About this Report

This annual air toxics report for 2003 was prepared by your San Joaquin Valley Air Pollution Control District. The District is a public health agency committed to improving the health and quality of life for all Valley residents through effective and cooperative air quality programs. This annual report describes the District's efforts and progress in implementing one of those air quality programs, the District's integrated air toxics program, which specifically addresses emissions of toxic air contaminants. Over the past several years, these efforts have resulted in significant reductions in Valley resident's exposure to toxic substances.

The first part of this report provides information on emissions of hazardous air pollutants in the San Joaquin Valley. The U.S. EPA and the California Air Resources Board have identified over 800 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.

The second section of this report describes District efforts to minimize future increases in air toxic emissions. In order to ensure that the addition of new sources of air pollution does not create future air toxic "Hot Spots", the District reviews the risk associated with proposed permitting actions that could result in an increase in emissions of hazardous air pollutants. This risk management review is performed as part of the District's engineering evaluation of these projects.

The third section describes the District's progress in implementing the California Air Toxics "Hot Spots" Act Information and Assessment Act, which was adopted in 1987 in response to growing public concern about exposure to toxic substances. The Hot Spots Act requires the District to compile an inventory of toxic emissions from Valley facilities, evaluate the inventory for possible public health risks, and notify individuals who may be impacted by the assessed health risks. Although Hot Spots 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.

1

Section IV of this year's annual report addresses continuing efforts to reduce risk due to diesel exhaust. In 1998, the California Air Resources Board (ARB) identified particulate matter emissions from diesel-fueled engines as a toxic air contaminant. Since that time, State, District and industry representatives have been working to implement uniform procedures for regulating these emissions.

Section V of this report provides updated information on the District's implementation of the Federal Air Toxics Mandates from Title III of the 1990 Clean Air Act Amendments. This change in federal law identified 189 substances as Hazardous Air Pollutants and directed the U.S. EPA to establish a 10-year schedule for developing new regulations for controlling these pollutants using maximum achievable control technology. Under Title III, the U.S. EPA was also required to develop regulations to address urban area risk, residual risk, and accidental releases of Hazardous Air Pollutants. Many of these requirements are being implemented through the District's integrated air toxics program.

The final section of this report addresses air toxic program costs and fees. It includes a description of State and local activities funded by those fees, and describes District efforts to minimize program costs. The District's goal is to implement both State and federal air toxic requirements with a comprehensive, cost-effective local air toxics program.

I. EMISSIONS OF HAZARDOUS AIR POLLUTANTS

As part of ongoing efforts to identify and assess potential health risks to the public, the District has compiled air toxics emissions data from industrial and commercial sources of air pollution. The State of California has developed similar hazardous air pollutant emission 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 emissions estimates for hazardous air pollutants of concern from all sources. A summary of the CTI data for key pollutants is given in Table 1 below.

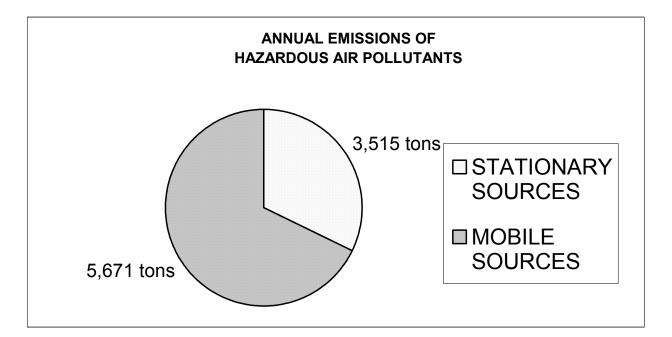
Pollutant	Emissions (tons per year)
Diesel Particulate Matter	4,643
Formaldehyde	3,836
Benzene	3,039
Acetaldehyde	1,285
1,3-Butadiene	668
Perchloroethylene	469
Methylene chloride	390
Acrolein	241

Table 1 - San Joaquin Valley Hazardous Air Pollutant Emissions

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

These hazardous air pollutants are emitted both from mobile sources (i.e., cars, trucks, buses, tractors, etc), which are primarily regulated by the State and U.S.EPA; and from stationary sources, which are regulated by the District. Figure 1 below shows a comparison of mobile and stationary source emissions of hazardous air pollutants in the San Joaquin Valley. Approximately 62% of hazardous air pollutant emissions are from mobile sources.

Figure 1 – Comparison of Mobile and Stationary Source Emissions



II. RISK MANAGEMENT ACTIVITIES

The goal of District risk management efforts is to ensure that new and modified sources of air pollution do not pose 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. This risk management review is performed by District staff as part of the engineering evaluation for these projects. Since risk management review is performed procedures, the process does not extend the length of time necessary to process applications.

Under the District's risk management policy, Toxic Best Available Control Technology must be applied to all units that may pose greater than de minimus levels of risk. Projects that would pose significant health risks at nearby residences or businesses are generally not approvable. When a project is determined not to be approvable as proposed, District staff work with the applicant to find approvable low-risk alternatives to the initial proposal. During 2003, District staff performed risk management reviews for over 500 projects with increases in hazardous air pollutant emissions.

III. IMPLEMENTATION OF THE STATE AIR TOXICS "HOT SPOTS" ACT

Significant reductions in the public's exposure to hazardous air pollutants from stationary sources have been achieved since the District began implementing the State Hot Spots Act requirements. Public notifications that were required by the District's Hot Spots program have been one motivating factor for these reductions. Of the 16 Valley facilities that have been deemed to pose significant health risks under the Act, 14 have subsequently reduced those risks to a level no longer considered significant. Significant health risks due to hazardous air pollutant emissions from stationary sources that once impacted over 4,000 Valley residents have been eliminated.

The requirements of the Air Toxic "Hot Spots" Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports, and periodically update those reports.

Toxic Emission Inventory Plans

Toxic Emission Inventory Plans provide a detailed description of the methods that will be used to quantify toxic air emissions. The District reviews each plan to assure compliance with the requirements of State regulations. By thoroughly reviewing each plan and identifying deficiencies prior to any source tests or engineering analysis, District personnel help regulated facilities avoid errors that can result in the need for costly and time-consuming rework. Most Valley facilities submitted toxic emission inventory plans during the early years of the program. In 2003, four additional Toxic Emission Inventory Plans were approved.

Toxic Emission Inventory Reports

Facilities are required by the Act to submit Toxic Emission Inventory Reports within 180 days after District approval of the Toxic Emission Inventory Plan. The District reviews these reports to assure compliance with State regulations. Fourteen additional toxic emission inventory reports and 34 report updates were approved in 2003.

5

Industry-Wide Surveys

Section 44323 of the California Health and Safety Code allows the District to perform industry-wide surveys for certain source categories. Sources participating in industry-wide surveys are exempt from the requirements to submit toxic emission inventory plans and reports. Industry-wide surveys provide a more streamlined and cost-effective method of preparing toxic inventories for certain source categories. In accordance with the Health and Safety Code, only those source categories meeting the following requirements are eligible to participate in industry-wide surveys:

- 1. Sources must have the same SIC code.
- 2. Individual compliance would result in severe economic hardships.
- 3. The majority of the class must be composed of small businesses.
- 4. Releases from the individual facilities must be easily and generically characterized.

Valley gasoline dispensing facilities (including bulk distributors of gasoline), dry cleaning operations, printing operations, and automotive painting facilities have been categorized as industry-wide survey facilities. Updated toxic emissions inventories for these facilities were compiled in 2003.

Prioritization

After the approval of a facility's Toxic Emission Inventory Report, the District is required to rank the health risk posed by the facility as "low", "medium", or "high" priority. Only those facilities ranked as high priority are required to perform health risk assessments. District personnel perform the prioritization using computerized spreadsheets and database programs. The following table summarizes the 33 prioritizations performed on Toxic Emission Inventory Reports in 2003.

DBA	CITY	Priority
BALL WESTERN CAN COMPANY, LLC	OAKDALE	HIGH
STOCKTON PORT DISTRICT	STOCKTON	HIGH
SAN JOAQUIN REFINING COMPANY	BAKERSFIELD	HIGH
CALIFORNIA ARMY NATIONAL GUARD	FRESNO	HIGH
OCCIDENTAL OF ELK HILLS, INC.	KERN COUNTY	INTERMEDIATE
CERTAINTEED CORPORATION	CHOWCHILLA	INTERMEDIATE
GOLDEN STATE METALS INC	BAKERSFIELD	INTERMEDIATE
CALIFORNIA DAIRIES, INC.	FRESNO	INTERMEDIATE
DEFENSE DISTRIB DEPOT SAN JOAQUIN-SHARPE	LATHROP	INTERMEDIATE
SHELL PIPELINE COMPANY LP	COALINGA	INTERMEDIATE
SPRECKELS SUGAR COMPANY	MENDOTA	INTERMEDIATE
SC JOHNSON HOME STORAGE INC	FRESNO	INTERMEDIATE
RECOT INC	BAKERSFIELD	INTERMEDIATE
CHEROKEE MEMORIAL PARK INC	LODI	INTERMEDIATE
MOORE WALLACE INC	VISALIA	INTERMEDIATE
J R SIMPLOT COMPANY	LATHROP	INTERMEDIATE
GILROY FOODS	MODESTO	INTERMEDIATE
CONOPCO DBA UNILEVER BEST FOODS N AMER	MERCED	INTERMEDIATE
SUN-MAID GROWERS OF CALIFORNIA	KINGSBURG	INTERMEDIATE
MISH FUNERAL HOMES	OILDALE	INTERMEDIATE
SPECIALIZED VEHICLES CORP - KIDRON DIV	TULARE	INTERMEDIATE
ALLEN MORTUARY	TURLOCK	INTERMEDIATE
J.P. OIL COMPANY, INC.	FRESNO COUNTY	INTERMEDIATE
J.P. OIL COMPANY, INC.	KINGS COUNTY	INTERMEDIATE
CDR SYSTEMS CORP.	CORCORAN	INTERMEDIATE
BAKER PETROLITE CORPORATION	TAFT	INTERMEDIATE
OCCIDENTAL OF ELK HILLS, INC.	TUPMAN	INTERMEDIATE
BAKERSFIELD CITY WOOD SITE	BAKERSFIELD	LOW
E&B NATURAL RESOURCES MGMT	KERN COUNTY	LOW
CHEVRON USA PRODUCTS COMPANY	TRACY	LOW
CHEVRON USA PRODUCTS COMPANY	TRACY	LOW
RO-LAB RUBBER COMPANY INC.	TRACY	LOW
LAKEWOOD MEMORIAL PARK	HUGHSON	LOW

It should be noted that high priority does not mean high risk, only that a health risk assessment will be required to further evaluate potential health risk.

Health Risk Assessment

The District and State Office of Environmental Health Hazard Assessment (OEHHA) are required by the Air Toxic "Hot Spots" Act to review each Health Risk Assessment. Based on the results of the risk assessment, facilities may be determined to pose a significant risk.

The District requires high priority facilities to submit risk assessment protocols for District approval prior to performance of the Health Risk Assessment.

Health Risk Assessments are performed using CARB approved methods and software. The first step in District review of risk assessments is to validate all input data. Valid input data for atmospheric modeling includes facility and emission data from approved reports and meteorological data. Once the input data has been validated, District personnel attempt to reproduce the results of the atmospheric modeling and risk assessment. Any discrepancies between the facility's risk assessment results and the District's results must be resolved.

Risk calculation involves a great deal of uncertainty. The uncertainty arises from lack of data in many areas necessitating the use of assumptions. The assumptions used are designed to err on the side of health protection in order to avoid underestimating the risk to the public. The actual risk may be much less than the calculated risk.

The District approved one additional health risk assessment in 2003. The determination based on this Health Risk Assessment is given in Table III.

Table III - Health Risk Assessments	Approved in 2003
-------------------------------------	------------------

Facility Name	Location	Risk Determination
California State University at Fresno	Fresno	Not a Significant Risk Facility

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.

IV. ADDRESSING RISK DUE TO DIESEL EXHAUST

In August of 1998, following an exhaustive 10-year scientific investigation, the California Air Resources Board 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, the 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, they chose to establish an advisory committee of interested parties, and develop a comprehensive risk management plan that would result in significant reductions in emissions of diesel particulate matter.

Although the vast majority of diesel engines are associated with mobile sources of air pollution (trucks, locomotives, tractors, etc.) regulated by the State, many industrial and commercial operations also use stationary and transportable diesel engines that are subject to District permitting requirement. Under the District's <u>Risk Management Policy</u> for New and Modified Sources, Toxic Best Available Control Technology (TBACT) is required for emission units that pose a "greater than deminimus" increase in risk. However, before the requirements of this policy could be implemented for diesel engines, TBACT still had to be determined. This TBACT determination came in October of 2000, when the ARB approved the <u>Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines</u>, which was developed by the Statewide advisory committee of interested parties. In approving the guidance, the State Board found that catalyzed diesel particulate filters, which have been used successfully for a wide variety of applications, are TBACT for stationary non-emergency engines, and that an emission rate of 0.149 grams per Horsepower-hour or less is TBACT for emergency engines.

The District began implementing the State guidance for stationary diesel engines in March of 2001. Since that time, the District has approved several hundred proposals for new cleaner engines meeting these TBACT requirements. In 2002, the District has also began collecting and reviewing diesel emissions and risk data in update reports prepared for stationary sources under the State Air Toxics Hot Spots Program.

V. IMPLEMENTATION OF FEDERAL AIR TOXIC MANDATES

Title III of the 1990 Federal Clean Air Act Amendments rewrote Section 112 of the Act requiring the EPA to embark on a ten-year effort to develop detailed technology-based standards for 189 hazardous air pollutants. These new federal Maximum Achievable Control Technology (MACT) Standards affect over 70 source categories, many of which are already subject to State regulation. Other Title III mandates may also duplicate existing State and local requirements.

Under the District's Integrated Air Toxics Program and federal regulations, there are several options for implementing new technology-based federal standards:

1) Straight Delegation -- Accepting delegation of the federal standard as written;

2) Rule Adjustment -- Proposing minor changes to the federal MACT rule that make the adjusted rule no less stringent than the federal standard;

3) Rule Substitution -- Substituting one or more existing, new, or amended District rules for the federal standard;

4) 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.

5) Program Substitution -- Using existing programs to assure compliance with the requirements of federal standards.

The District must choose the most appropriate option for implementing each federal standard. Two series of public workshops have been held to obtain public input on the implementation of federal standards. For the standards issued prior to 2003, the District chose to proceed with the following implementation options:

Options chosen for Implementing MACT Standards

10

Subpart MDrSubpart NChSubpart QIndSubpart QIndSubpart QIndSubpart RGaSubpart SPuSubpart SPuSubpart VEpSubpart VEpSubpart VEpSubpart VGaSubpart VGaSubpart VGaSubpart QGaSubpart VGaSubpart CCPaSubpart BBPhSubpart BBPhSubpart CCPaSubpart GGAaSubpart BBPhSubpart BBPhSubpart CCPaSubpart BBPhSubpart CCPaSubpart BBPhSubpart CCPaSubpart GGAaSubpart BBPhSubpart GGAaSubpart HHOiSubpart SJJWaSubpart CCCStaSubpart CCCStaSubpart DDDMiSubpart GGGPhSubpart JJJGaSubpart MMMPaSubpart NNNWaSubpart OOOMaSubpart RRRSaSubpart VVVPuSubpart VVVPu	oke Oven Batteries ry Cleaning hromium Electroplating and Anodizing thylene Oxide Sterilization Facilities dustrial Process Cooling Towers asoline Distribution ulp and Paper Industry alogenated Solvent Cleaning roup I Polymers and Resins poxy Resins and Non-Nylon Polyamide econdary Lead Smelting arine Tank Vessel Loading Operations roup I Polymers and Resins hosphoric Acid Manufacturing Plants hosphate Fertilizer Production Plants etroleum Refineries ff-Site Waste and Recovery Operations agnetic Tape Manufacturing erospace Manufacturing and Rework il and Natural Gas Production Facilities hipbuilding and Repair (Surface Coatin /ood Furniture Manufacturing rinting and Publishing Industry rimary Aluminum Reduction Plants eneric MACT teel Pickling lineral Wool Production harmaceutical Production atural Gas Transmission and Storage lexible Polyurethane Foam Production roup IV Polymers and Resins ortland Cement Manufacturing esticide Active Ingredient Manufacturin /ool Fiberglass Manufacturing anufacture of Amino/Phenolic Resins olyether Polyol Production econdary Aluminum Production rimary Lead Smelting ublicly Owned Treatment Works erroalloys Production	Straight Delegation Straight Delegation Straight Delegation Straight Delegation Straight Delegation Streamlining MAR Streamlining MAR Streamlining MAR Straight Delegation Straight Delegation
Subpart XXX Fe	erroalloys Production	Straight Delegation

Since the last District Workshops, through the end of calendar 2003, U.S. EPA has promulgated additional MACT standards :

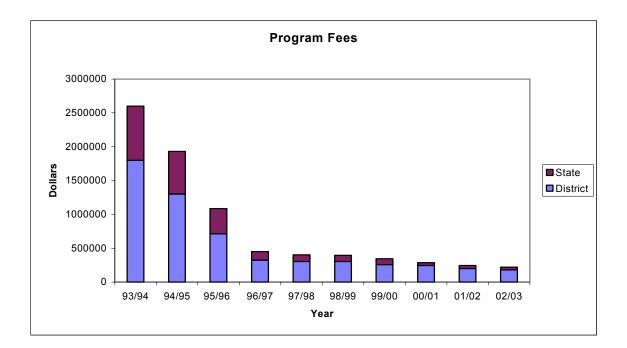
Additional MACT Standards

<u>40 CFR 63</u>	Source Category
Subpart J -	Polyvinyl Chloride and Copolymers Production
Subpart MM -	Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite
Subpart QQQ -	Primary Copper Smelting
Subpart UUU -	Petroleum Refineries: Catalytic and Sulfur Recovery Units
Subpart AAAA -	Municipal Solid Waste Landfills
Subpart EEEE -	Organic Liquids Distribution (Non-Gasoline)
Subpart CCCC -	Manufacturing of Nutritional Yeast
Subpart DDDD -	Plywood and Composite Wood Products
Subpart FFFF -	Miscellaneous Organic Chemical Manufacturing
Subpart GGGG -	Solvent Extraction for Vegetable Oil Production
Subpart HHHH -	Wet-Formed Fiberglass Mat Production
Subpart IIII -	Surface Coating of Automobiles and Light-Duty Trucks
Subpart JJJJ -	Paper and Other Web Coating
Subpart KKKK -	Surface Coating of Metal Cans
Subpart LLLL -	Asphalt Processing and Asphalt Roofing Manufacturing
Subpart MMMM -	Surface Coating of Miscellaneous Metal Parts and Products
Subpart NNNN -	Surface Coating of Large Appliances
Subpart OOOO -	Printing, Coating, and Dyeing of Fabrics and Other Textiles
Subpart PPPP -	Surface Coating of Plastic Parts and Products
Subpart QQQQ -	Surface Coating of Wood Building Products
Subpart RRRR -	Surface Coating of Metal Furniture
Subpart SSSS -	Surface Coating of Metal Coil
Subpart TTTT -	Leather Finishing Operations
Subpart UUUU -	Cellulose Products Manufacturing
Subpart VVVV -	Boat Manufacturing
Subpart WWWW -	Reinforced Plastic Composites Production
Subpart XXXX -	Rubber Tire Manufacturing
Subpart YYYY -	Stationary Combustion Turbines
Subpart ZZZZ -	Stationary Reciprocating Internal Combustion Engines
Subpart AAAAA -	Lime Manufacturing Plants
Subpart BBBBB -	Semiconductor Manufacturing
Subpart CCCCC -	Coke Ovens: Pushing, Quenching, and Battery Stacks
Subpart DDDDD -	Industrial/Commercial/Institutional Boilers and Process Heaters
Subpart EEEEE -	Iron and Steel Foundries
Subpart FFFFF -	Integrated Iron and Steel Manufacturing
Subpart GGGGG -	Site Remediation
Subpart HHHHH -	Miscellaneous Coating Manufacturing
Subpart IIIII -	Mercury Emissions From Mercury Cell Chlor-Alkali Plants
Subpart JJJJJ -	Brick and Structural Clay Products Manufacturing
Subpart KKKKK -	Clay Ceramics Manufacturing
Subpart MMMMM -	Flexible Polyurethane Foam Fabrication Operations
Subpart NNNNN -	Hydrochloric Acid Production
Subpart PPPPP -	Engine Test Cells/Stands
Subpart QQQQQ -	Friction Materials Manufacturing Facilities
Subpart RRRRR -	Taconite Iron Ore Processing
Subpart SSSSS -	Refractory Products Manufacturing
Subpart TTTTT -	Primary Magnesium Refining
•	, 0 0

The District held additional public workshops in 2004 to obtain public input on the implementation of these additional federal MACT standards.

V. PROGRAM COSTS AND FEES

During 2003, District progress in making air toxic reduction efforts more cost effective continued. Both District and State program costs for the 2002/03 fiscal year were reduced from previous years. These further reductions were made possible by efforts to identify and exempt facilities that could not be expected to pose a health risk to the public and other program streamlining measures. These cost reductions, which were achieved in spite of increases in federal program requirements, translate directly into lower overall fees charged to Valley facilities. The following graph shows the reduction in District air toxic program costs that has been realized in the past ten fiscal years.



The fees collected support the following activities that CARB, OEHHA, and the District must undertake to administer Air Toxics Programs:

Activities by California Air Resources Board Supported by Air Toxics Fees

- 1. Review potential additions to the toxics substances list;
- 2. Develop source test methods;
- 3. Assist districts in implementing the guideline regulations;
- 4. Assist facility operators in preparing protocols and risk assessments;
- 5. Assist districts in reviewing risk assessments and protocols;
- 6. Manage the statewide "Hot Spots" data.

District Activities Supported by Air Toxics Fees

- 1. Review of toxic emission inventory plans and reports;
- 2. Review of updates;
- 3. Rank facilities for health risk assessment;
- 4. Review and approve risk assessments;
- 5. Participate in notification process;
- 6. Perform budgeting and billing functions;
- 7. Prepare public reports;
- 8. Review of applications for new and modified sources of air toxics;
- 9. Risk Management Review;
- 10. Title III Implementation Activities

OEHHA Activities Supported by Air Toxics Fees

- 1. Assist CARB with updating and reviewing toxic substance list;
- 2. Assist CARB with implementation of Guideline Regulations;
- 3. Assist facility operators in preparing risk assessments;
- 4. Review risk assessments;
- 5. Assist districts with public notification;
- 6. Update risk assessment procedures;
- 7. Develop a health effects database;
- 8. Develop health risk values.

Appendix A

Emissions of Hazardous Air Pollutants in the San Joaquin Valley

Pollutant	Emissions (tons per year)
Diesel Particulate Matter	4,643
Formaldehyde	3,836
Benzene	3,039
Acetaldehyde	1,285
1,3-Butadiene	668
Perchloroethylene	469
Methylene chloride	390
Acrolein	241
Styrene	185
p-Dichlorobenzene	144
Chromium	62
Nickel	36
Lead	9.9
Manganese	9.6
Arsenic	9.2
PAHs	5.3
Chloroform	2.6
Trichloroethylene	1.9
Cadmium	1.5
Mercury	1.3
Hexavalent Chromium	0.61
Ethylene oxide	0.16
Ethylene dibromide	0.13
Ethylene dichloride	0.13
Beryllium	0.076
Vinyl chloride	0.075
Carbon tetrachloride	0.027
Acrylonitrile	0.0048
Hydrazine	0.0012
Dioxins/Benzofurans	0.00002
Hexachlorobenzene	0.00001 of San Joaquin Valley from California Air Resources

 Table A-1

 San Joaquin Valley Hazardous Air Pollutant Emissions¹

¹ Emissions for eight counties of San Joaquin Valley from California Air Resources Board California Toxics Inventory (CTI). Data for CTI was obtained from a variety of District and State sources.