SUBCHAPTER 3.5

SOLID/HAZARDOUS WASTE

Regulatory Background
Solid Waste Management
Hazardous Waste Management

3.5 SOLID/HAZARDOUS WASTE

3.5.1 REGULATORY BACKGROUND

The Hazardous Materials Transportation Act is the federal legislation regulating the trucks that transport hazardous wastes. The primary regulatory authorities are the U.S. DOT, the Federal Highway Administration, and the Federal Railroad Administration. The Hazardous Materials Transportation Act requires that carriers report accidental releases of hazardous materials to the Department of Transportation at the earliest practicable moment (49 CFR Subchapter C, Part 171).

The DTSC is responsible for the permitting of transfer, disposal, and storage facilities. The Department of Toxic Substances Control conducts annual inspections of hazardous waste facilities. Other inspections can occur on an as-needed basis.

Caltrans sets standards for trucks in California. The regulations are enforced by the CHP. Truck transporting hazardous wastes are required to maintain a hazardous waste manifest. The manifest is required to describe the contents of the material within the truck so that wastes can readily be identified in the event of a spill.

The California Integrated Waste Management Act of 1989 (AB 939), as amended, requires each county to prepare a countywide siting element which identifies how the county and the cities within the county will address the need for 15 years of disposal (landfill and/or transformation) capacity to safely handle solid waste generated in the county which remains after recycling, composting, and other waste diversion activities. AB 939 has recognized that landfills and transformation facilities are necessary components of any integrated solid waste management system, and an essential component of the waste management hierarchy. AB 939 establishes a hierarchy of waste management practices in the following order and priority: (1) source reduction; (2) recycling and composting; and (3) environmentally safety transformation/land disposal.

3.5.2 SOLID WASTE MANAGEMENT

Permit requirements, capacity, and surrounding land use are three of the dominant factors limiting the operations and life of landfills. Landfills are permitted by the local enforcement agencies with concurrence from the CIWMB. Local agencies establish the maximum amount of solid waste which can be received by a landfill each day and the operational life of a landfill. Landfills are operated by both public and private entities (CIWMB, 2002a). Landfills in the district are also subject to requirements of the SCAQMD as they pertain to gas collection systems, dust and impacts.

Landfills throughout the region typically operate between five and seven days per week. Landfill operators weigh arriving and departing deliveries to determine the quantity of solid waste delivered. At landfills that do not have scales, the landfill operator estimates the quantity of solid waste delivered (i.e., using aerial photography). Landfill disposal

fees are determined by local agencies, based on the quantity and type of waste delivered. Fees vary by landfill and county.

A total of 30 Class III active landfills and two transformation facilities (i.e., waste-to-energy facilities) are located within the district with a total capacity of 104,584 tons per day (see Tables 3.5-1 and 3.5-2). The status of landfills within each County in the air basin is described in Table 3.5-1.

TABLE 3.5-1

Number of Class III Landfills Located within the District and Related Landfill Capacity

County	Number of Landfills	Capacity (tons/day)
Los Angeles[(1)]	11	46,839
Orange[(1)]	3	20,500
Riverside[(1)]	7	19,392
San Bernardino[(1)]	9	14,613
TOTAL	30	101,344

(1) Data presented is for entire county and not limited to the portion of the county within the SCAQMD jurisdiction.
Sources: Los Angeles County Department of Public Works (LACDPW), 2001; San Bernardino County, 2002; CIWMB web site: www.ciwmb.cs.gov/SWIS.

TABLE 3.5-2

Number of Waste Transformation Facilities Located within the South Coast Air Basin and Related Capacity

COUNTY	NUMBER OF FACILITIES	CAPACITY (tons/day)
Los Angeles	2	3,240

Source: LACDPW, 2001.

3.5.2.1 Los Angeles County

The Los Angeles Countywide Siting Element addresses landfill disposal. The purpose of the Countywide Siting Element is to provide a planning mechanism to address the solid waste disposal capacity needed by the 88 cities in Los Angeles County and the unincorporated communities for each year of the 15-year planning period, through a combination of existing facilities, expansion of existing facilities, planned facilities, and other strategies.

The LACSD anticipates that landfill capacity in the county could be exceeded in approximately ten to 15 years. Because of community resistance to the extension of

operating permits for existing facilities and to the opening of new landfills in the county, and the dwindling capacity of those landfills with operating permit time left, the exact date on which that capacity will be exceeded is uncertain. The LACSD is currently exploring out-of-county disposal options in addition to continuing negotiations to extend current operating permits.

In 2000, the residents and businesses of Los Angeles County disposed of approximately 12.3 million tons of solid waste at existing permitted land disposal and transformation facilities located in and out of the County. Of this amount, approximately 11.5 million tons were disposed of in local Class III landfills, 54,000 tons were sent to transformation (waste-to-energy) facilities, 795,000 tons were exported to Class III landfills outside of Los Angeles County, and 820,000 tons were disposed of at permitted unclassified landfills. The disposal quantities for solid waste generated in Los Angeles County translate into an average disposal rate of approximately 37,000 tons per day (six day week) county-wide: 32,400 tons per day at Class III Landfills: 1,860 tons per day at waste-to-energy facilities: 2,800 tons per day at permitted unclassified landfills (LACDPW, 2001) (see Table 3.5-3).

As of April 2001, the remaining permitted Class III landfill capacity in Los Angeles County is estimated at 93.7 million tons (156.2 million cubic yards). Based on the 2000 average disposal rate of 32,400 tons per day (six day week), excluding waste being imported to the County, this capacity will be mathematically exhausted in less than 10 years. In order to make a realistic assessment of the adequacy of the remaining Class III disposal capacity, many factors beyond mere mathematical limits must be taken into consideration. For any given facility these factors include: expiration of the Land Use Permit; Waste Discharge Requirements Permit; Solid Waste Facilities Permit; air quality permits; restrictions on the acceptance of waste generated outside jurisdictional or wasteshed boundaries; permit restrictions on the amount of waste that can be accepted daily or weekly, geographic barriers; and the amount of waste that can be handled on a daily basis due to limits of manpower and equipment (LACDPW, 2001).

The total remaining permitted inert waste capacity in Los Angeles County was estimated at approximately 56.6 million tons (71.2 million cubic yards). Based on the year 2000 average disposal rate of 2,300 tons inert waste per day (six-day week), that capacity will be exhausted in 98 years. There is, therefore, adequate disposal capacity at unclassified landfills and no inert landfill crisis currently exists. There are currently two waste-to-energy facilities in Los Angeles County with a combined permitted daily capacity of 3,200 tons (six-day week). It is expected that these two facilities will operate at their current permitted daily capacity (LACDPW, 2001).

TABLE 3.5-3

Los Angeles County Landfill Status

LOS ANGELES COUNTY	Total YR 2000	Average Tons per Day (tpd)	Average Tons per 6 Day Week	Permitted tons/day	Remaining Permitted Capacity (tons)	Remaining Permitted Capacity (cubic yards)	Estimated Remaining Life
CLASS III LANDFILLS							
Antelope Valley #1	1,700,000	533	3,198	1,800	8,720,000	12,460,000	16 yrs @1800 tpd
Bradley	2,340,000	7,508	45,048	10,000	3,100,000	3,450,000	7 yrs @ 1,675 tpd 3 yrs @ 7,000 tpd 1 yr @ 10,000 tpd
Burbank (Burbank use only)	40,000	132	792	240	3,390,000	5,600,000	
Calabasas (Calabasas Watershed use only)	350,000	1,243	7,458	3,500	11,820,000	25,730,000	
Chiquita Canyon	1,370,000	4,405	26,430	6,000	19,790,000	28,270,000	13 yrs @ 5,000 tpd
Lancaster	150,000	496	2,976	1,700	14,370,000	20,520,000	27 yrs @ 1,700 tpd
Pebbly Beach (Avalon)	1,020	9	54	49	170,000	130,000	33 yrs@ 20 tpd 15 yrs @ 49 tpd
Puente Hills #6	3,640,000	11,686	70,116	13,200	9,650,000	18,950,000	
Scholl Canyon (Scholl Canyon Watershed use only)	350,000	1,361	8,166	3,400	8,810,000	18,310,000	
Sunshine Canyon	1,490,000	4,762	28,572	6,600	8,780,000	14,390,000	8 yrs @ 6,000 tpd
Savage Canyon - Whittier	90,000	281	1,686	350	5,100,000	8,470,000	
TOTALS	**11,521,020**	**32,416**	**194,496**	**46,839**	**93,700,000**	**156,280,000**	
UNCLASSIFIED LANDFILLS							
Azusa	190,000	610	3,660	6,500	27,000,000	45,000,000	
Brand Park (Glendale use only)			0	100	700,000	350,000	
Nu-Way Live Oak	590,000	1,891	11,346	6,000	9,430,000	6,290,000	
Peck Road	30,000	85	510	1,210	9,800,000	6,530,000	25 yrs @ 1,158 tpd
Reliance Pit #2	10,000	304	1,824	6,000	9,760,000	13,020,000	
TOTALS	820,000	2,890	17,340	19,810	56,690,000	71,190,000	
WASTE-TO-ENERGY							
Commerce Refuse to-Energy Facility	10,000	334	2,004	1,000	467,000,000	not applicable	not applicable
Southeast Resource Recovery Facility	44,000	1,404	8,424	2,240	1,602,000,000	not applicable	not applicable
TOTALS	**54,000**	**1,738**	**10,428**	**3,240**	**2,069,000,000**		

Out-of-County Disposal
Waste exported in 2000 to Out-of-County Class III Facilities = 794,910 (2,548 tpd-6 avg)

The idea of transporting waste from the site of its generation to more remote or distant locations (some of them out of state) is being given serious consideration as part of waste

disposal planning. It would provide jurisdictions in Los Angeles County with access to a greater array of landfills than would otherwise be accessible or cost effective. In theory, rail-haul has the potential to reduce labor costs, equipment, vehicle costs, and the amount of time typically associated with the transportation of waste to remote, non-urban locations by truck. Taken together the existing and proposed new and expanded facilities are sufficient to serve the county's landfill needs for the next 15 years (LADWP, 2001

3.5.2.2 Orange County

Orange County currently has three active Class III landfills. They include the following: Prima Deschecha, Frank R. Bowerman and Olinda Alpha. The Prima Deschecha Landfill has a permitted capacity of 4,000 tons per day and an expected closure date of 2040. The Frank R. Bowerman Landfill has a maximum capacity of 8,500 tons per day, and an expected closure date of 2024. The Olinda Alpha Landfill has a permitted capacity of 8,000 tons per day. The current permit expiration of the Olinda Alpha Landfill is 2013 (see Table 3.5-4).

TABLE 3.5-4

Orange County Landfill Status

LANDFILL	Total YR 2000	Average Tons per Day	Average Tons per 6 day week	Permitted tons/day	Remaining Permitted Capacity (tons)	Estimated Year of Closure
Frank R. Bowerman	2,094,978	6,715	40,288	8,500	81,600,000	2024
Olinda Alpha	1,929,343	6,184	37,103	8,000	50,242,370	2013
Prima Deshecha	724,251	2,321	13,928	4,000	81,000,000	2040
TOTALS	4,748,572	15,220	91,319	20,500	212,842,370	-

CIWMB, 2002a

Orange County landfills have sufficient capacity for the next 37 years, consequently, the County is not considering rail transport of waste at this time, nor is the County planning to expand the landfill system. The Orange County Integrated Waste Management Board is in the process of preparing an EIR that addresses the long range plan for the Orange County Landfill system. The EIR addresses in detail the plans to expand both the Olinda Alpha and the Frank R. Bowerman landfills. If approved, the Olinda Alpha landfill would have an expected closure date of 2021; the Frank R. Bowerman landfill would have an expected closure date of 2035, and the Prima Deschecha landfill would have an extended closure date of 2067. This would give Orange County landfill disposal capacity for another 65 years. The EIR is not considering rail transport of waste as part of the project, but does consider it as an alternative. The ~~Draft~~ EIR is expected to be released in the summer of 2003, and the Final EIR is expected to be completed some time in 2004 (County of Orange Integrated Waste Management Department, Personal Communication, Susan Amirhosseini and Linda Hagthrop, December, 2002).

Orange County cities and unincorporated areas have completed, adopted and implemented a Countywide Integrated Waste Management Plan. Orange County cities and unincorporated areas have residential curbside recycling programs in place.

3.5.2.3 Riverside County

Riverside County has seven active sanitary landfills with a total capacity of 19,300 tons per day. Each of these landfills is located within the unincorporated area of the county and is classified as Class III. Assuming no expansion, the seven major sites have closure dates projected from as early as 2005 to as late as 2186. The projected date of closure for each landfill is tentative and could be affected by engineering, environmental, and waste flow issues (see Table 3.5-5).

TABLE 3.5-5

RIVERSIDE COUNTY LANDFILL STATUS

LANDFILL	Total YR 2001	Average Tons per Day	Average Tons per 6 day week	Permitted tons/day	Remaining Permitted Capacity (tons)	Estimated Year of Closure
Badlands	500,483	1,630	9,780	4,000	10,274,375	2018-20
Desert Center	382	14	84	60	18,247	2011
Edom Hill	428,158	1,342	8,052	2,651	865,840	2004
El Sobrante	587,009	1,906	11,436	10,000	42,179,996	2031
Lamb Canyon	159,491	500	3,000	1,900	5,414,988	2024
Mecca II	10,273	73	438	400	14,152	2005
Oasis	63	32	192	400	75,623	2186
TOTALS	**1,685,859**	**5,497**	**32,982**	**19,411**	**58,843,221**	

Riverside County Waste Management Department, Personal Communication, Sung Key Ma, January 2003.

The solid waste that is disposed of at these landfills is generated in the unincorporated areas of the county, as well as in the 24 cities within the county's jurisdiction. At this time, the Riverside County and its cities do not export any solid waste to other jurisdictions with the exception of a small portion from the Blythe area. As Class III landfills, the landfills accept primarily non-hazardous residential and commercial/ industrial municipal solid waste.

Riverside County has proposals to expand several existing landfills. The proposed lateral expansion of the Lamb Canyon Landfill would extend the life of the landfill to at least 2036. The proposed lateral expansion the Badlands Landfill would extend the life of the landfill to 2033.

3.5.2.4 San Bernardino

San Bernardino County has seven public and two private landfills within the District's boundaries with a combined permitted capacity of 14,400 tons per day. California Street Sanitary Landfill is estimated to reach final capacity by the end of 2007, San Timoteo by

2016, Colton by 2006, Barstow by 2012, Fontana by 2033, Victorville by 2005, and Landers by 2007 (see Table 3.5-6). Agua Mansa is a private landfill that only accepts tires for shredding.

San Bernardino County is proposing to expand two existing landfills within the District's boundary: Mid-Valley and San Timoteo. Colton Landfill is noted as a backup candidate for expansion if the recommended expansions at Mid-Valley and San Timoteo are not approved, and if the City requests it. San Bernardino County is not planning any new landfills. A new private landfill is planned in the County. The Bolo Station Landfill waste-by-rail project is in the permitting process. It is unknown if the Bolo site will be approved and, if so, when it will be ready to receive waste.

TABLE 3.5-6

San Bernardino County Landfill Status

LANDFILL	Total Tons Received 2000	Average Tons per Day	Average Tons per 6 day week	Permitted tons/day	Remaining Permitted Capacity (tons)	Planned Additional Capacity (tons)
Barstow	85,396	274	1,642	525	390,088	26,007,393
California Street	51,983	167	1,000	350	178,654	4,600,000
Colton	242,771	778	4,669	3,100	886,030	None
Fort Irwin	10,120	32	195	100	5,521,912	None
Landers	54,462	175	1,047	381	634,767	None
MCAGCC/Twentynine Palms (U.S. Marine Corps)	4,088	13	79	57	150,069	None
Mid-Valley/Fontana	307,612	986	5,916	7,500	33,012,051	None
San Timoteo	123,060	394	2,367	1,000	6,416,129	None
Victorville	217,094	696	4,175	1,600	990,996	33,693,606
TOTALS	**1,096,586**	**3,515**	**21,088**	**14,613**	**48,180,696**	**64,300,999**

County of San Bernardino, 2002 and CIWMB, 2002a

3.5.3 HAZARDOUS WASTE MANAGEMENT

Hazardous material, as defined in 40 CFR 261.20 and 22 CCR Article 9, are disposed of in Class I landfills. California has enacted strict legislation for regulating Class I landfills. The California Health and Safety Code requires Class I landfills to be equipped with liners, a leachate collection and removal system, and a ground water monitoring system.

There are no hazardous waste disposal sites within the jurisdiction of the SCAQMD. Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Kettleman Hills has an estimated 6.5 million cubic yard capacity and expects to continue receiving

wastes for approximately 18 years under their current permit, or for approximately another 24 years with an approved permit modification (Personal Communication, Terry Yarbough, Chemical Waste Management Inc., June 2000). Buttonwillow receives approximately 960 tons of hazardous waste per day and has a remaining capacity of approximately 10.3 million tons. The expectant life of the Buttonwillow Landfill is approximately 35 years (Personal Communication, Marianna Buoni, Safety-Kleen (Buttonwillow), Inc., July 2000).

Hazardous waste also can be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in hAragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

TABLE 3.5-7

Hazardous Waste Generation in the Basin
(tons per year)

Waste Name	Los Angeles County	Orange County	San Bernardino County	Riverside County	Total Waste Generated in the Counties in the Basin[(1)]	Total Waste Generated In Calif.
Waste Oil	258,740	11,969	35,000	2,162	307,872	598,472
Inorganic Solid Waste	104,291	21,816	8,048	3,953	138,108	320,687
Contaminated Soils	90,021	1,475	2,460	13,748	107,704	768,689
Organic Solids	51,692	6,958	22,384	4,749	85,783	139,129
Asbestos Waste	44,987	8,205	4,973	3,283	61,447	185,130
Oil-Containing Waste	40,605	2,572	3,360	1,365	47,902	72,767
Unspecified Aqueous Solution	28,683	2,769	1,359	901	33,712	46,499
Unspecified Solvent Mixture	27,668	1,555	815	1,322	31,359	43,296
Aqueous Soln with Organic Residues	25,621	2,639	10,066	779	39,106	69,191

(1) Data presented is for entire county and not limited to the portion of the county within the SCAQMD jurisdiction.
Source: DTSC, 2002.

About one million tons of hazardous waste was generated in the four counties that comprise the district in 2001 and about 2.6 million tons of hazardous waste was generated in California (see Table 3.5-7). The most common types of hazardous waste generated in the Basin include waste oil, other inorganic solid waste, contaminated soils, organic solids, asbestos-containing waste, and unspecified oil-containing wastes. Because of the population and economic base in southern California, a large portion of hazardous waste is generated within the Basin. Not all wastes are disposed of in a

hazardous waste facility or incinerator. Many of the wastes generated, including waste oil, are recycled within the Basin.