AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

Air Toxics Programs

California Air Toxics "Hot Spots" Program

The California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill 2588 (AB2588) was enacted by the Legislature in 1987 to address public concern over the release of toxic air contaminants into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emission sources, location of resulting "hot spots," notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over five years.

The San Diego County Air Pollution Control District is the implementing agency for approximately 1600 San Diego facilities required to comply with the law. The law requires facilities to submit information that is used to achieve the objectives of the program. For larger industrial facilities, this information includes:

- **Emission Inventory Plans and Plan Updates** – Toxic emission inventory plans and plan updates are detailed descriptions of facility equipment, processes, process materials, toxic air contaminants, emission estimation techniques, and source test protocols that each facility will use to quantify its emissions. These plans must be approved by the District.
- **Emission Inventory Reports** – Facilities must implement the approved emission inventory plan and submit the required information needed for preparing a toxic emissions inventory report to the District. Based upon the amount and toxicity of the facility's emissions, the District prioritizes facilities to determine if a health risk assessment is required.
- **Health Risk Assessments** – Facilities required to submit health risk assessments must evaluate the quantity and toxicity of the compounds being emitted from the facility and the level of public exposure to determine the potential for adverse public health impacts.
- **Public Notification** – If a health risk assessment indicates potential for a public health risk exceeding public notification levels, the facility must provide notice to all exposed persons regarding the results of the health risk assessment.
- **Risk Reduction Audits and Plans –** If a health risk assessment indicates a potentially significant public health risk, the facility must submit a risk reduction audit and plan demonstrating how the facility will reduce health risks below significant levels. After the District approves the audit and plan, the facility must implement the approved plan.

Toxic air contaminant emissions should not necessarily be equated with a significant health risk (cancer or non-cancer) to any individual or the public. The quantity and toxicity of the compounds being emitted and the level of public exposure must be known before drawing conclusions about health risks. This web site presents data on emissions from several hundred facilities. In some cases, accompanying data on public exposure is still being developed or reviewed. Additionally, health risk assessment results for approximately 50 facilities are reported in Table 1.

It is important to note, however, that exposure to the toxics compounds in question in sufficient quantities can cause health problems ranging from relatively mild temporary conditions such as minor eye or throat irritation, shortness of breath or headaches, to permanent and serious conditions such as cancer, birth defects, or damage to lungs, nerves, the liver, the heart, or other organs.

Table 1 – Health Risk Assessment Results

HRA	Facility		Max. Lifetime Cancer Risk per million (2)	Lifetime Cancer Burden (3)	Chronic THI (4)	Acute THI (5)
1989	General Dynamics / Pacific Hwy (7)	San Diego	1,000	37	3.8	1.0
1995	Palomar Plating (9)	Escondido	364	< 0.1	1.2	n/a
1995	Campbell Marine (7)	San Diego	154	< 0.1	0.83	17
1994	Hues Metal Finishing (9)	San Marcos	85	< 0.1	0.66	12
1989	Otay Landfill (6)	San Diego	42	0.16	< 0.1	< 0.1
1995	Escon Tool and Manufacturing	San Marcos	41	0.25	0.80	3.1
1995	Flame Spray Inc. (9)	San Diego	40	< 0.1	0.14	30
1989	Powerine Oil Co. (7)	San Diego	32	< 0.1	0.10	0
1993	USN Point Loma Naval Complex (1)	San Diego	28	< 0.1	0.18	0.47
1993	National Steel & Shipbuilding (1)	San Diego	27	< 0.1	0.3	3.5
1993	Chem-tronics, Inc. (1, 9)	El Cajon	26	0.12	0.36	20
1993	USMC Miramar / USN Miramar (1)	San Diego	24	0.2	0.13	0.81
1989	Sycamore Landfill (6)	San Diego	19	< 0.1	< 0.1	< 0.1
1993/98	USN Air Station/North Island (1, 9, 10)	Coronado	15	<0.1	0.20	0.8
1993	USN Navy Station, 32nd St. (1)	San Diego	15	0.2	0.11	3
1993	Santa Fe Pacific Pipeline (1)	San Diego	8	< 0.1	< 0.1	< 0.1
1994	Continental Maritime	San Diego	7.7	< 0.1	< 0.1	0.44
1993	BF Goodrich / Rohr Industries (1)	Chula Vista	7.7	< 0.1	< 0.1	< 0.1
1993	Southwest Marine (1)	San Diego	7.7	< 0.1	< 0.1	2.1
1989	San Marcos Landfill	San Marcos	7.4	< 0.1	< 0.1	< 0.1
1993	Solar Turbines / Ruffin Rd (1)	San Diego	7.3	< 0.1	< 0.1	2.1
1989	S.D. City Pt. Loma Waste Water Treatment. Plant	San Diego	7.3	< 0.1	0.30	1.1
1989	General Dynamics / Kearny Villa Rd (7)	San Diego	6.5	0.53	0.05	0.3
1993	Solar Turbines / Pacific Hwy (1)	San Diego	6.1	< 0.1	< 0.1	3.3
1989	Kelco/Div. Merck & Co. Inc.	San Diego	6.0	0.1	0.40	0.2
1993	Superior Ready Mix / Canyon Rock (1)	San Diego	5.6	< 0.1	< 0.1	0.47
1993	USN Amphibious Base (1, 9)	Coronado	5.3	< 0.1	< 0.1	1.3
1993	Signet Armorlite (1, 9)	San Marcos	4.6	< 0.1	< 0.1	0.47
1994	Senior Flexonics, Ketema Division (9)	El Cajon	4.5	< 0.1	0.02	4.24
1989	Sony	San Diego	4.5	< 0.1	0.09	0.1
1993	Hanson Aggregates/Nelson & Sloan/7th & Main (1)	Chula Vista	4.2	< 0.1	< 0.1	< 0.1
1989	Vulcan / CALMAT Co. / Hwy 76	Pala	4.2	< 0.1	0.10	< 0.1
1989	ARCO	San Diego	4.0	< 0.1	< 0.1	0
1993	Hanson Aggregates / Sim J. Harris (1)	San Diego	3.9	< 0.1	< 0.1	< 0.1
1989	Palomar Airport Landfill	Carlsbad	3.9	< 0.1	< 0.1	< 0.1
1993	Hanson Aggregates/H.G. Fenton/East County Mtls (1)	El Cajon	3.7	< 0.1	< 0.1	0.1
1989	Bonsall Landfill	Vista	3.7	< 0.1	< 0.1	< 0.1
1993	Wyroc (1)	Vista	3.6	< 0.1	< 0.1	0.13

Table 1 – Health Risk Assessment Results (continued)

HRA	Facility		Max. Lifetime Cancer Risk per million (2)	Lifetime Cancer Burden (3)	Chronic THI (4)	Acute THI (5)
1989	Equillon Enterprises / Shell Oil Co / Mission Rd	San Diego	3.3	< 0.1	< 0.1	0
1989	Vulcan / CALMAT Co. / Friars Rd	San Diego	3.3	< 0.1	0.14	0.3
1993	Hanson Aggregates / Nelson & Sloan / Tri Way (1)	Lakeside	3.1	< 0.1	< 0.1	0.1
1989	Knight & Carver Inc. / Hancock St (7)	San Diego	2.8	< 0.1	< 0.1	0.5
1993	Hanson Aggregates / H.G. Fenton / Carrol Cyn. (1)	San Diego	2.6	< 0.1	< 0.1	< 0.1
1989	Southern California Edison Co.	San Onofre	2.2	< 0.1	< 0.1	< 0.1
1993	Hanson Aggregates/Nelson & Sloan/Birch Quarry (1)	Chula Vista	2.1	< 0.1	< 0.1	0.1
1989	Duke Energy / SDG&E / South Bay Plant	Chula Vista	2.1	< 0.1	< 0.1	0.34
1993	Frazee Paint (1)	San Diego	1.8	< 0.1	0.5	0.5
1989	UCSD Campus	San Diego	1.8	< 0.1	< 0.1	0.4
1989	USMC Base/Camp Pendleton	Pendleton	1.7	< 0.1	0.14	0.64
1993	Asphalt Inc. (1)	Lakeside	1.3	< 0.1	< 0.1	< 0.1
1989	Vulcan / CALMAT Co. / Black Mountain Rd	San Diego	1.3	< 0.1	0.20	0.4
1994	Ogden Power Pacific	Chula Vista	1.0	< 0.1	0.92	0.21
1989	Cabrillo Power / SDG&E / Encina Plant	Carlsbad	0.9	< 0.1	< 0.1	0.1
1989	Cabrillo Power / SDG&E / 32nd St. Naval Station	San Diego	0.8	< 0.1	< 0.1	< 0.1
1989	Texaco Refining & Marketing, Inc.	San Diego	0.8	< 0.1	< 0.1	0
1993	Teledyne Ryan Aeronautical (1, 7)	San Diego	0.79	< 0.1	< 0.1	0.12
1993	Hanson Aggregates / South Coast Materials (1)	Carlsbad	0.7	< 0.1	< 0.1	< 0.1
1989	Chevron USA Inc.	San Diego	0.60	< 0.1	< 0.1	0
1993	Deutsch Co. (1)	Oceanside	0.4	< 0.1	< 0.1	< 0.1
1989	Cabrillo Power / SDG&E / Naval Training Center	San Diego	0.2	< 0.1	< 0.1	< 0.1
1989	San Diego State University	San Diego	0.1	< 0.1	< 0.1	0.5
1989	Cabrillo Power/SDG&E Company/USN North Island	Coronado	0.05	< 0.1	< 0.1	< 0.1
1995	Chromalloy San Diego (8)	El Cajon	*	*	*	*

* Under review

(1) Indicates this facility updated a 1989 health risk assessment in accordance with District Rule 1210.

(2) This column reports the maximum lifetime excess cancer risk estimate reported by the facility or corrected by the District. The maximum estimated risk generally is possible at only one location. All other locations show lower risks. Moreover, this estimate assumes that a person resides at the location of maximum impact 24 hours per day, 365 days per year, for 70 years of exposure. Actual cancer risks will likely be less.

(3) Excess cancer burden is an estimate of the increased number of cancer cases in a population (i.e., all census tracts within or partially within the one in one million isopleth) as a result of exposure to emitted substances.

(4) Chronic total health hazard index (THI) is the sum of the ratios of the average annual exposure level of each compound to the compound's reference exposure level (REL).

(5) Acute total health hazard index (THI) is the sum of the ratios of the maximum 1-hr exposure level of each compound to the compound's reference exposure level (REL).

(6) Cancer risk was < 10 in one million at all residential, occupational, and commercial locations.

(7) This facility has ceased operations.

(8) This facility's HRA has been revised and is under District and OEHHA review.

(9) This facility successfully implemented a risk reduction program.

(10) The cancer and chronic HRA results are based on 1993 HRA. The acute result is based on an updated 1998 acute HRA.

Air Toxics Control Measures

At the state level, ARB continues to implement an ongoing program to identify toxic air contaminants, assess their public health risks, and develop air toxics control measures to reduce toxic emissions from specific source categories statewide. Under this program, known as AB1807 or the Tanner program, ARB, in cooperation with OEHHA, develops priorities for identification of toxic compounds, investigates and documents the adverse health risks posed by such compounds, identifies statewide sources of emissions, evaluates public health risks and available control technologies, and approves statewide emission control measures. Local air districts then must adopt and implement the State-approved emission reduction measures.

In San Diego County, the Air Pollution Control Board has adopted statewide air toxics control measures (or is directly implementing measures) requiring:

- Expanded gasoline vapor recovery controls to further reduce benzene emissions.
- Hexavalent chromium emissions controls for chrome plating and chromic acid anodizing operations.
- Hexavalent chromium emissions limits for cooling towers.
- Ethylene oxide emissions controls for medical and commercial sterilizers.
- Dioxin emissions controls from medical waste incinerators.
- Perchloroethylene emission controls for dry cleaning operations.
- Cadmium, arsenic, and nickel emission controls for metal melting operations.
- Methylene chloride, perchloroethylene, and trichloroethylene emission limits from automotive maintenance and repair activities.
- Elimination of hexavalent chromium and cadmium from automotive refinishing coatings.
- Elimination of residential open burning of trash in certain areas of the eastern portion of San Diego County.

Toxics New Source Review

Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires projects with an increase in cancer risk between 1 and 10 in one million to install toxics best available control technology (T-BACT). Additionally, projects with an increase in cancer risk between 10 and 100 in one million must meet significantly more stringent requirements to mitigate risks before they can be approved. In calendar 2002 about 500 projects were reviewed under Rule 1200. Approximately 96 percent had an estimated risk below one in one million and the remaining 4 percent had an estimated risk of one to 10 in one million. All sources had acute and chronic noncancer total hazard indices less than one. Many of the applications had initial estimated cancer risks greater than 10 in one million but all reduced the estimated risk to below 10 in one million prior to issuance of authorities to construct. No projects were permitted under Rule 1200 with risks greater than 10 in one million.

District Prohibitory Rules

In addition, District rules requiring reductions in the emissions of smog-forming organic compounds from stationary sources will also reduce emissions of some toxic air contaminants. For example, in 1989, one San Diego manufacturing facility emitted nearly 600,000 pounds of propylene oxide. By August of 1989, this facility had installed emission controls 10 months ahead of the installation schedule required by District Rule 67.10. These controls reduced propylene oxide emissions to approximately 37,000 pounds by 1990.

Federal Programs

At the federal level, the 1990 Clean Air Act Amendments greatly expanded the Environmental Protection Agency (EPA) program to develop nationwide control measures for air toxics. The Clean Air Act now lists 188 substances as hazardous air pollutants and requires EPA to develop control measures for significant sources of these pollutants over the next decade. Many of these substances are included in the emissions being inventoried under the AB2588 program. In addition, state and local permitting agencies will be required to implement National Emissions Standards for Hazardous Air Pollutants (NESHAPS) for many new and modified sources of hazardous air pollutants. The NESHAPS applicable in San Diego County are presented in Table 2. The District is working with other California stakeholders (ARB, CAPCOA, industry groups, environmental organizations) to negotiate with the U.S. EPA practical, cost-effective and enforceable methods to integrate these new federal requirements with existing California and local toxic air contaminant control programs.

Table 2 – NESHAPs Applicable in San Diego County

NESHAP	Approximate Number of Affected Facilities
Chromium Electroplating & Anodizing	20
Dry Cleaning	300
Aerospace Manufacturing & Rework Facilities	1
Shipbuilding and Repair (Surface Coating) Operations	2
Off-Site Waste & Recovery Operations	1
Halogenated Solvent Cleaning	15
Ethylene Oxide Sterilizing	1
Municipal Solid Waste Landfills	4
Miscellaneous Organic Chemicals Process	1

Other emission reduction programs designed to attain ambient air quality standards and protect stratospheric ozone will also have significant effects on the magnitude of toxic emissions. For example, according to the State ARB, motor vehicles in San Diego County emitted more than 15 million pounds of toxic air contaminants in 1989. Programs which encourage cleaner fuels, electric cars, and reducing vehicle miles traveled, and vehicle trips will also serve to reduce air toxics emissions.