) are protected. The District prioritizes and ranks the health risk posed by the facility as "low", "intermediate", or "high" priority. Facilities ranked as high priority are required to perform health risk assessments.

Health Risk Assessment

The District and State Office of Environmental Health Hazard Assessment (OEHHA) are required by the Air Toxics "Hot Spots" Act to review each Health Risk Assessment (HRA). Based on the results of the risk assessment, facilities may be determined to pose a significant risk. Risk calculation involves a great deal of uncertainty. The uncertainty arises from lack of data in many areas necessitating the use of assumptions. As part of this process, again, very conservative assumptions are utilized, with many safety factors built in to determine the worst-case risk to possible receptors. The purpose of those safety factors is to ensure that the most sensitive receptors (children, elderly, pregnant women and people with weakened immune systems) are protected. The assumptions used are designed to err on the side of health protection in order to avoid underestimating the risk to the public. Therefore, while the actual risk may be much less than the calculated risk, it is very unlikely to be higher than calculated.

Since 2007, no facilities in the Valley are ranked as "high" priority, and therefore no HRA's have been required under the AB 2588 "Hot Spots" program since that time.

Risk Reduction Audits and Plans

Facilities that pose health risks above District action levels are required to submit plans to reduce their risk. Action levels for risk were established in the District's Board-Approved Risk Reduction policy. The action level for cancer risk is 100 cases per million exposed persons, based on the maximum exposure beyond facility boundaries at a residence or business. The action level for non-cancer risk is a hazard index of five at any point beyond the facility boundary where a person could reasonably experience exposure to such a risk.

There are currently no Valley facilities that have been determined to pose risks in excess of action levels.

Industry-wide Surveys

For common types of smaller commercial facilities that may emit toxic air contaminants, the District uses industry-wide surveys, which provide a more streamlined and cost-effective method of preparing toxics inventories. Valley gasoline dispensing facilities, dry cleaning operations, printing operations, and automotive painting facilities have been categorized as industry-wide survey facilities. With the added streamlining effort of combining the point source emissions inventory with the toxics inventory, these industry-wide facilities are surveyed on a periodic basis, allowing for expeditious screening risk assessments and improved quality of the state's inventory.

District's AB 2588 Air Toxics Hot Spots Reassessment Plan

Background

In 2015, the District began implementing the state Office of Environmental Health Hazard Assessment's (OEHHA's) revised Guidance on Preparation of Health Risk Assessments that was adopted by OEHHA in early March 2015 (see Appendix A). The District's health risk assessment processes and policies were updated accordingly and implemented July 1, 2015. This revised guidance was designed to implement the Governing Board's guidance to incorporate all of OEHHA's revisions to provide enhanced protection of children and the public overall, while also protecting the public's right-to-know and preventing unreasonable restrictions on permitting actions.

Since the calculated health risk under the new OEHHA methodologies is higher than previous estimates, the health risks associated with air toxics facilities subject to the AB 2588 Air Toxics "Hot Spots" program are being reassessed. As described above, under this health risk reassessment process, each facility is required to prepare a Toxic Emission Inventory Plan (TEIP) and a Toxic Emission Inventory Report (TEIR) in order to provide site-specific inventories of air emissions of toxic substances.

It should be noted that, because of the significant reduction in air toxic emissions in the San Joaquin Valley, even with the increased calculated risk caused by the risk assessment changes, District staff does not expect any facilities to trigger risk reduction requirements under AB 2588 (Facility health risk exceeding 100-in-a-million).

Implementation Plan

In 2016, the District began the reassessment of facilities by following the phased processing schedule outlined in AB 2588, which was originally implemented in the late 80's and early 90's. AB 2588 subjected three major categories (or phases) of facilities to the regulation based upon their level of annual emissions. In 2004, and subsequent to the original Hot Spots regulation, the District began permitting agricultural facilities due to loss of a state permitting exemption via SB 700. In order to now assess agricultural facilities under Hot Spots, the District will create an additional phase to assess health risk associated with these types of facilities. The AB 2588 regulations also allow for "Industry-wide" toxics emissions inventory, which consist of facilities that are small businesses where emissions can be generally characterized such as Gasoline Dispensing, Auto Body Coating, etc. These industry-wide facilities will be addressed under a fourth assessment phase.

First year (2016-2017): Phase I Facilities (≥ 25 tons emissions per year)
Second year (2017-2018): Phase II Facilities (10 ≤ tons emissions per year < 25)
Third year (2018-2019): Phase III Facilities (< 10 tons emissions per year)
Fourth year (2019-2020): Phase IV Facilities (Industry-wide and agricultural facilities)

As required by the State Air Toxics "Hot Spots" Information and Assessment act, the District already collects and compiles toxic emissions data for industrial and commercial facilities through the aforementioned Toxic Emission's Inventory Plans (TEIP's) & Toxic Emissions Inventory Reports (TEIR's). Although this process was finalized for low risk Valley facilities during the early years of the Air Toxics Hot Spots program (1989-1991), approximately 200 of the highest emitting operations are required to provide updates to their emissions reports every four years. To simplify and streamline the assessment process, facilities that are currently evaluated on a quadrennial update summary schedule under the District Hot Spot program will be maintained on their current assessment schedule.

The District's assessment procedure is summarized as follows:

Toxics Emission Inventory Plan (TEIP)

- District sends outreach informational letter to facility
- District sends TEIP notification letter, includes TEIP due date
- District develops facility-specific TEIP template, is made available to facilities
- Facilities submit their TEIP for District approval; District will send TEIP incompleteness letter requesting deficiencies be addressed, if any
- District Approves Facility TEIP and sends TEIP approval letter, which includes notification that a Toxic Emission Inventory Report (TEIR) is due

Toxics Emission Inventory Report (TEIR) / Prioritization

- District develops facility-specific TEIR template, is made available to facilities
- Facilities submit their TEIR for District Approval; District will send TEIR incompleteness letter requesting deficiencies be addressed, if any
- District approves facility TEIR and sends approval letter to facility
- District staff will run prioritization based on approved TEIR
- Prioritization:
  - Low Priority: Prioritization ≤ 1
    Facility Exempt from further AB2588 requirements
  - Intermediate Priority: $1 <$ Prioritization ≤ 10
    Facility required to provide update Summary on a quadrennial basis
  - High Priority: Prioritization > 10
    Facility required to perform a Health Risk Assessment
- District sends letter summarizing the status, and notifies facility if an HRA is required

Health Risk Analysis (HRA) - If Necessary

- Facilities submit their HRA for District Approval; District will send HRA incompleteness letter requesting deficiencies be addressed, if any
- District and OEHHA review HRA and determine the facility's health risk status using the thresholds identified below:
  - Low Risk: HRA cancer risk $\leq$ 1 in a million
    Facility Exempt from further AB 2588 requirements
  - Intermediate Risk: 1 $\leq$ HRA cancer risk < 10 in a million
    Facility required to provide update summary on quadrennial basis
  - High Risk: HRA cancer risk $\geq$ 10 in a million
    Public Notice
  - High Risk: HRA cancer risk $\geq$ 100 in a million cancer
    Public Notice and Risk Reduction Assessment Plan

At the time of publication of this report, the District is processing the Phase I source categories listed below. Subsequent to the initial outreach letter, all of these facilities have been notified and offered to receive from the District a streamlined, facility-specific template for submittal of their TEIP. For facilities that have submitted a complete TEIP, the District is in the process of notifying them of their plan approval, and of the TEIR due-date as the next step.

Table 2: Phase I List by Source Category

Phase I Source Categories	Number of Facilities
Asphalt Operation	10
Canned Foods	14
Cotton Ginning	15
Crop Prep	14
Crude Petroleum Pipelines	17
Electric Services	43
Fertilizer	12
Food Processing	20
Hospitals	4
Liquor-Wine	19
Milling	7
Miscellaneous	53
Natural Gas Liquids	6
Natural Gas transmission	3

Oil and Gas Field Services	2
Oilfields	40
Petroleum Products Wholesalers	1
Petroleum Bulk Stations and Terminals	4
Petroleum Refining	4
Plastics	9
Refuse Systems	12
Sewage System	4
Water Supply	8
Total Facilities	**321**

Providing Customer Service

The District remains in close contact with facilities tracked through the Toxics Hot Spots Program to assist them in meeting ongoing toxics requirements. To further minimize the economic impact on these facilities, the District has integrated the Air Toxics and Emissions Inventory programs, an enhancement that eliminates the need for duplicate reporting efforts by the facilities and allows for quick and accurate processing of update TEIR reports or health risk assessments with the most current facility information. This, in turn, expedites the determination for potential further reporting by the sources. The District made other significant efforts to provide facilities with assistance, such as developing air dispersion modeling guidelines and being the first district in California to implement the use of the "AERMOD" modeling program (see Air Dispersion Modeling section below) along with the continuing training of District staff in the District's "San Joaquin Valley HARP" (SHARP) program, an internally developed improvement of the Air Resources Board's Hotspots Analysis Reporting Program (HARP). These efforts also improve the quality of service offered to affected facilities and the public.

Reducing Program Costs

To further help facilities in the reassessment process and to reduce the District resources needed to implement the program, the District spent significant time in streamlining processes, providing information and outreach, and creating facility-specific tools, resources, and templates. The District "Hot Spots"-related assistance includes the following:

- **Toxic Emissions Inventory Plan Templates**. Customized, facility-specific, pre-populated Toxic Emissions Inventory Plan (TEIP) templates are available for all facilities that are subject to reporting air toxic emissions under AB2588. The TEIP templates identify the information needed from the facility without requesting any unnecessary information. In this process, the District pre-populates each facility specific template with all the facility's currently available information. This process significantly reduces the burden on facilities compiling and reporting the information required for these plans. Further, having available templates with an

established format saves facility additional time by avoiding the need for each facility to create its own individual document. Finally, uniform submittals result in District staff resources saved and contribute significantly to reducing staff evaluation processing time.

- **Toxic Emissions Inventory Report Streamlining.** The District will be implementing streamlined, customized, electronic information submittal processes for Toxic Emissions Inventory Reports (TEIRs), as well. Upon request, District staff will provide each facility with a facility-specific, electronic information submittal database or spreadsheet. The District is committed to engaging in discussion with each facility to determine the most efficient method for reporting toxics related data. Through meetings with stakeholders, the District recognizes that some facilities may choose to use the District's user-friendly inventory database to report toxics emission data, while others may prefer to use customized spreadsheets similar to those already used to report annual criteria emissions inventory. The District will then utilize and import these information submittals into the District's toxics emission inventory program. The District's program further streamlines the toxics reporting process by automatically creating state-compliant toxics reports. This feature entirely eliminates the need for facilities to individually prepare their own report. During this process, prior to finalizing the facility specific TEIR, District staff will also output the regulatory report as well as a tabular emissions summary for review by the facility. Once the report is finalized, the District will perform the health risk prioritization assessment and transmit the results to the facility.

- **In-House Assessments Utilizing Information on File**. Through the District's integrated air toxics program, thousands of air toxics assessments have been performed. The District is currently assessing historic information available on file for each facility. Upon assessment of this information, the District will notify facilities subject to Hot Spots reporting.

- **Applicability Survey for Phase III Facilities**. The District plans to survey the "Phase III" facilities, which are those with emissions less than 10 tons per year and not categorized as "Industry-wide." There are a few thousand District facilities in this category for which an applicability determination will be required. Towards that end, the District will reach out to these facilities in an effort to accurately determine Hot Spots applicability. Identifying exempt facilities will result in eliminating further toxics related requirements for those exempt facilities, and greatly reduce the amount of District resources required to process Hot Spots assessments.

- **Web-based Automated Hot Spots Applicability Screening Tool for Phase III Facilities**. The "Phase III" facilities survey described above will be added to the District's website. This tool will allow stakeholders to automatically determine whether the facility is subject to the Hot Spots regulation after entering simple facility information into the system.

- **District Presentations and Site Visits**. The District is available at any time to outreach and present on the Air Toxics Hot Spots regulation and the District's implementation. At a moment's notice, District staff is able to meet at a facility, or present at a conference, in an effort to provide education and assistance to stakeholders for the Hot Spots assessment process.

- **Small Business Assistance**. In a continuing effort to provide excellent customer service, District staff is available to answer questions by phone and e-mail. Within the Hot Spots assessment process, the District encourages facilities to contact staff in order to obtain the aforementioned streamlining tools, ensure a good understanding of the process, and to obtain immediate technical assistance.

- **Outreach Letters**. Prior to beginning a Hot Spots assessment process with a facility, the District sends an informational outreach letter. The letter contains general information about Hot Spots, an explanation of the State's health risks calculation method, the District's plans to assess facilities health risk under the Hot Spots program, and names and phone numbers of District staff who can assist the facilities.

- **Website Resources**. The District has and will continue to enhance its website, to provide additional useful information and resources designed to assist stakeholders. Resources posted on the District's air toxics webpage already include a Hot Spots Frequently Asked Questions (FAQ) document. In the near future, a new air toxic profiles technical reference document, emissions calculators, and an automated Hot Spots applicability screening tool will be available.

As discussed above, during the course of implementing the Air Toxics "Hot Spots" Program, the District has made significant progress in making air toxics reduction efforts more cost effective. The investment in the streamlining efforts described above will pay off in the form of an expected significant reduction in time spent by stakeholders to proceed with the requested toxics related information and in resources necessary for the District to implement this program.

As a result, the District is in the initial phases of investigating reducing fees charged to facilities subject to AB2588 to account for this improved efficiency and its impact on the District's costs of implementing the program. However, ARB is reportedly increasing their fees significantly. While the District is committed to reducing fees to correspond to the District's minimized costs, individual facilities that are being reassessed this year under the AB2588 program are likely to see increases in annual fees due to the reassessment process and due to increased state fees. Fees established by the state are identified in CARB's Hot Spots fee schedule, and District Hot Spot fees are listed in Rule 3110 (Air Toxics Fees).

Preventing Health Risks

The District's integrated approach to reducing air toxics emissions in the San Joaquin Valley assists in preventing health risks through a variety of means:

Permitting of New and Modified Stationary Sources – One goal of District risk management efforts is to ensure that new and modified sources of air pollution do not introduce new and unacceptable health risks at nearby residences and businesses. In order to achieve this goal, the District reviews the risk associated with each proposed permitting action where there is an increase in emissions of hazardous air pollutants or change in operations. This risk management review is performed by expert District staff as part of the engineering evaluation for these projects. Since risk management reviews are performed concurrently with other project review functions using streamlined procedures including improved modeling tools developed by District staff, use of appropriate designated modeling programs, and utilizing the most current and applicable meteorological data processed by District staff, the process does not extend the length of time necessary to process applications.

Under the District's risk management policy (Policy APR-1905), Toxic Best Available Control Technology must be applied to all units that may pose greater than de minimis levels of risk (i.e., a cancer risk greater than one in one million). Projects that would pose significant impacts to nearby residences or businesses (i.e., by causing a cumulative facility cancer risk of 20-in-a-million or greater) are not approvable. When a project is determined not to be approvable as proposed, District staff will work with the applicant to find approvable low-risk alternatives, such as installing air toxic emissions control devices or limiting the operation of the proposed equipment. Under this program, the District has performed over 14,000 Risk Management Reviews for facilities throughout the valley. As a consequence, no permit for a new or modified operation has been approved since the program was initiated in 1995 that would have created a significant health impact through increases in air toxic emissions.

In addition, since July 2015, nearly 1,100 projects have been analyzed and approved under the revised District RMR methodologies that incorporate the revised OEHHA risk assessment methodologies (see Appendix A). These revised procedures have resulted in no permitting project denials and have not changed permit processing time and associated application processing fees compared to the prior methodology, a testament to the District's careful and thoughtful implementation of the OEHHA guidance.

Air Toxics "Hot Spots" Information and Assessment Act – As noted earlier in this report, this law is designed to provide information on the extent of emissions from existing stationary sources and the potential public health impacts of those emissions. Facilities are required to calculate and report to the District their actual emissions of air toxic emissions. "Significant Risk" facilities must disclose their impacts to the nearby residents that may be impacted. Facilities that exceed a higher risk reduction action threshold must go even further and reduce emissions of air toxics. No Valley facility currently poses a significant risk under the "Hot Spots" program, while at the beginning of

the implementation of the program, in 1989, 16 facilities were classified "Significant Risk Facilities."

As discussed above, the District has begun a significant risk reassessment process that incorporates the revised OEHHA guidance.

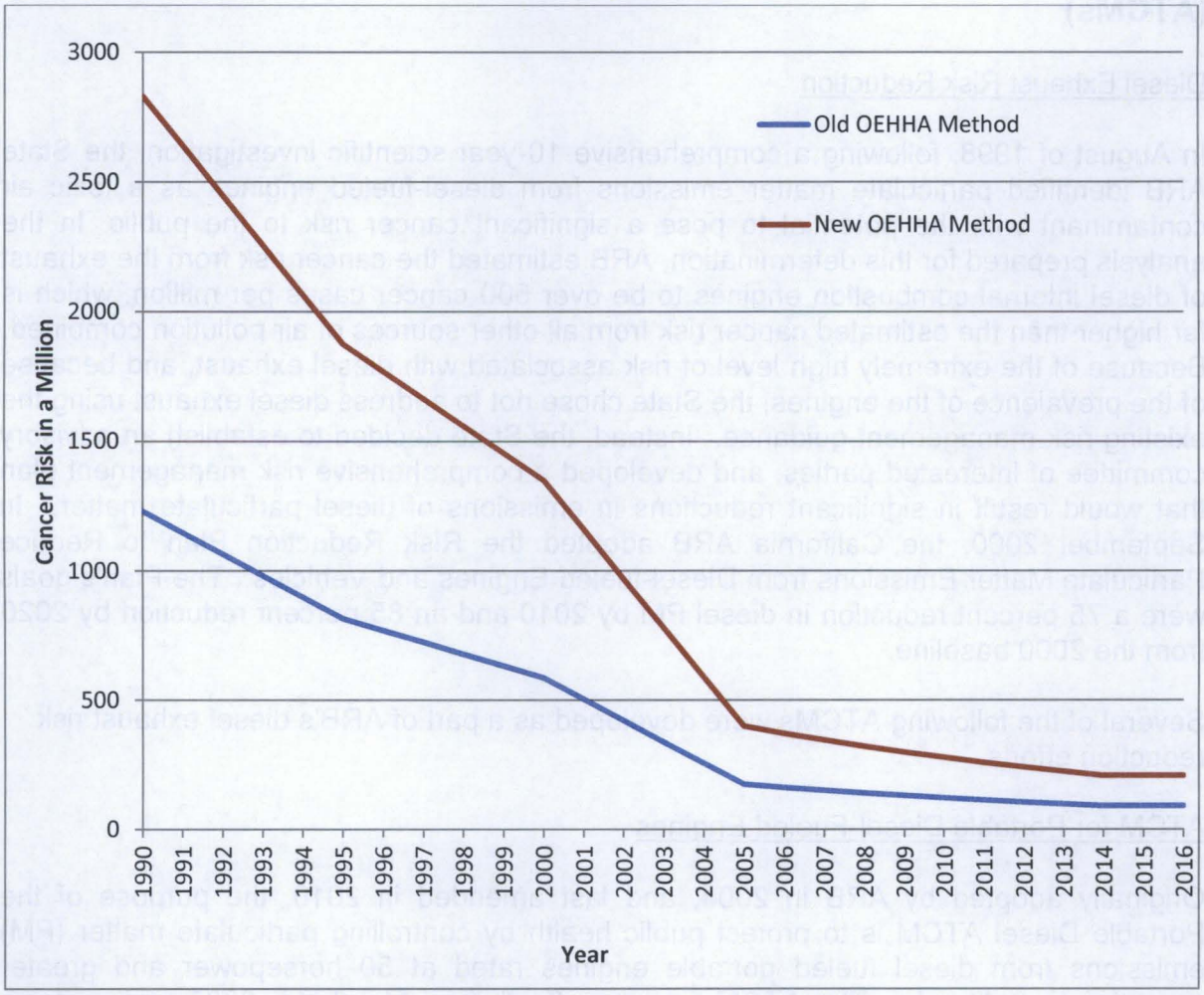
Incentive-Based Programs – The District has experienced tremendous success in replacing and retrofitting large numbers of polluting equipment in the San Joaquin Valley, through our emissions reduction incentive grant programs. As identified above, a significant portion of the air toxics emissions reductions achieved have been from the replacement or electrification of over 22,000 diesel fired internal combustion engines. In addition, they have directly reduced nearly 4,500 tons per year of diesel particulate emissions, one of the most potent and common carcinogens in the ambient air. This reduction in diesel particulate has resulted in an estimated reduction in cancer risk of over 180 in a million for the residents of the San Joaquin Valley - to put this in context, the current risk of an individual contracting cancer caused by the diesel particulate in the air in the San Joaquin Valley is approximately 40 in a million.

Air Toxics Regulations – In addition, the District implements a variety of state, federal, and District rules reducing and regulating the emissions of toxic air pollutants. Such regulations have generated significant reductions in air toxics from a wide variety of sources, from requiring the gradual phase-out of perchloroethylene used at drycleaners and mandating emissions controls at chrome platers, to a large number of rules aimed at reducing particulate emissions from diesel internal combustion engines.

Due to this diverse set of risk reduction efforts only fourteen percent (14%) of all air toxics in the San Joaquin Valley are now emitted from stationary sources of pollution under the direct control and regulation of the District, while 52% come from mobile sources such as cars and trucks. The remaining 34% is emitted from area-wide sources like road dust, paint and solvent use, and other consumer products. Mobile and area-wide sources of emissions are generally under the regulatory authority of the State of California and the federal government.

Figure 3 below illustrates the significant health benefit that the Valley residents have experienced due to these risk reduction efforts. The blue line represents the historical context, using the prior risk assessment methodologies in place from the mid-1990s. The cancer risk as calculated using these methodologies has dropped from about 1,200 in a million in 1990, to under 200 in a million today. The red line indicates the impact by using the revised OEHHA risk assessment methodologies discussed above. Regardless of the methodology used, the San Joaquin Valley has seen a reduction of nearly 90% in cancer risk due to air toxics during the last two decades.

Figure 3: Cancer Risk from Ambient Air, San Joaquin Valley (The California Almanac of Emissions and Air Quality, CARB, 2009)



Reducing Regional Health Risks

Reducing Health Risk through State Airborne Toxic Control Measures (ATCMs)

Diesel Exhaust Risk Reduction

In August of 1998, following a comprehensive 10-year scientific investigation, the State ARB identified particulate matter emissions from diesel-fueled engines as a toxic air contaminant with the potential to pose a significant cancer risk to the public. In the analysis prepared for this determination, ARB estimated the cancer risk from the exhaust of diesel internal combustion engines to be over 500 cancer cases per million, which is far higher than the estimated cancer risk from all other sources of air pollution combined. Because of the extremely high level of risk associated with diesel exhaust, and because of the prevalence of the engines, the State chose not to address diesel exhaust using the existing risk management guidance. Instead, the State decided to establish an advisory committee of interested parties, and developed a comprehensive risk management plan that would result in significant reductions in emissions of diesel particulate matter. In September 2000, the California ARB adopted the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles. The Plan's goals were a 75 percent reduction in diesel PM by 2010 and an 85 percent reduction by 2020 from the 2000 baseline.

Several of the following ATCMs were developed as a part of ARB's diesel exhaust risk reduction efforts.

ATCM for Portable Diesel-Fueled Engines

Originally adopted by ARB in 2004, and last amended in 2010, the purpose of the Portable Diesel ATCM is to protect public health by controlling particulate matter (PM) emissions from diesel fueled portable engines rated at 50 horsepower and greater operating in California. The ATCM became effective on March 11, 2005 and contains stringent emissions standards and operational requirements that impact new and existing portable diesel engines. All existing portable diesel engines were required to be certified by January 1, 2010, and all new portable engines were required to meet the latest certification standards. In addition, the ATCM contains stringent diesel PM fleet standards that apply after 2010.

The District has been implementing the requirements of the Portable ATCM in the review of applications for District Portable Registrations and permits for portable diesel engines. This ATCM is expected to continue to result in a substantial reduction in Valley diesel PM emissions over the next several years.

ATCM for Stationary Diesel-Fueled Engines

Originally adopted by ARB in 2004, and subsequently amended in 2011, the purpose of the Stationary Diesel ATCM is to protect public health by controlling particulate matter (PM) and criteria pollutant emissions from stationary diesel fueled portable engines rated at 50 horsepower and greater operating in California.

This ATCM is satisfied via Rule 4702 (Internal Combustion Engines) in combination with the District's permitting or Permit-Exempt Equipment Registration (PEER) program. These District programs have collectively been found by the ARB to be equivalent to the Stationary ATCM for stationary agricultural engines. This ATCM and District Rule 4702 are expected to continue to result in a substantial reduction in Valley diesel PM emissions over the next several years.

State Control Measure for In Use Off-road Diesel Vehicle Rule

On July 26, 2007, ARB adopted a regulation to reduce diesel PM and oxides of nitrogen (NO_X) emissions from in-use (existing) off-road heavy-duty diesel vehicles. The regulation applies to self-propelled diesel-fueled vehicles that cannot be registered and licensed to drive on-road. Examples include loaders, crawler tractors, skid steers, backhoes, forklifts, and airport ground support equipment. Vehicles with engines less than 25 horsepower are exempt. The regulation is expected to reduce diesel exhaust emissions by an average of 1,560 tons per year statewide between 2010 and 2030. This represents a 73% reduction in diesel PM from emissions levels anticipated in the absence of this regulation, preventing an estimated 4,000 premature deaths.

Diesel Particulate Matter Control Measure for On-road Heavy-duty Diesel-fueled Vehicles Owned or Operated by Public Agencies and Utilities

On December 6, 2006, ARB adopted the Diesel Particulate Matter Control Measure for On-road Heavy-duty Diesel-fueled Vehicles Owned or Operated by Public Agencies and Utilities. This control measure will reduce emissions from these types of vehicles over several deadlines, with the first groups of vehicles required to be in compliance by December 31, 2007. This control measure is particularly effective because it reduces diesel PM emissions in the heart of residential communities where municipal and utility vehicles frequently conduct business, and where the public is significantly impacted by diesel PM emissions.

ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling

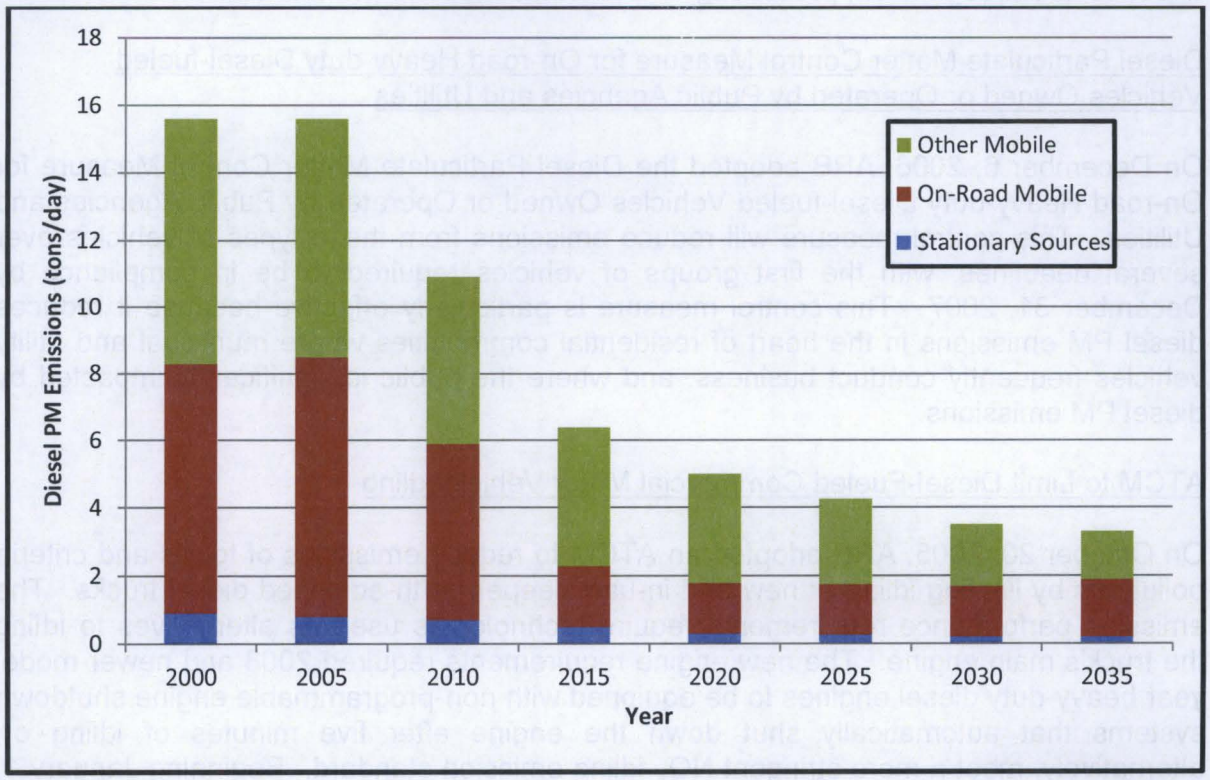
On October 20, 2005, ARB adopted an ATCM to reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth-equipped diesel trucks. The emission performance requirements require technologies used as alternatives to idling the truck's main engine. The new engine requirements required 2008 and newer model year heavy-duty diesel engines to be equipped with non-programmable engine shutdown systems that automatically shut down the engine after five minutes of idling or, alternatively, meet a more stringent NO_X idling emission standard. Beginning January 1,

2008, in-use truck requirements require operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California. Each year heavy-duty diesel truck idling contributes to hundreds of pounds of PM as well as other pollutants to the Valley. The District Incentive Program has subsidized truck stop support equipment to reduce diesel truck idling along the main goods movement corridors. Tests conducted by the District and ARB have determined that an idling truck can consume up to a gallon of diesel fuel an hour. The idling of heavy-duty trucks, at the time of delivery, represents a high percentage of emissions around developed areas in the Valley.

ATCM for Transport Refrigeration Units

On February 26, 2004, ARB adopted an ATCM to reduce emissions of diesel PM from Transport Refrigeration Units (TRUs). TRUs are refrigeration systems powered by diesel internal combustion engines designed to refrigerate or heat perishable products that are transported in various containers, including semi-trailers, truck vans, shipping containers, and rail cars. Although TRU engines are relatively small, ranging from 9 to 36 horsepower, significant numbers of these engines congregate at distribution centers, truck stops, and other facilities, resulting in the potential for health risks to those that live and work nearby. ARB estimates that diesel PM emissions from TRUs will be reduced 65% by 2010, and 92% by 2020.

Figure 4: Diesel PM Emissions Trend, San Joaquin Valley (The California Almanac of Emissions and Air Quality, CARB, 2013)



ATCM for Hexavalent Chromium for Decorative and Hard Chrome Plating and Chromic Acid Anodizing Facilities

This revision to the existing ATCM for chrome plating operations became effective on October 24, 2007. It established new, more stringent emission limitations that depend upon size and nearness to sensitive receptors, limited the use of chemical fume suppressants, and adopted new housekeeping, education, monitoring, recordkeeping, and reporting requirements. The District chose to implement this ATCM by revising Rule 7011 to incorporate the revised ATCM by reference. The District also required submission of a compliance plan and applications for Authorities to Construct (ATCs). A compliance workshop was held on November 17, 2007 to assist facility owners and operators in complying with the ATCM. The District's Governing Board adopted the rule on January 17, 2008. In late 2012, ARB scheduled a workshop to revise the ATCM to conform with; a new limit on surface tension requirements, prohibition of a specific chemical in fume suppressants, and housekeeping requirements in the federal NESHAP. That workshop was held in January 2013. Since then, ARB has not proceeded on any further rulemaking. Note that the chrome plating ATCM is the California equivalent of the federal NESHAP. Thus, the NESHAP is not enforced separately.

ATCM for Perchloroethylene Emissions from Dry Cleaning Operations

The ARB adopted an ATCM for dry cleaners using perchloroethylene (perc) on January 25, 2007. The amendments will phase out the use of perc dry cleaning machines and related equipment by January 1, 2023. In addition, the amendments will put in place revisions to the Curriculum for the Environmental Training Program for Perc Dry Cleaning Operations (Training Curriculum). There were changes to the operational requirements for dry cleaners as well. For example, the revised ATCM requires that owners/operators maintain a spare set of gaskets on-site. Also, the trained operator must now be on-site whenever the machine is operated. These amendments became effective upon final approval by the Office of Administrative Law on December 27, 2007. The District adopted the revised ATCM in 2008 by reference.

ATCM for Composite Wood Products

Formaldehyde is produced on a large scale worldwide. One major use includes the production of wood binding adhesives and resins. On April 26, 2007, ARB approved an ATCM to reduce formaldehyde emissions from composite wood products including hardwood plywood, particleboard, medium density fiberboard, thin medium density fiberboard, and also furniture and other finished products made with composite wood products. ARB developed a modified version of the Composite Wood Product ATCM that was released for a 15-day public comment period on January 31, 2008, and was approved April 18, 2008, by the Office of Administrative Law. Further amendments to this ATCM were approved in May of 2012.

Other ATCMs

The following other ATCMs have been adopted by the District as regulations:

- Chromium Plating And Chromic Acid Anodizing Facilities
- Hexavalent Chromium - Cooling Towers
- Ethylene Oxide - Sterilizers and Aerators
- Dioxin - Medical Waste Incinerators
- Fluorides - Phosphoric Acid Plants
- Asbestos - Containing Material for Surfacing Applications
- Toxic Metals from Non-Ferrous Metal Melting
- Perchloroethylene from Dry Cleaning Operations

Other ATCMs are implemented primarily through the permitting process. These include the ATCM for Stationary Compression Ignition Engines and the ATCM for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater.

Using the 2010 California Toxics Inventory (CTI), the District quantified the actual emissions reductions achieved by the implementation of ATCMs and other air toxic control measures. Examples of the resulting emissions reductions can be found in Appendix D.

Reducing Health Risk through Enforcement Delegation

On July 1, 2008, the District began enforcing California Air Resources Board's ATCM to Limit School Bus Idling and Idling at Schools and ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling. The purpose of these ATCMs is to reduce toxic and criteria air pollutants by limiting idling time. By enforcing these requirements in the Valley, the District is able to directly reduce public exposure from toxic emissions, especially in sensitive areas.

The District was delegated the responsibility of enforcing the U.S. EPA's National Emissions Standards for Hazardous Air Pollutants for asbestos, a known carcinogen, and as a result performs hundreds of inspections of construction projects that have the possibility of disturbing asbestos containing materials. By ensuring that these materials are removed and handled correctly, the probability of harmful releases of asbestos is significantly reduced.

Implementation of Federal Air Toxics Mandates

The Federal Environmental Protection Agency (EPA) has issued National Emission Standards for Hazardous Air Pollutants (NESHAPS) through Part 61 and Part 63 of Title 40 of the Code of Federal Regulations (CFR). The Part 61 NESHAPS were issued prior to the adoption of the Federal Clean Air Act Amendments of 1990. Those NESHAPS are specific to a particular hazardous air pollutant (HAP). Due to little activity in adopting NESHAPs, the 1990 amendments to the Federal Clean Air Act established a new procedure for developing NESHAPS. A list of 189 HAPs was established. EPA

identified industries that emitted those HAPs and established a prioritized list of over 70 source categories for which Maximum Achievable Control Technology (MACT) standards would be promulgated. These MACT standards apply to major sources of HAPs, defined as sources with emissions greater than 10 tons per year of a single HAP, or 25 tons per year of combined HAPs. Many of these source categories are already subject to state and local regulation, which have traditionally been more stringent than the federal regulations. EPA has already adopted MACT standards to address the majority of the source categories identified.

In addition to the MACT standards for major sources, EPA is also required to adopt NESHAP standards to reduce the health risk associated with area (non-major) sources of HAPs. As the result of a lawsuit, EPA was under court order to promulgate area source NESHAPS for 4 categories of sources by December 15, 2006; for 6 categories by June 15, 2007; and for 10 categories each 6 months thereafter until June 15, 2009. Similar to the MACT standards for major sources, many of the area sources subject to these standards are already subject to state and local regulation. Area source NESHAPS have already been promulgated for Oil and Natural Gas Production Facilities; Polyvinyl Chloride and Copolymers Production, Primary Copper Smelting, Secondary Copper Smelting, and Primary Nonferrous Metals - Zinc, Cadmium, and Beryllium; Acrylic and Modacrylic Fibers Production, Carbon Black Production, Chemical Manufacturing: Chromium Compounds, Flexible Polyurethane Foam Production and Fabrication, Lead Acid Battery Manufacturing, and Wood Preserving; Clay Ceramics Manufacturing, Glass Manufacturing, and Secondary Nonferrous Metals Processing; Electric Arc Furnace Steelmaking Facilities; and Hospital Ethylene Oxide Sterilizers. See Appendix E for the current status of the District's implementation of NESHAPS.

An amendment to 40 CFR part 63, subpart ZZZZ (control of HAPs from reciprocating internal combustion engines) was proposed on June 6, 2012, and was finalized by EPA on January 14, 2013. This regulation requires reductions in hazardous air pollutants from stationary internal combustion engines over the next several years, and requires significant recordkeeping and monitoring of the engines affected. The District is currently developing processes and policies to assist those facilities affected to comply with the new requirements.

Many other amendments to existing NESHAPS were finalized in 2012: Chemical Manufacturing, Hard & Decorative Chrome electroplating and HCL supplements, Polyvinyl Chloride, Nitric Acid Plants, Petroleum Refineries process heaters and flares, etc. While these NESHAPS have lesser applicability in California and the San Joaquin Valley then the engine NESHAP discussed above, the District will identify, notify, and assist those facilities affected.

The District currently is delegated authority by EPA to implement and enforce NESHAPs through two mechanisms. First, all major sources of HAPs are required to obtain Title V operating permits. The NESHAP requirements for these major sources are included in the Title V permits for which the District is delegated authority by EPA. Second, the District is delegated authority to implement and enforce all area source NESHAPs that are included in District Rule 4002, most recently amended on May 20, 2004. Under the

District's Air Toxics Program and federal regulations, there are several options for implementing new NESHAP standards. These options are discussed in more detail below. The District will choose the most appropriate option for implementing each Federal standard, and will hold public workshops to obtain public input on the implementation of these additional standards.

- **Straight Delegation**: Accepting delegation of the federal standard as written by amending Rule 4002 or by agreeing to automatic delegation with an option of opting-out for specific NESHAPS using an approach developed by the California Air Pollution Control Officers Association (CAPCOA);
- **Rule Adjustment**: Proposing minor changes to the federal MACT rule that make the adjusted rule no less stringent than the federal standard;
- **Rule Substitution**: Substituting one or more existing, new, or amended District rules for the federal standard (It should be noted that California Districts have been delegated authority for the chrome plating and dry cleaning NESHAPS because EPA has agreed that the ATCMs for those source categories are equivalent to the NESHAPS.);
- **Streamlining Multiple Applicable Requirements**: Minimizing duplicative requirements by placing the more stringent emission limit or workplace practice standard on the permit along with the corresponding monitoring, recordkeeping, and reporting requirements;
- **Program Substitution:** Using existing programs to assure compliance with the requirements of federal standards;
- **No Delegation**: Using existing programs to reduce the emissions of hazardous air pollutants without delegation of federal standards.

The NESHAPS for which the District has received delegation through Rule 4002 are listed in Table B-1 in Appendix E. All current NESHAPS for which the District has not received delegation through Rule 4002 are listed in Table B-2 in Appendix E.

Regardless of the status and type of delegation, the District believes strongly in working with the affected sources to make them aware of the requirements in a timely manner, and then help them understand and comply with these public health protective regulations.

California Environmental Quality Act and Health Risk Reduction

The California Environmental Quality Act (CEQA) requires public agencies to evaluate project environmental impacts and all feasible alternatives or mitigation measures that can substantially reduce or avoid those impacts. Generally, the main responsibility for satisfying CEQA requirements, or "lead agency" role, falls under the responsibility of city or county planning agencies.

From a health risk perspective, land use decisions are critical to improving and preventing degradation of air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence potential exposure of sensitive receptors to sources of air pollution. Under CEQA, land use agencies must evaluate the potential significance

of health risks associated with the projects they approve. However, most land use agencies lack the necessary technical expertise to asses health risk impacts associated with exposure to toxic air contaminants. As a result, there is a great need for the District to provide land use agencies tools that will assist them with incorporating health risk assessment from exposure to toxic air contaminants into their land use decisions.

Modeling Guidance and Tools

The District has traditionally provided guidance to local lead agencies in evaluating and addressing air pollution impacts from projects subject to CEQA. Recognizing the need for information and screening tools to support decision makers as they establish policies and programs for CEQA, the District has revised its Health Risk Assessment (HRA) modeling guidance document to address issues that arise in CEQA HRAs, and distributed this guidance to land use agencies and posted it the District website, www.valleyair.org.

Public Assistance

With concerns about health risk impacts from CEQA projects and the need to streamline the CEQA HRA review process; the District has dedicated a significant amount of effort into providing assistance to proponents and their consultants in preparing CEQA HRAs. This effort includes providing extensive assistance to consultants regarding health risk modelling. In addition to providing direct assistance, the District carefully reviews the HRAs included in CEQA documents circulated by public agencies for review, and provides further feedback and guidance.

Air Dispersion Modeling

Air quality models use mathematical techniques to simulate the physical and chemical processes that affect air pollutants as they disperse and react in the atmosphere. These models form the backbone of the air toxics management process, as they are used to assess the potential exposure of the public to various toxic emissions. Using inputs of meteorological data and source parameter information such as emission rates and stack height, models predict ambient concentrations of primary pollutants that are emitted. Models are also important to the air quality management process because they determine compliance with National/State Ambient Air Quality Standards (NAAQS/SAAQS), and other regulatory requirements such as New Source Review (NSR).

EPA Regulatory Model (AERMOD)

The American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee (AERMIC) was formed to introduce state-of-the-art modeling concepts into the EPA's air quality models. Through AERMIC, a modeling system, AERMOD, was developed to incorporate air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain.

With the promulgation of AERMOD as the preferred air dispersion model in EPA's *Guideline on Air Quality Models* (signed by the EPA Administrator on October 21, 2005 and published November 9, 2005 in the *Federal Register*), AERMOD is used for appropriate application as a replacement for ISCST3 since November 9, 2006.

Meteorological Data

The District makes available meteorological data from both the National Climatological Data Center (NCDC) and the Fifth-Generation Penn State/National Center for Atmospheric Research Mesoscale Model (MM5). The NCDC data were collected at major airports in the San Joaquin Valley. The MM5 data were derived from a numerical model for locations in the valley where there are no airports. These locations are primarily in the western part of the Valley. All processed data is freely available for download on the District's web page at:
http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm.

Modeling Guidance

The District developed a modeling guidance document that was designed to address major issues involved with running AERMOD and specific guidance with default modeling parameters for common source types. The modeling guidance document can be found on the District's web site at:
http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm.

Modeling Support to Public Agencies

The District is one of the leading air dispersion modeling experts in the State of California by ensuring that the newest models and techniques are implemented and providing modeling guidance to support internal and external users. Additionally, District staff has been called by local government agencies, other Districts, consultants working on projects outside the Valley, and ARB to provide modeling assistance.

District continues its leadership role in dispersion modeling science at the state and federal levels. The District assists the California Air Resources Board (CARB) with the development of modeling training for other air districts, the public, and consultants throughout California. The District presented modeling topics at several conferences and meetings such as the EPA's Regional, State, and Local Modelers Conference and the CAPCOA Engineering training classes. In addition, the District produced material used by EPA Region IX during modeling training for federal New Source Review.

To ensure that stakeholders, consultants and the public are kept up-to-date on modeling issues, the District maintains a modeler list serve, the members of which receive regular updates on District modeling techniques. Subscribers to the District's modeler list serve range from local, state, national, and worldwide subscribers that look to the District for cutting edge techniques and guidance to address regulatory issues.

The District's Health-Risk Reduction Strategy

In September 2010, the District Governing Board adopted the Health-Risk Reduction Strategy to maximize public health improvements within the District's various strategies and programs. In line with the District's Air Toxic Program, the overall goal of the Health-Risk Reduction Strategy is to minimize the Valley population's exposure to air pollution and corresponding health risk. This risk reduction goal is being pursued through the integration of emerging scientific knowledge into the District's control strategies, incentive programs, public communication, and other strategies to prioritize those efforts that provide the biggest public health benefits.

The District's Health-Risk Reduction Strategy has been implemented through a variety of programs:

- **Attainment Plans and Control Strategies.** Within the District's *2012 $PM_{2.5}$ Plan*, the District prioritized strategies achieving the greatest public health benefits while satisfying applicable attainment planning requirements. The District also analyzed the health benefits that would result from implementation of the plan. Several examples of prioritized control strategies included in the *2012 $PM_{2.5}$ Plan* include new measures to further reduce emissions from commercial cooking (Rule 4692) and residential wood burning (Rule 4901). These measures will reduce some of the most harmful types of particulate matter when and where those reductions are most needed in urban, highly populated areas. The District has prioritized commitments to strengthen these programs due to the significant and well-researched public health benefits.

- **Research.** The District actively tracks, sponsors, and coordinates research projects related to public health and air quality. For example, in 2010 - 2011, the District sponsored a first-of-its-kind epidemiological investigation of health effects of air pollution in Modesto, Fresno, and Bakersfield. The study found that high particulate matter and ozone concentrations clearly correlate to increased hospital and ER admission rates, especially for those 19 and younger. The District sponsored a follow-up study in 2011 - 2012. The District is also sponsoring a pilot study of ultra-fine particulates in Fresno, partnering with UCSF-Fresno, to investigate the quantity and spatial distribution of ultra-fine plumes from motor vehicles, lawn care equipment, wood burning, and restaurants.

- **District Incentive Programs.** The District has implemented a number of incentive programs that prioritize public health benefits, including programs that target heavy duty diesel equipment, old school buses, light-duty vehicles, residential wood burning devices, and more. A significant portion of this funding provides direct benefits to environmental justice and disadvantaged communities throughout the Valley. Two recent examples of the District's commitment to reducing emissions in environmental justice areas and disadvantaged communities through voluntary incentive programs include the Tune In Tune Up program and the Burn Cleaner Program. The Tune In Tune Up program provides incentives for primarily low-income Valley residents to

perform much-needed smog related repairs to their personal vehicles. In some cases, the District is even able to offer greater incentives for residents to replace their old, high polluting vehicle with a much cleaner and much newer vehicle. Through the Burn Cleaner Incentive Program, the District is able to provide funding for Valley residents to replace, older, high polluting residential wood burning devices with new, clean burning devices or natural gas inserts. Through this program, the District offers a higher incentive for the Valley's low income population.

To assist in addressing toxic emissions, the District invests approximately $100 million per year to help truckers, farmers, and Valley residents reduce emissions from mobile and off-road sources of emissions through grants that incentivize the early replacement of polluting equipment. For example, Valley residents have benefitted from the fact that nearly 22,000 internal combustion engines have been replaced, achieving annual emission reductions to the tune of more than 4,500 tons of diesel particulate matter (one of the most potent carcinogens).

- **The District's information and educational programs, including the Real-Time Air Quality Advisory Network (RAAN) and the Web-based Archived Air Quality (WAAQ) System.** RAAN uses real-time data from air monitoring stations throughout the Valley to provide hour-by-hour air quality updates to schools and other subscribers. WAAQS was implemented in 2015 and takes RAAN a step further by providing neighborhood-by-neighborhood historical air quality data for any address in the Valley air basin. RAAN will be enhanced in 2017 by providing neighborhood-by-neighborhood real-time air quality data. Valley residents can use this information to make informed decisions and plan outdoor activities for times with the best air quality, reducing potential air quality health risks.

APPENDICES

Appendix A: Implementing OEHHA's Revised Guidance for Health Risk Assessments
Appendix B: Toxic Emissions Summary
Appendix C: AB 2588 District Implementation Flow Chart
Appendix D: ATCM Emissions Reductions
Appendix E: Current Status of NESHAP Delegation

Appendix A - Implementing OEHHA's Revised Guidance for Health Risk Assessments

Background

In 1990, the state legislated new law, "The Children's Environmental Health Protection Act" (SB 25, Escutia, 1999, Health and Safety Code Section 39606), which requires explicit consideration of infants and children in assessing risks from air toxics, necessitated revisions of the methods for both noncancer and cancer risk assessment, and of the exposure variates.

Consequently, OEHHA updated three of the four original Air Toxics Program technical support documents (TSDs), adopted between 1999 and 2003. All the TSDs have undergone public comment and peer review and were adopted for use in the Air Toxics Hot Spots program by the Director of OEHHA.

The three TSDs documents are:

1) "Derivation of Non-cancer Reference Exposure Levels (June, 2008)" addressed the methodology for deriving acute, chronic and eight hour Reference Exposure Levels,

2) "The Technical Support Document for Cancer Potency Factors (May 2009)" addresses the methodology for deriving cancer potency factors and adjusting cancer potency to account for the increased sensitivity of early-in -life exposure to carcinogens, and

3) "The Technical Support Document for Exposure Assessment and Stochastic Analysis (June 2012)" presents the exposure model for the Hot Spots program and reviews the available literature on exposure and relevant fate and transport variates.

The OEHHA guidance manual is a description of the algorithms, recommended exposure variates, cancer and non-cancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987.

Changes to OEHHA Guidance

On June 20, 2014, the state Office of Environmental Health Hazard Assessment (OEHHA) proposed changes to *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments* (Risk Assessment Guidelines). These revisions were mainly designed to provide enhanced protection of children, as required by "The Children's Environmental Health Protection Act", and were adopted in March 2015.

OEHHA'S Key Risk Calculation Changes

The key changes to the proposed Risk Assessment Guidelines affecting the calculation of cancer risk are summarized as follows:

- Residential exposure duration changed from 70 years to 30 years
  (reduces calculated risk)
- Worker exposure duration changed from 40 years to 25 years
  (reduces calculated risk)
- Cancer risk calculated by age groups rather than single group
  (increases calculated risk)
- Age-based sensitivity factors used to calculate cancer risk
  (increases calculated risk)
- Age-based breathing rates used in conjunction with a 95th percentile breathing rate for children
  (increases calculated risk)
- Breathing rate for adults from 95th percentile to 80th
  (reduces calculated risk)
- Allow spatial averaging of impacts (rather than receptor or point-specific impacts)
  (reduces calculated risk)

As noted, some of the changes reduced the calculated risk for a given source of emissions, while others increased the calculated risk. Overall, the calculated cancer risk increased about 2.4 times for most situations.

The District's Revised Health Risk Methodology

The District Governing Board directed staff to implement OEHHA's changes to risk assessment procedures for the protection of children, without creating scenarios in which a permitting action would result in a higher risk than prior District methodologies, but to do so in a way that will not impose unreasonable permitting or CEQA restrictions in the San Joaquin Valley.

The revised policies continue to adhere to the long-standing objectives of the District's risk management philosophy:

- Minimize health risk from new and modified sources of air pollution,
- Do not allow significant health risk impacts from new and modified sources,
- Avoid unreasonable restrictions on permitting,
- Maintain public right-to-know about air toxics risk in their neighborhoods,
- Require reductions in risk from high risk facilities.

To ensure the greatest health protection and to prevent relaxations from the District's prior methodology, the District's incorporated all of OEHHA's suggested revisions that increased calculated risk, but did not incorporate those changes that decreased

calculated risk. The District's revised risk management policies incorporated the following:

- More health protective 95th percentile breathing rate for both children AND adults, instead of OEHHA's proposed 95th percentile for children only and 80th percentile for adults,
- More health protective 70-year residential exposure instead of OEHHA's proposed 30-year, unless the expected project life is shorter,
- More health protective 40-year worker exposure instead of OEHHA's proposed 25-year, unless the expected project life is shorter,
- More health protective receptor (point-specific) impacts instead of OEHHA's spatial averaging method,
- All of the OEHHA changes that increase calculated risk for children.

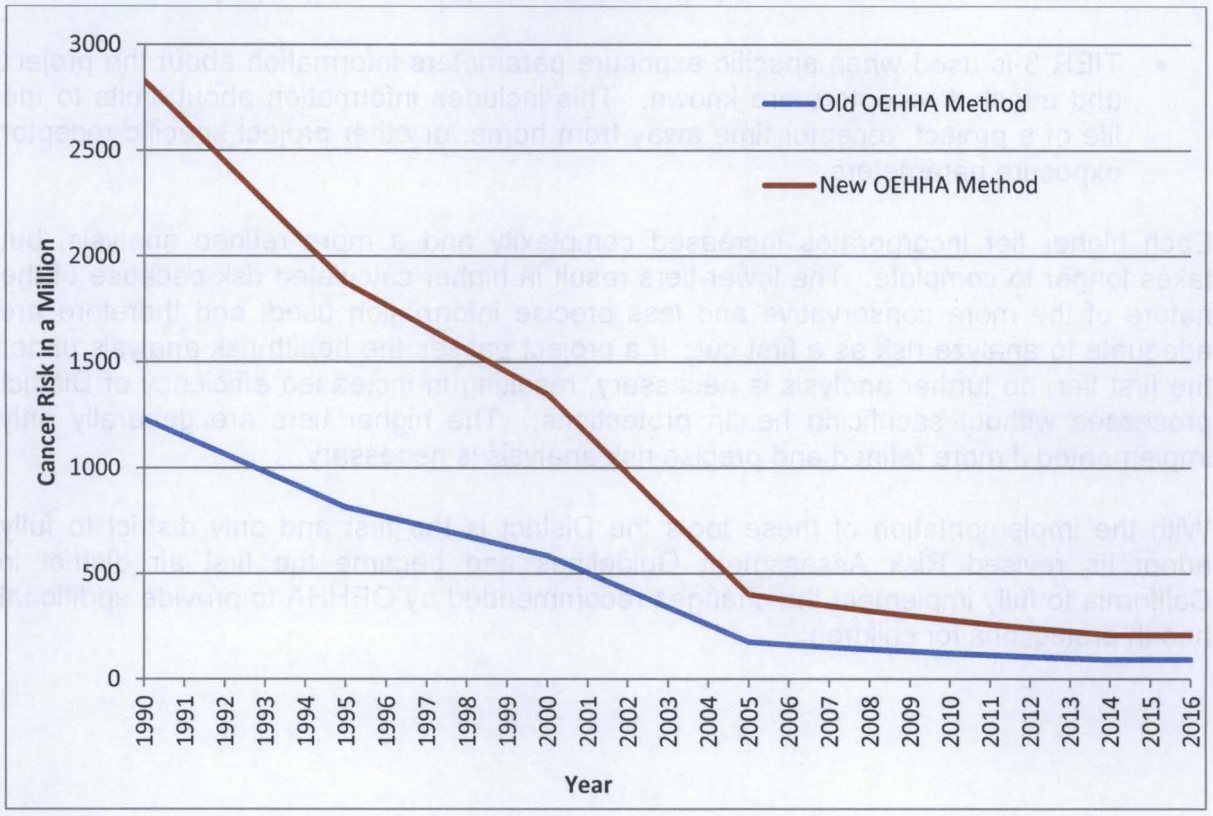
Using these conservative and health protective modeling methodologies resulted in a higher calculated risk, about 2.4 times higher compared to the risk calculated for the same emissions using prior District methodologies.

The District will continue to require Toxic Best Available Control Technology (T-BACT) for any emissions unit with a cancer risk of greater than one-in-a-million. The District will deny permits for any project with a cumulative cancer risk of 20-in-a-million or greater.

Although the new methodology results in higher calculated risk, Valley residents' exposure to hazardous air pollution has been significantly reduced. The District's comprehensive regulatory and incentive-based programs discussed below, combined with state and federal air toxic control regulations, have significantly reduced the public's exposure to air toxics over the past two decades. Figure A3 below illustrates the significant health benefit that the Valley residents have experienced, as represented by both the prior methodology and the new methodology. The blue line represents the historical context, using the prior risk assessment methodologies in place from the mid-1990s. The cancer risk as calculated using these methodologies has dropped from about 1,200 in a million in 1990, to under 200 in a million today. Note, diesel PM is the air toxic that is the primary health risk to California's population, estimated by CARB to be approximately 70% of the total health risk[1]. The red line indicates the impact by using the new District methodologies. Note the new methodologies result in much higher calculated risk (at least 2.4 times higher), but regardless of the methodology used, the San Joaquin Valley has seen a reduction of nearly 90% in cancer risk due to air toxics during the last two decades. As we move forward, it is important to recognize that although the risk calculation methodology is changing, and will result in higher calculated risk, the apparent increase in risk is not caused by increases in actual emissions or exposures to toxic air contaminants.

[1] https://www.arb.ca.gov/research/diesel/diesel-health.htm

Figure A3: Cancer Risk from Ambient Air, San Joaquin Valley (The California Almanac of Emissions and Air Quality, CARB, 2009)



Revised District Risk Management Policies for Permitting

The District updated its risk management policy (District Policy APR-1905) in May of 2015 to incorporate the changes discussed above. Under this policy, Toxic Best Available Control Technology must be applied to all units that may pose greater than de minimis levels of risk (i.e., a cancer risk greater than one in one million). Projects that would pose significant impacts to nearby residences or businesses (i.e., by causing a cumulative facility cancer risk of 20-in-a-million or greater) are not approvable.

In order to streamline the implementation of these changes, the District also developed a new modeling tool (SHARP database) based on a tiered approach to performing health risk assessments (District Policy, APR-1906):

- TIER 1 is used when specific information about a project and its location relative to actual or foreseen receptors are not known.

- TIER 2 is used when specific modeling input information about the project is known. This includes AERMOD model inputs (e.g. UTMs or Lat/Long coordinates of the emission source(s) and receptor(s) under evaluation) that would refine accuracy of the modeled concentration. Other refined AERMOD options in the model that are non-standard (e.g. low wind speed) are also employed.

- TIER 3 is used when specific exposure parameters information about the project and effected receptors are known. This includes information about limits to the life of a project, receptor time away from home, or other project specific receptor exposure parameters.

Each higher tier incorporates increased complexity and a more refined analysis, but takes longer to complete. The lower tiers result in higher calculated risk because of the nature of the more conservative and less precise information used, and therefore are adequate to analyze risk as a first cut. If a project passes the health risk analysis under the first tier, no further analysis is necessary, resulting in increased efficiency of District processes without sacrificing health protections. The higher tiers are generally only implemented if more refined and precise risk analysis is necessary.

With the implementation of these tools the District is the first and only district to fully adopt its revised Risk Assessment Guidelines and became the first air district in California to fully implement the changes recommended by OEHHA to provide additional health protections for children.

Appendix B - Toxics Emissions Summary

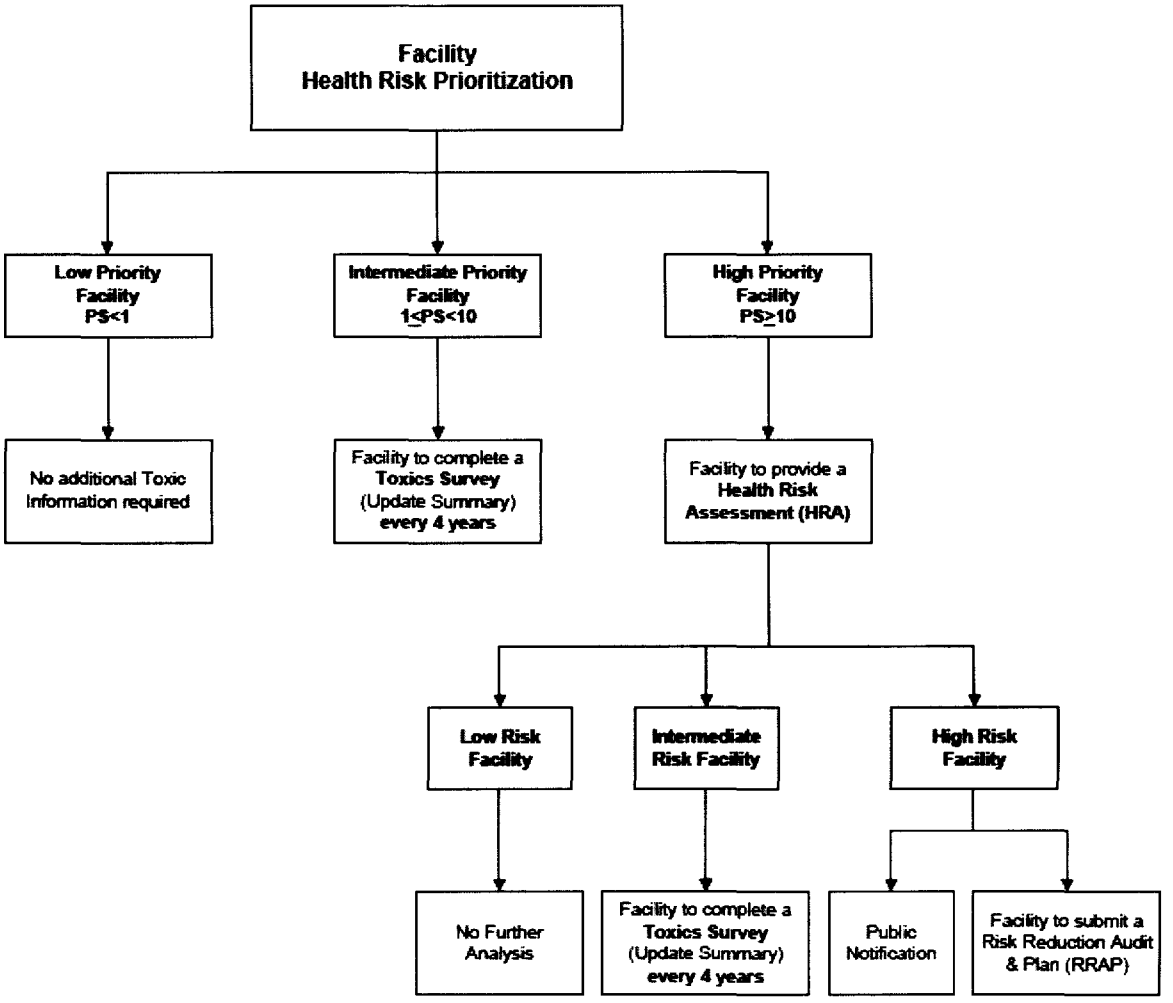
Emissions for eight counties of San Joaquin Valley from California Air Resources Board draft California Toxics Inventory (CTI) for 2010, the latest available year. Data for CTI was obtained from a variety of District and State sources.

Table B1 - Toxic Emissions Summary

Pollutant	2010 CTI (tons/yr)
Acetaldehyde	3,512
Diesel Particulate Matter	2,520
Formaldehyde	2,318
Benzene	1,020
Perchloroethylene	448
1,3-Butadiene	269
Methylene Chloride	247
PAHs	238
Manganese	217
Acrolein	153
p-Dichlorobenzene	130
Styrene	96
Trichloroethylene	46
Chromium	34
Lead	28
Nickel	18
Acrylonitrile	7
Vinyl Chloride	7
Arsenic	5
Cadmium	3
Mercury	2
Chloroform	2
Ethylene Oxide	0
Ethylene Dichloride	0
Beryllium	0
Carbon Tetrachloride	0
Dioxins/Benzofurans	0
Chromium, Hexavalent	0

Appendix C - AB 2588 District Implementation Flow Chart

Figure C1 – AB 2588 Toxic "Hot Spots" District Implementation



Appendix D - ATCM Emission Reductions

Table D1 - ATCM Emission Reductions (based on ARB's latest inventory of air toxics, from 2010)

ATCM	Pollutant	Effective Date	Pre-ATCM Emissions (ton/yr)	2010 Emissions (ton/yr)	% Reduction
On-road Heavy Duty Diesel Vehicles	Particulate Matter	12/31/2007	4,591.63	1,825	60%
Hexavalent Chromium (Plating)	Hexavalent Chromium	1/17/2008	0.23	0.16	30%
Perchloroethylene (Dry Cleaning)	Perchloroethylene	12/12/2007	375.14	38.90	90%
Composite Wood Product	Formaldehyde	4/18/2008	756	245	68%

Appendix E - Current Status of NESHAP Delegation

NESHAPs Delegated

NESHAPs for Which Authority Has Been Delegated to the District Because They Are Included in Rule 4002

Table B-1 - 40 CFR 63

Subpart	*Title*
A	General Provisions
F-I	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry
J	National Emission Standards for Hazardous Air Pollutants from Polyvinyl Chloride and Copolymers Production
L	National Emission Standards for Coke Oven Batteries
R	National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)
S	National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry
T	National Emission Standards for Halogenated Solvent Cleaning (except §63.462 - Batch cold cleaning machine standards)
U	National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins
W	National Emission Standards for Hazardous Air Pollutants for Epoxy Resins Production and Non-Nylon Polyamides Production
X	National Emission Standards for Hazardous Air Pollutants From Secondary Lead Smelting
Y	National Emission Standards for Marine Tank Vessel Loading Operations
AA	National Emission Standards for Hazardous Air Pollutants From Phosphoric Acid Manufacturing Plants
BB	National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizers Production Plants
CC	National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries
DD	National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations
EE	National Emission Standards for Magnetic Tape Manufacturing Operations
GG	National Emission Standards for Aerospace Manufacturing and Rework Facilities
HH	National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities
II	National Emission Standards for Shipbuilding and Ship Repair (Surface Coating)
JJ	National Emission Standards for Wood Furniture Manufacturing

Subpart	Title
	Operations
KK	National Emission Standards for the Printing and Publishing Industry
LL	National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants
MM	National Emission Standards for Hazardous Air Pollutants from Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills
YY	National Emission Standards for Hazardous Air Pollutants: Generic Maximum Achievable Control Technology (Generic MACT)
CCC	National Emission Standards for Hazardous Air Pollutants for Steel Pickling--HCl Process Facilities and Hydrochloric Acid Regeneration Plants
DDD	National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production
GGG	National Emission Standards for Hazardous Air Pollutants From Pharmaceutical Production
HHH	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities
III	National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production
JJJ	National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins
LLL	National Emission Standards for Hazardous Air Pollutants for Source Categories; Portland Cement Manufacturing Industry
MMM	National Emission Standards for Hazardous Air Pollutants: Pesticide Active Ingredient Production
NNN	National Emission Standards for Hazardous Air Pollutants for Source Categories; Wool Fiberglass Manufacturing
OOO	National Emission Standards for Hazardous Air Pollutant Emissions: Manufacture of Amino/Phenolic Resins
PPP	National Emission Standards for Hazardous Air Pollutants for Polyether Polyols Production
QQQ	National Emission Standards for Hazardous Air Pollutants from Primary Copper Smelting
RRR	National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production
TTT	National Emission Standards for Hazardous Air Pollutants for Primary Lead Smelting
UUU	National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units
VVV	National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works
XXX	National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese
AAAA	National Emission Standards for Hazardous Air Pollutants from Municipal Solid Waste Landfills

Subpart	*Title*
CCCC	National Emission Standards for Hazardous Air Pollutants from Manufacturing of Nutritional Yeast
EEEE	National Emission Standards for Hazardous Air Pollutants from Organic Liquids Distribution (Non-Gasoline)
FFFF	National Emission Standards for Hazardous Air Pollutants from Miscellaneous Organic Chemical Manufacturing
GGGG	National Emission Standards for Hazardous Air Pollutants from Solvent Extraction for Vegetable Oil Production
HHHH	National Emission Standards for Hazardous Air Pollutants from Wet-Formed Fiberglass Mat Production
JJJJ	National Emission Standards for Hazardous Air Pollutants from Paper and Other Web Coating
KKKK	National Emission Standards for Hazardous Air Pollutants from Surface Coating of Metal Cans
MMMM	National Emission Standards for Hazardous Air Pollutants from Surface Coating of Miscellaneous Metal Parts and Products
NNNN	National Emission Standards for Hazardous Air Pollutants from Surface Coating of Large Appliances
OOOO	National Emission Standards for Hazardous Air Pollutants from Printing, Coating, and Dyeing of Fabrics and Other Textiles
PPPP	National Emission Standards for Hazardous Air Pollutants from Surface Coating of Plastic Parts and Products
QQQQ	National Emission Standards for Hazardous Air Pollutants from Surface Coating of Wood Building Products
RRRR	National Emission Standards for Hazardous Air Pollutants from Surface Coating of Metal Furniture
SSSS	National Emission Standards for Hazardous Air Pollutants from Surface Coating of Metal Coil
TTTT	National Emission Standards for Hazardous Air Pollutants from Leather Finishing Operations
UUUU	National Emission Standards for Hazardous Air Pollutants from Cellulose Products Manufacturing
VVVV	National Emission Standards for Hazardous Air Pollutants from Boat Manufacturing
WWWW	National Emission Standards for Hazardous Air Pollutants from Reinforced Plastic Composites Production
XXXX	National Emission Standards for Hazardous Air Pollutants from Rubber Tire Manufacturing
YYYY	National Emission Standards for Hazardous Air Pollutants from Stationary Combustion Turbines
AAAAA	National Emission Standards for Hazardous Air Pollutants from Lime Manufacturing Plants
BBBBB	National Emission Standards for Hazardous Air Pollutants from Semiconductor Manufacturing
CCCCC	National Emission Standards for Hazardous Air Pollutants from Coke Ovens: Pushing, Quenching, and Battery Stacks

Subpart	*Title*
EEEEE	National Emission Standards for Hazardous Air Pollutants from Iron and Steel Foundries
FFFFF	National Emission Standards for Hazardous Air Pollutants from Integrated Iron and Steel Manufacturing
GGGGG	National Emission Standards for Hazardous Air Pollutants from Site Remediation
HHHHH	National Emission Standards for Hazardous Air Pollutants from Miscellaneous Coating Manufacturing
IIIII	National Emission Standards for Hazardous Air Pollutants from Mercury Emissions From Mercury Cell Chlor-Alkali Plants
JJJJJ	National Emission Standards for Hazardous Air Pollutants from Brick and Structural Clay Products Manufacturing
KKKKK	National Emission Standards for Hazardous Air Pollutants from Clay Ceramics Manufacturing
LLLLL	National Emission Standards for Hazardous Air Pollutants from Asphalt Processing and Asphalt Roofing Manufacturing
MMMMM	National Emission Standards for Hazardous Air Pollutants from Flexible Polyurethane Foam Fabrication Operations
PPPPP	National Emission Standards for Hazardous Air Pollutants from Engine Test Cells/Stands
QQQQQ	National Emission Standards for Hazardous Air Pollutants from Friction Materials Manufacturing Facilities
RRRRR	National Emission Standards for Hazardous Air Pollutants from Taconite Iron Ore Processing
SSSSS	National Emission Standards for Hazardous Air Pollutants from Refractory Products Manufacturing
TTTTT	National Emission Standards for Hazardous Air Pollutants from Primary Magnesium Refining

NESHAPs Not Delegated

NESHAPs for Which Authority Has Not Been Delegated to the District

Table B-2 - 40 CFR 63

Subpart	*Title*
L	National Emission Standards For Coke Oven Batteries
M	National Perchloroethylene Air Emission Standards For Dry Cleaning Facilities – California Not Delegated Authority To Enforce 17 CCR 93109 Instead Of Subpart M For Major Sources.
N	National Emission Standards For Chromium Emissions From Hard And Decorative Chromium Electroplating And Chromium Anodizing Tanks – California Delegated Authority To Enforce 17 CCR 93102 Instead Of Subpart N. Applies To Old ATCM.
O	Ethylene Oxide Emissions Standards For Sterilization Facilities
Q	National Emission Standards For Hazardous Air Pollutants For Industrial Process Cooling Towers
OO	NATIONAL Emission Standards For Tanks - Level 1
PP	National Emission Standards For Containers
QQ	National Emission Standards For Surface Impoundments
RR	National Emission Standards For Individual Drain Systems
SS	National Emission Standards For Closed Vent Systems, Control Devices, Recovery Devices And Routing To A Fuel Gas System Or A Process
TT	National Emission Standards For Equipment Leaks - Control Level 1
UU	National Emission Standards For Equipment Leaks - Control Level 2 Standards
VV	National Emission Standards For Oil-Water Separators And Organic-Water Separators
WW	National Emission Standards For Storage Vessels (Tanks) - Control Level 2
XX	National Emission Standards For Ethylene Manufacturing Process Units: Heat Exchange Systems And Waste Operations
EEE	National Emission Standards For Hazardous Air Pollutants From Hazardous Waste Combustors
DDDD	National Emission Standards For Hazardous Air Pollutants: Plywood And Composite Wood Products
IIII	National Emission Standards For Hazardous Air Pollutants: Surface Coating Of Automobiles And Light-Duty Trucks
ZZZZ	National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines
DDDDD	National Emission Standards For Hazardous Air Pollutants For Industrial, Commercial, And Institutional Boilers And Process Heaters
NNNNN	National Emission Standards For Hazardous Air Pollutants: Hydrochloric Acid Production
WWWWW	National Emission Standards For Hospital Ethylene Oxide Sterilizers
YYYYY	National Emission Standards For Hazardous Air Pollutants For Area Sources: Electric Arc Furnace Steelmaking Facilities

Subpart	*Title*
ZZZZZ	National Emission Standards For Hazardous Air Pollutants For Iron And Steel Foundries Area Sources
BBBBBB	National Emission Standards For Hazardous Air Pollutants For Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, And Pipeline Facilities
CCCCCC	National Emission Standards For Hazardous Air Pollutants For Source Category: Gasoline Dispensing Facilities
DDDDDD	National Emission Standards For Hazardous Air Pollutants For Polyvinyl Chloride And Copolymers Production Area Sources
EEEEEE	National Emission Standards For Hazardous Air Pollutants For Primary Copper Smelting Area Sources
FFFFFF	National Emission Standards For Hazardous Air Pollutants For Secondary Copper Smelting Area Sources
GGGGGG	National Emission Standards For Hazardous Air Pollutants For Primary Nonferrous Metals Area Sources - Zinc, Cadmium, And Beryllium
HHHHHH	National Emission Standards For Hazardous Air Pollutants: Paint Stripping And Miscellaneous Surface Coating Operations At Area Sources
LLLLLL	National Emission Standards For Hazardous Air Pollutants For Acrylic And Modacrylic Fibers Production Area Sources
MMMMMM	National Emission Standards For Hazardous Air Pollutants For Carbon Black Production Area Sources
NNNNNN	National Emission Standards For Hazardous Air Pollutants For Chemical Manufacturing Area Sources: Chromium Compounds
OOOOOO	National Emission Standards For Hazardous Air Pollutants For Flexible Polyurethane Foam Production And Fabrication Area Sources
PPPPPP	National Emission Standards For Hazardous Air Pollutants For Lead Acid Battery Manufacturing Area Sources
QQQQQQ	National Emission Standards For Hazardous Air Pollutants For Wood Preserving Area Sources
RRRRRR	National Emission Standards For Hazardous Air Pollutants For Clay Ceramics Manufacturing Area Sources
SSSSSS	National Emission Standards For Hazardous Air Pollutants For Glass Manufacturing Area Sources
TTTTTT	National Emission Standards For Hazardous Air Pollutants For Secondary Nonferrous Metals Processing Area Sources