

Chapter 1

HAZARDOUS WASTE: OVERVIEW OF FEDERAL AND STATE REGULATIONS

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Introduction

Over sixty million tons of hazardous wastes are generated in the United States each year. California, with approximately ten million tons annually, ranks fourth among all states in hazardous wastes produced (Reisch, 1983). In 1972, the California legislature found that increasing amounts of hazardous wastes were being generated. It declared that in order to protect the public health and environment, it was necessary to establish regulations and incentives to insure safe handling, treatment, recycling and destruction of hazardous wastes prior to disposal. The Hazardous Waste Control Act (Health and Safety Code, Div. 20, Chapt. 6.5 and 6.8) was the beginning of hazardous waste legislation in California. Since that time, the act has been amended numerous times to strengthen authority, increase fees and penalties, and encourage alternative technologies.

California is currently facing a critical hazardous waste management challenge. In 1981, the state promulgated legislation phasing out disposal to land of certain highly toxic wastes. These wastes must instead be recycled, treated or destroyed. This creates an increased need for new waste treatment facilities.

At the same time, due to accidents such as Love Canal and Stringfellow Quarry, the public is becoming increasingly fearful of toxic materials. Public outcry has jeopardized plans for siting of new facilities. In Southern California in 1980, four of the five Class I hazardous waste land disposal facilities closed unexpectedly (Bowman and Lester, 1983). No new sites have been opened to take their place. Businesses must have methods for disposing of their toxic materials. Closure of sites endangers the economic viability of small, local industries and could force many to consider the alternative of dumping illegally into storm drains or sewer systems.

The purpose of this study is to research federal, state and local regulations pertaining to hazardous waste and to propose possible incentives for encouraging alternative technologies and siting of new facilities.

Regulatory Framework

Local regulations - There are very few local regulations governing hazardous waste. Most of the regulations are found at the state and federal level. Some cities and counties in California have

adopted or are considering "community right-to-know" and/or "containment and monitoring" ordinances. These give local governments an opportunity to become involved with the management of their hazardous waste.

The Berkeley Municipal Code contains only a few regulations pertaining to hazardous waste. The code defines a hazardous waste as "disposable material potentially capable of causing disease or injury." Berkeley does not allow hazardous debris to remain on any private property.

Recycling hazardous waste, instead of disposal, is a viable alternative that is being considered in many areas of California. Although there is a section regarding recycling in the Berkeley Municipal Code, the materials include only glass, metals or paper, not hazardous waste.

If Berkeley is typical of other municipal governments, it is apparent its codes do not yet encompass problems of hazardous waste management.

Federal regulations - The major federal legislation for hazardous waste is defined in the Resource, Conservation and Recovery Act (RCRA) of 1976. RCRA empowered the Environmental Protection Agency (EPA) to establish a framework that would identify and track hazardous waste from 'cradle-to-grave' by means of a manifest system. Generators, transporters, and facilities which treat, store or dispose of hazardous wastes are required to meet federal standards and regulations. To encourage state assumption of these regulations, EPA authorizes qualified states to operate their own hazardous waste management programs if they are equivalent to federal programs. In 1982, California enacted legislation enabling DOHS to enforce EPA's federal regulations as state regulations until California can adopt equivalent or more stringent laws.

California obtained the first phase of authorization from EPA on June 4, 1981. This gives California the power to enforce all hazardous waste control activities except the issuance of final permits to facilities which treat, store, or dispose of hazardous waste. Final authorization will not be complete until EPA certifies the remaining California programs as RCRA equivalents. California is planning to apply for final authorization early in 1984 (Hazardous Waste Management Council, 1984). The last date for EPA to grant final authorization to states is January 20, 1985.

State regulations - The primary authority for implementing hazardous waste management in California is the Department of Health Services (DOHS) through the California Hazardous Waste Control Law (H&SC, Div. 20, Sec. 251000, et seq.). Although this Act gives DOHS the power to manage wastes, California still has a highly fragmented environmental regulatory structure. Regulations governing hazardous wastes can be found in eight separate government codes. There are also statewide and regional boards for water quality regulation, air quality control and solid waste management.

The California Administrative Code, Title 22, Division 4, Chapt. 20, contains the regulations adopted by DOHS to implement the Hazardous Waste Control Law. Major elements of the DOHS program

include: permitting, registering and certifying, surveillance, enforcement and administering the state Superfund program.

The Porter-Cologne Water Quality Control Act (Water Code, Div. 7, Sec.]3000, et seq.) empowers the State Water Resources Control Board to regulate anything that can adversely affect the quality of surface or groundwater. Any person proposing to discharge waste, other than to a sewer system, that could affect water quality, must file a waste discharge report with one of nine regional Water Quality Control Boards (CAC, Title 23, Chapt. 3, Sub-chapt. 15, Sec. 2500, et seq.). Presently, DOHS is revising its permitting system to include a joint permit application with the Water Resources Control Board, as well as a coordinated interagency review (Tsuji, 1984, pers. comm.).

The California Air Resources Board (CARB) and Air Pollution Control Districts set standards for pollutant emissions into the air from stationary sources. Recent legislation requires CARB, in conjunction with DOHS, to evaluate the effects of hazardous substances emitted into the air and to identify which pollutants should be controlled. DOHS is currently developing a memorandum of understanding with CARB to minimize duplication (White, 1983).

Other state agencies involved in hazardous waste management include:

- (1) California Highway Patrol - Certifies that the vehicles of registered waste haulers meet the specified safety standards and have the proper manifest documents.
- (2) California Dept. of Fish & Game - Responsible for enforcing laws to protect fish and wildlife habitats, including discharge of hazardous wastes.
- (3) California Dept. of Food & Agriculture - Regulates pesticide use, including storage, transporting and disposal. Used containers are also regulated by DOHS.
- (4) California Dept. of Industrial Relations - Regulates employee exposure to hazardous chemicals and waste.
- (5) State Board of Equalization - Collects hazardous waste fees.
- (6) State Office of Emergency Services - Responsible for management and cleanup of hazardous spills.

Enforcement of Regulations

Section 25180 of the Health and Safety Code gives DOHS the power to enforce hazardous waste regulations in California. DOHS may order compliance with any hazardous waste control law or permit requirement. An order may include a demand for site cleanup or other remedial action. The Regional Water Quality Control Boards have the authority to order the cleanup of any discharges that might

pollute the waters. Citizens may become involved in enforcement through civil action against alleged violators. The major tools of enforcement are manifests, certification, permits and penalties.

Manifests and Certification - The manifest is a document used to track hazardous waste between generator, registered hauler and the treatment, storage or disposal facility (Figure 1). The waste producer provides DOHS and the transporter with a manifest which states: (1) the hazardous waste carried, (2) the amount of waste, (3) the chemical and mineral composition, and (4) the origin and destination of the waste (H&SC, Article 6, Sec. 25160).

The manifest remains with the hauler until delivery is made. Upon delivery, the hauler and facility each retain a copy of the manifest. One copy is returned to the originator and another copy is sent to DOHS.

Section 25163(a) of the H&SC specifies that a hauler of hazardous waste must hold a valid registration issued by DOHS. To become registered and receive a certificate of compliance, the hazardous waste hauler must have the vehicle inspected annually by the Highway Patrol. The hauler must be in compliance with Vehicle Code Sec. 34020 and 34501 and with regulations adopted by the State Fire Marshal. The driver of the certified vehicle must also have received training adequate to ensure the safe handling of hazardous waste (H&SC Sec. 25168(b)). DOHS may suspend or revoke the certification of a vehicle if it is not in compliance with the laws.

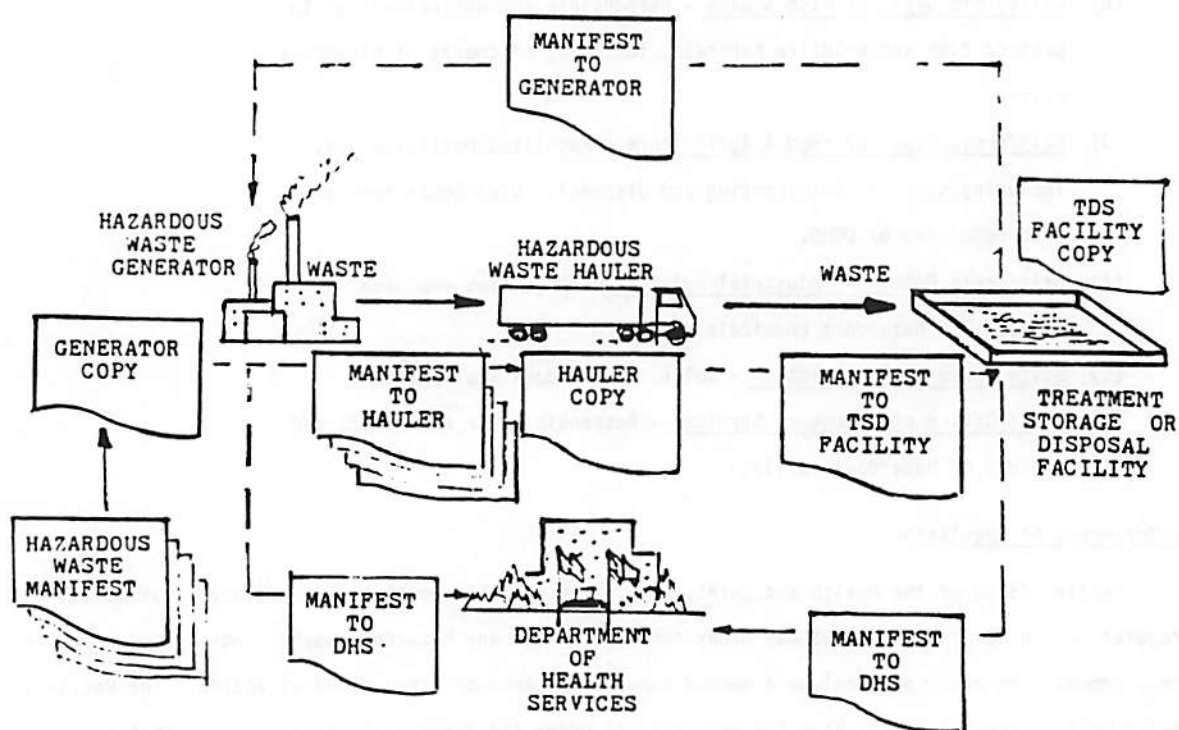


Figure 1. California's Hazardous Waste Manifest System.
Source: (after White, 1983).

Recent legislation, adopted September 1983, exempts persons from registration requirements if they are transferring small amounts (less than five gallons or a total weight of fifty pounds) of hazardous waste. The wastes must be hauled in a specified manner and must not be classified as extremely hazardous (AB 1015, 1983).

Currently, the state manifest form is more stringent than the federal one. California will not receive federal approval until the two manifests are in compliance. It is important that some agreement is reached soon, as the differences have created confusion among users of the manifest (Hazardous Waste Management Council, 1984).

Permitting of facilities - All transfer, storage, and disposal facilities must have either a state permit or a federal RCRA permit. Until California receives final RCRA authorization, EPA is responsible for incinerator and land disposal permits and DOHS issues permits for treatment and storage facilities. DOHS must review each permit at least every five years and has the power to modify, suspend or revoke a permit. Permits must also be approved by the Regional Water Quality Control Board (Water Code Sec. 13227).

Penalties - Any person who has or is about to be engaged in any act that violates a hazardous waste law can be issued a temporary or permanent injunction, or a restraining order (H&SC Sec. 25181). Upon conviction, criminal fines of up to \$50,000 per violation per day and/or imprisonment for up to one year may be levied. Civil fines can be up to \$25,000 per day per violation.

Accidental Spills and Abandoned Sites - Superfunds

Hazardous spills and pollution of the environment are a serious and growing problem. The actual number of abandoned waste sites in the nation is still unknown. EPA contracted a study by industry and government to locate and rank sites. Industry listed 431 locations that were threatening health or the environment. The government report estimated between 1,200 and 34,000 sites. As of September 1, 1983, 546 sites had been listed as a threat to human health or the environment.

Under RCRA, the federal government has the authority to regulate and track toxic wastes. Under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (the federal Superfund), it was given the power to clean up abandoned waste sites or spills of hazardous substances.

Federal authority - The federal Superfund provides for three types of governmental response: (1) immediate removal - when an imminent danger is present; (2) planned removal - when prompt reaction is required to minimize the danger to environment or health; (3) remedial action - to clean up sites that have been agreed upon by the federal and state governments as stipulated by the National Priority List.

Costs for the cleanup are covered by a \$1.6 billion fund. The tax burden for the fund is spread over a broad base of consumers. 87.5% of the money is from a tax placed on the manufacturers of petroleum and chemicals. The other 12.5% is through Congressional appropriations.

Another provision of CERCLA is a Post-Closure Tax and Trust Fund of \$200 million to pay for the monitoring, care and maintenance of hazardous waste disposal sites after they have been closed down. The fund is financed by a tax placed on wastes delivered to disposal facilities.

A sunset clause is incorporated into the Superfund. Unless Congress reauthorizes it, the authority to collect the taxes terminates Sept. 30, 1985, or when a sum of \$1.38 billion is reached.

State authority - Before the federal Superfund can be implemented for remedial action, states must assure payment of 10% of the costs of cleanup or at least 50% if the site was owned by the state or local government. This provision makes it necessary for states to have a fund available.

On September 24, 1981, the state legislature amended the Health and Safety Code (SB 618, 1981) to provide for the California Superfund. DOHS is responsible for implementation of this law, which created the Hazardous Substances Account to: (1) make available adequate funds to cover California's 10% share of costs mandated by the federal Superfund; (2) establish a program to respond to releases of hazardous spills and waste disposal sites that pose a threat to public health or environment; and (3) compensate persons injured by exposure to releases of hazardous wastes.

In contrast to the federal law, which taxes the manufacturers of petroleum and chemicals, the state Superfund is supported by a tax placed on the disposal of hazardous waste. A sunset clause is incorporated into this bill.

Recommendations

After a review of local, state and federal legislation pertaining to hazardous waste management, it is apparent that some areas could be improved. The proposals recommended are threefold: (1) eliminate disincentives to proper disposal; (2) creation of county-wide hazardous waste management plans; and (3) encouragement of alternative technologies.

Eliminate disincentives - In California, accountability for waste disposal and collection of revenue is accomplished through a permit and manifest system. Hazardous waste producers are required to complete a manifest when disposing of wastes. Responsible companies who keep accurate records as mandated by law, such as the companies who used Stringfellow Quarry landfill, are the most vulnerable to legal action. Less responsible companies often escape detection because they do not comply with state law and do not maintain mandated records.

Legal costs and increased disposal taxes are incentives for companies to ignore the law and illegally dispose of the wastes. As an example, disposal taxes were \$1.00 per ton prior to 1982.

Currently these taxes range from a base of \$6.40 per ton to \$18.00 per ton for the most hazardous waste.

California should follow federal precedent and place the tax burden on the producers of chemical and petroleum products - not on the disposers. The costs would then be spread over a much broader and more equitable base and would encourage proper disposal.

County-wide hazardous waste plan - Control of land use in California has historically been in the hands of local government. Each geographic area has unique problems that are best solved on a local level. If effective decisions are to be made locally regarding hazardous waste management, the citizens must be educated. Public fears regarding hazardous wastes are usually caused by ambiguity and uncertainty of information. Citizens need unbiased information. They should be told correct procedures for recycling, treatment and disposal of hazardous wastes.

Contra Costa County is one of only a few counties in California which have established a task force to study local hazardous waste management. The 21 member committee, appointed by the Board of Supervisors, is monitoring the hazardous waste generated in Contra Costa County and reviewing ordinances and regulations. It will make recommendations to the Board of Supervisors by June 1985.

The state legislature should mandate that each county establish a Hazardous Waste Management Council. This interim level of government should consist of locally elected citizens. The council would collect information by continually updating the kinds and amounts of wastes generated in its county. It would be the local coordinator of current issues and laws regarding hazardous waste. It should be the responsibility of the council to provide this information to waste generators and local citizens.

Once data have been gathered, the council, with citizen input, should formulate a Hazardous Waste Management Plan, similar to the Solid Waste Management Plan. This plan would be subject to review and approval by the state Department of Health Services.

Each county should be responsible for the disposal of wastes that it generates. This would reduce costs paid by industries to have wastes transported great distances. Decreasing the distance should reduce toxic spills on the roadways.

If a county could not produce an approved plan, the state would need to preempt local government and mandate a plan for that county. All county plans should be incorporated into one state-wide hazardous waste management plan.

Alternative technologies - Catastrophes such as Love Canal and Stringfellow Quarry have made the public cognizant of the negative effects caused by land disposal of hazardous waste. Assembly Bill 1540 (1981) adopted the following schedule of land disposal restrictions for certain hazardous wastes:

- June 1, 1983 - cyanide wastes
- January 1, 1984 - toxic metal wastes, strongly acidic wastes, and polychlorinated biphenyls
- January 1, 1985 - liquid wastes containing halogenated organic compounds
- July 1, 1985 - organic sludges and solids containing halogenated organic compounds

Alternative methods will become necessary as fewer wastes are allowed to be deposited on land.

The scientific expertise of industry can play a vital role in finding solutions. Industry should be given economic and legal incentives for finding alternative methods to our present waste problems. This could be accomplished by a tax credit on each pound of material recycled. A tax break could be given for money industry spends on research which minimizes wastes or their potential hazards to the environment.

Conclusion

California's hazardous waste program is a complex system of laws involving numerous government codes and a multitude of governmental agencies. The Department of Health Services, as the primary agency for hazardous waste management, is striving to reduce the overlapping and at times gapping responsibilities between the various governmental agencies. Aggressive enforcement of the laws is receiving more attention as citizens become increasingly aware of the hazards of toxic substances.

The predominant method of disposal of hazardous waste has been to the land. About 1000 firms in California now pay \$15-30 million annually to dispose of 400,000 tons of waste. New laws are increasing taxes on hazardous waste disposal and restricting the substances that can be disposed of on land. It will cost these same firms \$30-40 million to use alternative methods (Toxic Waste Assessment Group, 1981). Land disposal is economically the cheapest method, but not included in this cost is the harm to society that could result from future unknown environmental contamination.

California hazardous waste regulations are being reviewed by the Department of Health Services and the State Water Resources Control Board. Some state regulations, which are more stringent than Federal regulations, will be retained (Corash, 1983). Criteria for siting facilities may be strict and new restrictions on disposal may require reevaluation of disposal practices. It could be that many firms could be faced with the prospect of no feasible technology available for the disposal of their wastes.

Encouragement of alternative technologies and incentives for proper disposal as well as community involvement in a hazardous waste management plan are essential if we plan to resolve our hazardous waste problems.

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