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 transporting hazardous wastes in California. The regulations are enforced by the CHP. Trucks 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.

With regard to solid non-hazardous wastes, 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 i.e., waste-to energy facilities) 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 safe 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 California Integrated Waste Management Board (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 nuisance 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 (e.g., 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 25 Class III active landfills and two transformation facilities are located within the district with a total capacity of 97,269 tons per day and 3,240 tons per day, respectively (see Tables 3.5-1 and 3.5-2). The status of landfills within each county in the district are described in Table, 3.5-3 through 3.5-6.

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	46,439
Orange(1)	3	20,500
Riverside(1)	7	17,901
San Bernardino(1)	4	12,429
TOTAL	25	97,269

(1) Data presented is for entire county and not limited to the portion of the county within the SCAQMD jurisdiction.
Source: 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 LACDPW anticipates that landfill capacity in the county could be exceeded in approximately 11 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 2004, the residents and businesses of Los Angeles County disposed of approximately 11.3 million tons of solid waste per year at existing permitted land disposal and transformation facilities located in and out of the County. Of this amount, approximately 9.2 million tons were disposed of in local Class III landfills, 581,000 tons were sent to transformation (waste-to-energy) facilities, 2.3 million tons were exported to Class III landfills outside of Los Angeles County, and 1.5 million 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 36,000 tons per day (six day week) county-wide: 29,593 tons per day at Class III Landfills: 1,862 tons per day at waste-to-energy facilities: 4,876 tons per day at permitted unclassified landfills (LACDPW, 2006) (see Table 3.5-3).

As of January 2006, the total remaining permitted Class III landfill capacity in Los Angeles County is about at 102.9 million tons (see Table 3-5.3). Based on the 2004 approximate average disposal rate of 30,000 tons per day (six day week), excluding waste being imported to the County, this capacity will be mathematically exhausted in approximately 11 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, 2006).

The total remaining permitted inert waste capacity in Los Angeles County was estimated at approximately 41.2 million tons. The Nu-Way Live Oak facility is expected to remain in operation until approximately 2010 and Los Angeles County is planning a new inert waste facility in Irwindale (United Rock Pit #3). There is expected to be adequate disposal capacity at unclassified landfills and no inert landfill crisis currently exists. There are currently two waste-to-energy facilities (i.e., incinerators) 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 until the equipment life of the waste-to-energy facilities (incinerators) is exhausted (LACDPW, 2006).

TABLE 3.5-3

LOS ANGELES COUNTY LANDFILL STATUS

LOS ANGELES COUNTY	Total YR 2004	2004 Average Tons per Day (tpd)	Average Tons per 6 Day Week	Permitted tons/day	Remaining Permitted Capacity (million tons)	Estimated Life Or Year of Closure
Antelope Valley #1	354,000	1,135	6,810	1,400	8.43	24 years
Bradley	218,000	697	4,182	10,000	0.16	1 year - 2007
Burbank (Burbank use only)	41,000	131	786	240	3.20	2053
Calabasas (Calabasas Watershed use only)	536,000	1,717	10,302	3,500	9.90	18 years
Chiquita Canyon	1,558,000	4,995	29,970	6,000	14.13	9 years
Lancaster	426,000	1,364	8,184	1,700	14.16	33 years
Pebbly Beach (Avalon)	4,000	12	72	49	0.10	2033
Puente Hills #6	3,834,000	12,290	73,740	13,200	36.30	9 years
Scholl Canyon (Scholl Canyon Watershed use only)	416,000	1,334	8,004	3,400	7.3	17 years
Sunshine Canyon	1,762,000	5,648	33,888	6,600	4.59	3 years
Savage Canyon - Whittier	84,000	270	1,620	350	4.6	2025
TOTALS	**9,233,000**	**29,593**	**177,558**	**46,439**	**102.87**	
Azusa	179,000	574	3,444	6,500	25.99	2025
Nu-Way Live Oak	1,340,000	4,280	25,680	7,500	5.46	2010
Peck Road	7,000	22	132	1,210	9.74	2008
TOTALS	**1,526,000**	**4,876**	**29,256**	**15,210**	**41.19**	
Commerce Refuse to-Energy Facility	114,000	365	2,190	1,000	not applicable	not applicable
Southeast Resource Recovery Facility	467,000	1,497	8,982	2,240	not applicable	not applicable
TOTALS	**581,000**	**1,862**	**11,172**	**3,240**		

Source: CIWMB web site: www.ciwmb.cs.gov/SWIS. LACDPW, 2006.

The Los Angeles Integrated Waste Management Board (LAIWMB) 2004 Annual Report on the Countywide Summary Plan and Countywide Siting Element (LACDPW, 2006) reports on the expansion of the Puente Hill Landfill, which would extend its life by another 10 years. The Annual Report also proposes expansions of the Sunshine Canyon, Lancaster, Antelope Valley, Bradley and Peck Road landfills. 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. Excluding proposed new or expanded facilities, current landfill capacity is expected to sufficient to serve the county's landfill needs for the next 11 years (LADWP, 2006).

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 2067. The Frank R. Bowerman Landfill has a maximum capacity of 8,500 tons per day, and an expected closure date of 2022. 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 (cubic yards)	Estimated Year of Closure
Frank R. Bowerman	2,094,978	6,714	40,288	8,500	63,019,060	2022
Olinda Alpha	1,929,343	6,183	37,103	8,000	38,578,383	2013
Prima Deshecha	724,251	2,321	13,928	4,000	87,384,799	2067
TOTALS	4,748,572	15,218	91,319	20,500	188,982,242	-

Source: CIWMB web site: www.ciwmb.cs.gov/SWIS; Orange County Integrated Waste Management Department, 2006).

Orange County landfills have sufficient capacity for approximately the next 60 years, consequently, the County is not considering rail transport of waste at this time, nor is the County currently planning to expand the landfill system. The Orange County Integrated Waste Management Board prepared 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. The EIR proposed for 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 did not consider rail transport of waste as part of the project, but did consider it as an alternative. The EIR was amended in November 2004 (County of Orange Integrated Waste Management Department, 2006).

The Orange County Integrated Waste Management Department (IWMD) is responsible for ensuring that County waste is disposed of in a way that protects public health, safety and the environment. Long-range strategic planning is necessary to ensure that waste generated by the County is safely disposed of and that the County's future disposal needs are met. The Regional Landfill Options for Orange County (RELOOC) program was created for this reason. RELOOC is a 40-year strategic plan being prepared by the IWMD. The purpose of RELOOC is to evaluate options for solid waste disposal for Orange County citizens. The plan was updated in September 2005 (www.oclandfills.com/documents/stratplanupd2005.pdf).

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 17,901 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 2007 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 2006[(1)]	Average Tons per Day	Average Tons per 6 day week	Permitted tons/day[(2)]	Remaining Permitted Capacity (cubic yards) [(2)]	Estimated Year of Closure[(2)]
Badlands	676,104	2,167	13,002	4,000	21,866,092	2016
Blythe	21,294	68.25	40.95	400	2,289,139	2034
Desert Center	35	.11	.66	60	23,246	2011
El Sobrante	1,105,789	3,544	21,264	10,000	158,857,714	2030
Lamb Canyon	637,324	2,042	12,252	3,000	20,908,171	2023
Mecca II	2,849	9.13	54.78	400	34,786	2007
Oasis	1.15	.0036	.022	41	128,171	2186
TOTALS	**2,443,396**	**7,831**	**46,614**	**17,901**	**204,107,319**	

Sources: (1) Riverside County, Sung Key Ma, personal communication, February, 2007; (2) CIWMB web site: www.ciwmb.cs.gov/SWIS, February, 2007.

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, 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 four public landfills within the district's boundaries with a combined permitted capacity of 12,429 tons per day. California Street Sanitary Landfill is estimated to reach final capacity by the end of 2031, San Timoteo by 2016, Colton by 2007, and Fontana by 2033 (see Table 3.5-6). Agua Mansa is a private landfill that only accepts tires for shredding. San Bernardino County is not planning any new landfills or expansions of existing landfills.

TABLE 3.5-6

San Bernardino County Landfill Status

LANDFILL	Total Tons Received 2005[(1)]	Average Tons per Day	Average Tons per 6 day week	Permitted tons/day[(2)]	Remaining Permitted Capacity (cubic yards) [(2)]	Estimated Year of Closure[(2)]
California Street	61,584	197	1,182	829	6,800,000	2031
Colton	261,637	839	5,034	3,100	610,000	2007
Mid-Valley/Fontana	956,636	3,066	18,396	7,500	71,500,000	2033
San Timoteo	202,812	650	3,900	1,000	9,491,163	2016
TOTALS	**1,482,669**	**4,752**	**28,512**	**12,429**	**88,401,163**	

Sources: (1)County of San Bernardino, personal communication, Rex Richardson, February 2007; (2) CIWMB web site: www.ciwmb.cs.gov/SWIS , February, 2007.

3.5.3 HAZARDOUS WASTE MANAGEMENT

Hazardous material, as defined in 40 CFR 261.20 and 22 CCR Article 9, is 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 Clean Harbors (formerly Safety-Kleen) facility in Buttonwillow (Kern County). Kettleman Hills has an estimated 2.5 million cubic yard capacity and expects to continue receiving wastes for approximately 3-4 years. The facility is in the process of permitting a landfill expansion which would increase the landfill's life by another five years. The facility operators would then seek a permit for development of a new landfill that would create another 15 years of life (Personal Communication, Fred Paap, Chemical Waste Management Inc., December 2006). Buttonwillow receives approximately 960 tons of hazardous waste per day and has an approximate remaining capacity of approximately nine million cubic yards. The expectant life of the Buttonwillow Landfill is approximately 40 years (Personal Communication, Marianna Buoni, Clean Harbors Buttonwillow, Inc., December 2006; Clean Harbors,

http://www.cleanharbors.com/Sites/Trans_Dspsl/facility_template.asp?location=53, 2006.

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 Aragonite, Utah; Aptus, located in 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 - 2005
(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	404,053	21,601	94,746	4,405	524,805	931,938
Inorganic Solid Waste	218,746	34,694	6,585	2,140	262,165	482,294
Contaminated Soils	204,774	64,536	5,152	5,551	280,013	754,488
Organic Solids	111,168	9,165	27,373	3,116	150,822	231,969
Asbestos Waste	57,585	11,574	10,594	4,557	84,310	279,074
Oil-Containing Waste	53,590	3,435	17,136	1,511	75,672	100,719
Unspecified Aqueous Solution	36,439	2,073	3,733	1,252	43,497	56,120
Unspecified Solvent Mixture	32,505	1,526	1,109	453	35,593	57,230
Aqueous Soln with Organic Residues	32,889	2,232	7,209	1,275	43,605	80,121
TOTALS					**1,500,482**	**2,973,953**

(1) Data presented is for entire county and not limited to the portion of the county within the SCAQMD jurisdiction.
Source: DTSC, 2006.

About 1.5 million tons of hazardous waste were generated in 2005 in the four counties that comprise the district and about three million tons of hazardous waste were generated in California (see Table 3.5-7). The most common types of hazardous waste generated in the district include waste oil, 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 district. 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.