

Chapter 3
THE HAZARDOUS WASTE MANAGEMENT SYSTEM IN CALIFORNIA:
AN ORGANIZATIONAL ANALYSIS

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Managing hazardous wastes is no small problem in California. The state's Department of Health Services has recently estimated that over ten million tons of hazardous wastes are generated each year (HSTF, 1983), a figure that is undoubtedly growing. The state legislature noted in 1981 that the number of hazardous waste disposal facilities is decreasing in the face of increasing demand (HSC, 1981), and thus the need for an effective statewide management program is growing steadily.

The state bureaucracy in the last decade has not stood still amidst this growing threat to the public and the natural environment. In little over ten years, what began as a small rudimentary program of enforcement evolved into a large and comprehensive federally-approved management system regarded as one of the nation's most sophisticated models of hazardous waste management (White, 1983). In this paper, I will present the system in its current form, and discuss its strengths and weaknesses.

How the System Is Structured

The State of California's hazardous waste management system is administered through the Toxic Substances Control Division (TSCD) of the Department of Health Services (DOHS), which is a sub-department of the Health and Welfare Agency. Because the TSCD is still relatively young, it has not yet reached a stable structure; the past few years have seen a continuing pattern of reorganization (Pearson, 1984, pers. comm.). At the time of this writing, the organization is still subject to change (White, 1984, pers. comm.).

The TSCD headquarters is located in Sacramento in an old hollowed-out theatre building, just a few blocks from the capitol. TSCD headquarters consists of four independent sections: the Alternative Technology and Policy Development Section, the Program Evaluation and Procedures Development Section, the Program Management Section, and the Office of Public Information and Participation. Outside of Sacramento headquarters are three Regional Offices located in the following cities: Sacramento (Central Region), Fresno (Central Region), Los Angeles (Southern Region), and Berkeley (North Coast Region) (Figure 1). Each regional office consists of four separate units described in detail later.

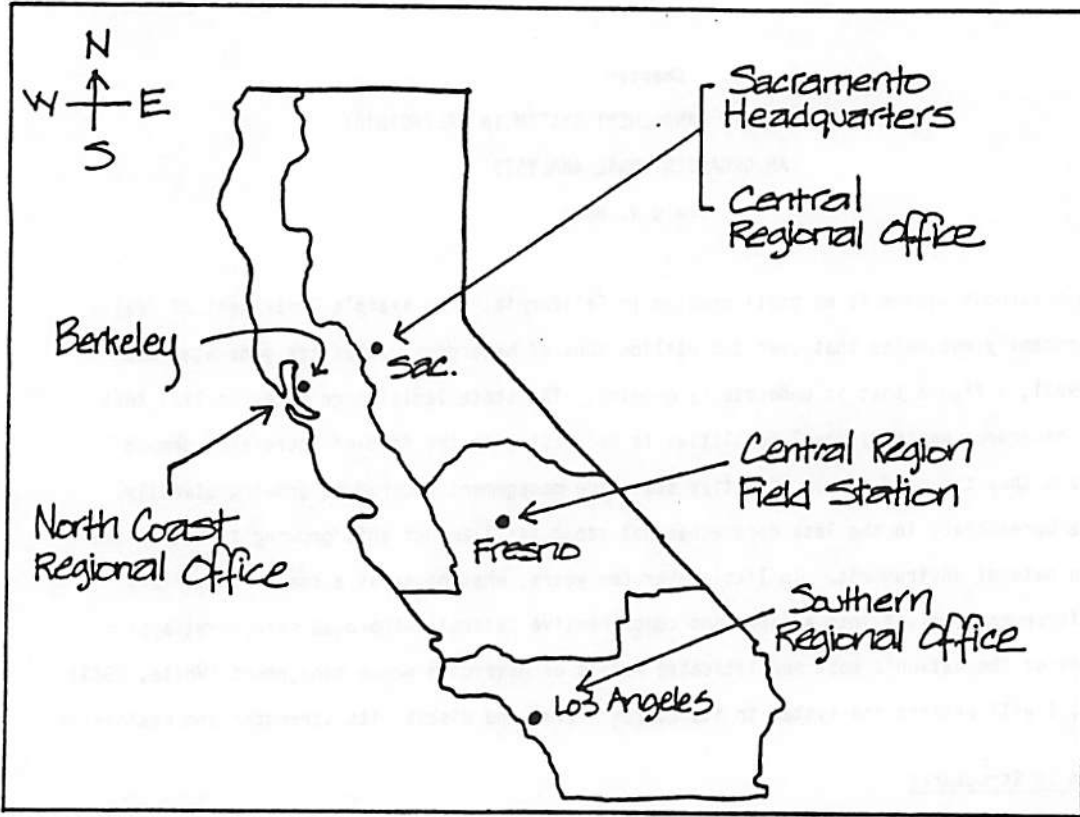


Figure 1. Location of Headquarters and Regional Offices.

HEADQUARTERS: ITS COMPONENTS AND FUNCTIONS

The Alternative Technology and Policy Development Section (ATPDS)

This section serves an extremely vital support function and is subdivided into five units (Figure 2). The Hazard Evaluation Unit has the responsibility for setting criteria for determining the toxicity of a particular substance in order to determine what wastes fall within the regulatory framework. The Facility Siting and Evaluation Unit draws up technical standards for waste facilities and other hazardous waste handlers. Safety requirements for operational procedures and container devices are also established by this unit.

The ATPDS also includes a "think-tank" for hazardous waste control alternatives, the Waste Management and Process Evaluation Unit. It explores alternative strategies for controlling toxic wastes, such as incineration, off-shore disposal, and chemical neutralization. Another unit, the Resource Recovery Unit, promotes recycling activity and produces a newsletter called "The California WasteExchange Newsletter/Catalog" which acts as a pooled resource guide for assisting industry in recycling its hazardous wastes.

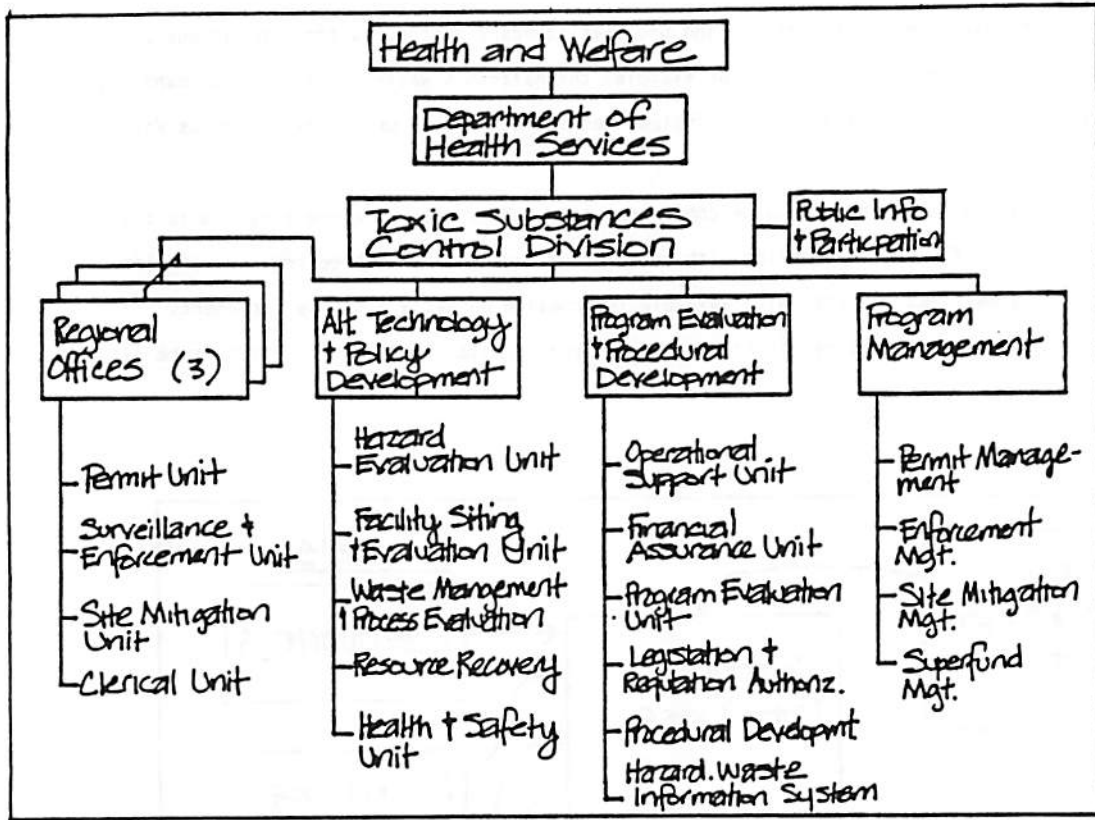


Figure 2. The Structure of the Toxic Substances Control Division.

The Health and Safety Unit is responsible for the training of TSCD employees that conduct field-work at hazardous waste sites. The ATPDS consists almost entirely of engineers (chemical, civil, and mechanical), industrial hygienists, geologists and chemists.

The Program Evaluation and Procedures Development Section (PEPDS)

This section consists of a number of units which bear little relation to one another (Figure 2), although each one in itself has an important function. The Operational Support Unit is essentially the program's personnel branch. It assesses the personnel needs of the organization, reviews the staffing requests, and approves all personnel actions. The Financial Assurance Unit works alongside the Program Evaluation Unit to monitor the budget and income sources.

The Legislative and Regulations Authorization Unit oversees the development and implementation of policy and regulations for toxic waste management. This unit must ascertain that the regulations generated by the department are in accordance with the regulatory system established under RCRA (the federal Resource Conservation and Recovery Act).

The Procedures Development Unit designs and proposes standard procedures for the various programs that the TSCD implements statewide. For example, the hazardous waste transportation manifest system was created in this unit, and then was implemented in yet another unit, the Hazardous Waste Information System Unit (HWIS).

The HWIS houses the TSCD's program-wide computer system. This data management system is the heart of the electronic flow of information with arteries extending to the three regional offices. Because the shipping manifest is laden with valuable information on waste activity (movement, locations, material, disposal), it represents a major source of data input to the HWIS (Figure 3) (Belk, 1984, pers. comm.).

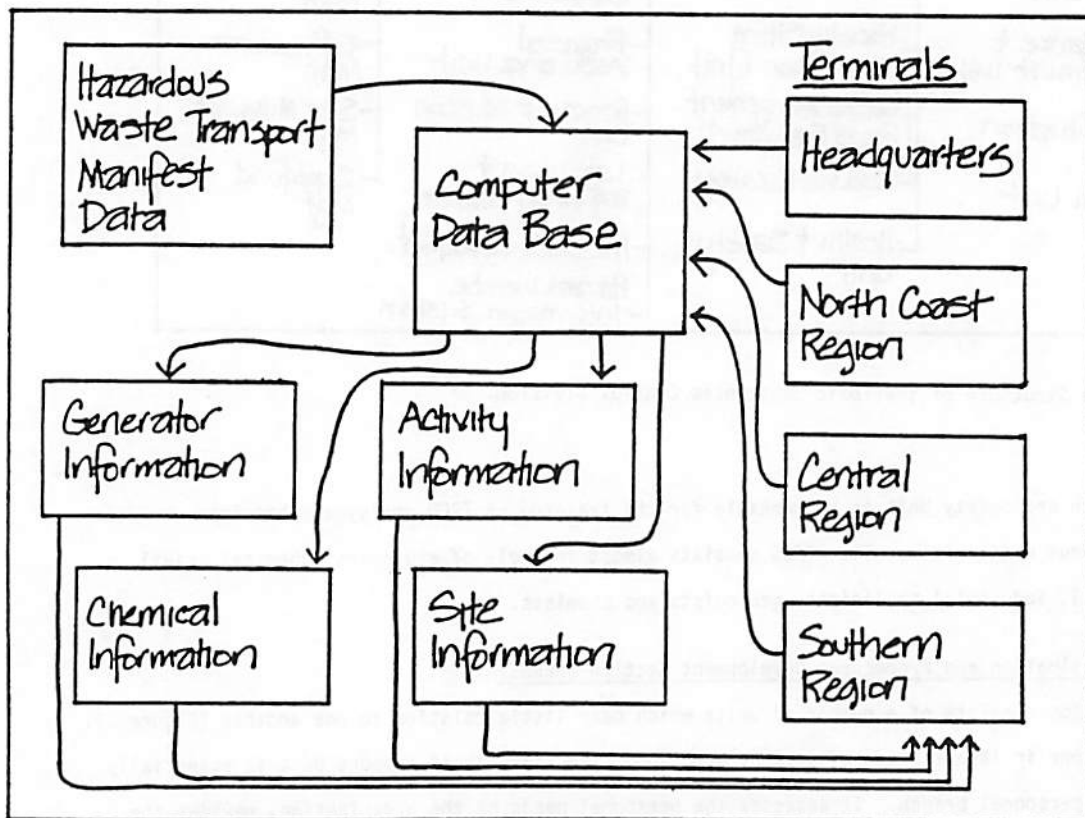


Figure 3. Hazardous Waste Information System.

Program Management Section

In an attempt to centralize the coordination of the regional office functions, individual management offices were created to oversee regional office activities such as facility permitting, enforcement, and site mitigation (for privately financed cleanups). Through a central overseer, the headquarters assure that all operational procedures, policies, and forms are uniform throughout

the state.

Another important function of this section is the management of the federal CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act of 1980) Superfunds. Working out of the Site Mitigation Management Unit, Superfund personnel oversee the mitigation process for uncontrolled hazardous waste sites (high priority sites whose responsible parties cannot finance the cleanup). Because of the complexity of Superfund financing, and because sites are listed in terms of statewide priority, Superfund site mitigations are not delegated to the Regional Offices, but rather, are administered out of the main headquarters.

The Office of Public Information and Participation

The purpose of this office is to keep members of the public and the regulated community informed of the current hazardous waste situation, and the activities, policies and goals of the TSCD. The office manages a Hazardous Waste Technical Advisory Committee, holds quarterly public meetings, and conducts hearings for discussion on policy or regulation proposals. Also, technical and informational documents are prepared and distributed to educate the general public on hazardous waste matters (DOHS, 1981).

THE REGIONAL OFFICE SYSTEM

Whereas the TSCD headquarters in Sacramento might be considered the administrative hub of the hazardous waste management system in California, the Regional Offices are the spokes that keep the wheels of hazard prevention moving. However, each regional office operates autonomously on a day-to-day basis. It can carry out its functions relatively free of bureaucratic chains of command. This autonomy probably constitutes the key characteristic contributing to its overall effectiveness.

Each regional office consists of three units: a Permits Unit, a Surveillance and Enforcement Unit, and a Site Mitigation Unit (Figure 4).

The Permits Unit

Possibly the most important unit of all, the Permits Unit must assure that all treatments, storage and disposal (TSD) facilities are handling wastes in a manner that minimizes potential detriment to the public and the natural environment. Facilities that fall under the auspices of the Permits Unit include waste treatment centers, Class I and Class II-1 disposal sites, interim storage stations, and also small and large generators that store hazardous wastes for more than 90 days. Each one, by law, must be issued a Final State Permit before it can operate. Facilities that have Interim Status Documents (granted to them before the State completed an RCRA-approved regulatory package) are exempted.

The process of permitting a facility is theoretically quite simple. A person desiring a

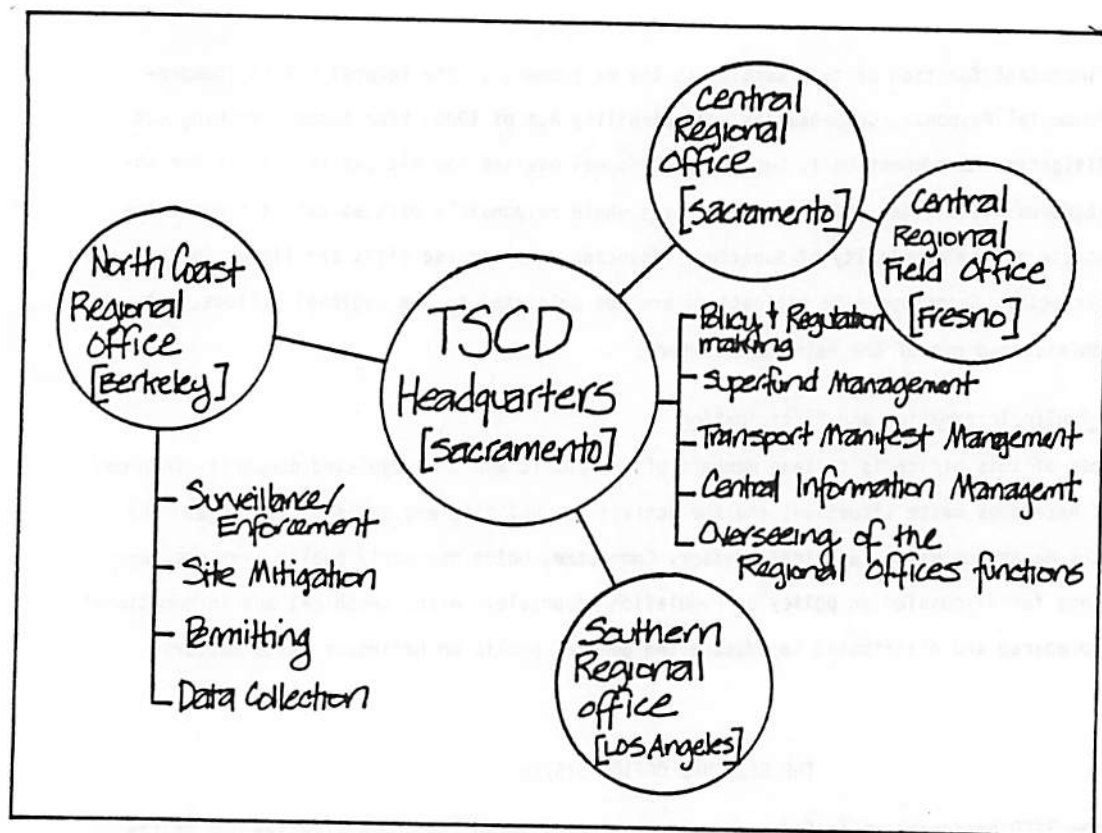


Figure 4. Functions of Regional Office in Relation to Headquarters.

permit submits two items: a completed application form and an "operation plan." Those opening a new facility may be required to submit, in addition, an environmental impact report describing the potential hazard to public health and safety, and environmental disruption due to development, construction, and potential accidents that may occur in the process (CAC, 1981).

The required operation plan is stringent and must include (1) a qualitative description of the hazardous wastes that will be handled; (2) a list of machinery and equipment that will be utilized; (3) a description of the operation procedures used by the employees in handling the waste; (4) a complete closure plan in the event of shut-down; (5) a detailed map of the facilities which describe the location of machines, wastes, transportation roads, power, fuel, and water lines, topographic features, land zoning within a quarter-mile radius, and fencing design; and (6) contingency plans for accident management and evacuation procedures for employees. This demanding operation plan forms a strong basis upon which to justify the issuance of a final state permit (CAC, 1981).

The permitting process takes a considerable length of time. In 1983, the average time for a

permit to be issued was about 562 days (Belk, 1984, pers. comm.). There are a number of reasons for this. First of all, staffing is limited. The Permits Unit consists of only six individuals. There is a backlog of several hundred hazardous waste facilities in the Northern California region alone that are awaiting final state permits (Marcotte, 1984, pers. comm.). Secondly, because of the technical complexity of facility plans combined with the extensiveness and transitory nature of regulations, many operation plans take considerable time to approve. Whenever there are points of discrepancy or special situations, the regional office must contact the Permit Management Unit in Sacramento for clarification; hazardous waste policy is not always clear and concrete. Thirdly, although there isn't a law stating that the issuance of permits be preceded by a formal public hearing, the EPA does require that the opportunity for "public participation and comment" be instituted. Several years ago, this somewhat ambiguous federal requirement caused a certain degree of confusion. Subsequently, the department instituted the use of public "workshops" for all permits (with the exception of highly controversial projects which call for formalized public hearings). Although these workshops are important, their logistics contribute to a significant delay in the permit process.

The purposes of each step of the permit process are valid and essential. The only problem is the demand they impose upon limited resources, and the lack of concrete policy to accompany very complex, technical regulations.

The Surveillance and Enforcement Unit

Issuing a permit to a facility is only the first step. Even though the operating plan may pass inspection, and comply with RCRA regulations, there's no guarantee that the facility operators consistently comply with the plan. Machinery wears out, barrels corrode, personnel performance deteriorates, and mid-level management changes. When toxic wastes are handled, many things can happen that might put public health in jeopardy. The Surveillance and Enforcement Unit (SEU) exists to keep "tabs" on hazardous waste facility activity, ensure that the operators are abiding by the law, and enforce corrective action if necessary.

The SEU is divided into two separate teams, one conducting surveillance work on all permitted facilities. First priority goes to Class I disposal sites since these facilities are hazardous (and extremely hazardous) waste sites (Low, 1984, pers. comm.). An SEU team visits Class I sites on a weekly basis. Lowest priority goes to generators which have storage facilities for their wastes. They are usually not in possession of large amounts of waste at any given time, since they remove their wastes regularly. These facilities are given attention only about once per year.

The other team deals with all non-permitted situations. They respond to consumer complaints about firms that might be handling hazardous wastes inadvertently or perhaps in secrecy (e.g., illegal dumping). Small generators often come under this category, as they are sometimes overlooked

in the permit process, and thus may circumvent regulation without being noticed.

An on-site investigation involves a number of actions. First of all, the SEU staff inspect, without appointment, any and all parts of the facility including records, reports and test results. Then an observation of all procedures, security precautions and safety measures is conducted to see if they comply to all regulations. A report of findings is written up. Finally, chemical samples are taken and brought back for testing at a laboratory. The operator may choose to take a duplicate sample for a separate test if he or she desires. Some simple chemical tests, such as combustibility or alkalinity tests, are performed at the time of inspection. If violations are discovered, the operator is cited and asked to take corrective action.

When test results are received, the SEU sends back a notice to the facility operator. If corrections are needed, a plan of action and a time frame is requested. Actions are followed up and monitored to ensure that corrections that will mitigate the problem are carried to completion. Enforcement of these actions is backed by state law and, in the case of deliberate violation, can be followed by: (1) the issuance of a mutual settlement letter and consent agreement which circumvents formal court proceedings and is resolved by the direct payment of civil penalties and other remediation that the DOHS may require; (2) civil prosecution; or (3) criminal prosecution. The penalties for violation of hazardous waste control laws are costly: up to \$50,000 per day per violation or up to a year of imprisonment (DOHS, 1984).

One significant delay factor in this system occurs at the testing stage. All chemical samples are sent to the Hazardous Waste Management Laboratory Section of DOHS. The problem lies in the fact that all three regional offices in California send their samples to the same lab, located in Berkeley. Hence, there exists a backlog of samples. The samples are placed on a priority list on a scale of one to three, one being highest priority. Priority One samples must first be approved by the TSCD Section Chief before the lab will accept them. If approved, the lab will test them immediately. Priority Two samples take, on average, about a week or two, and Priority Three samples (a majority of the samples) can take several weeks before results are finally determined and sent back to the SEU (Low, 1984, pers. comm.). By that time, significant amounts of toxic waste may have been released into the environment.

Another more obvious problem underlying this program is again the lack of personnel. Each regional office has an SEU staff of about nine people to carry out the task of monitoring several hundred TSD facilities. To visit a large generator, such as a major oil refinery, for example, only once a year does not constitute a healthy and consistent check on hazardous waste activity.

Site Mitigation Unit

Oftentimes, firms will shut down and leave behind untreated hazardous wastes on the site. In

1981, DOHS conducted a major study to locate potentially hazardous abandoned sites (HSTF, 1983). Over five thousand sites were found that required attention. The painstaking task of ranking these sites followed, and those sites in which the responsible party could not be identified were referred to the Superfund program. The remaining several thousand sites were placed under the responsibility of the Site Mitigation Unit (SMU) to determine the full extent of contamination, review or develop the closure plan, and insure that the facility operator carries out the actions necessary to render the site harmless to the public and surrounding wildlife.

Site mitigation is an extremely complex and technical affair. Each site requires in-depth technical evaluation to determine which method would be most effective. Basically, the operator has three alternatives: (1) remove the waste and transfer it to another site; (2) encapsulate the existing site to prevent migration of toxic substances; or (3) treat the waste on-site, either by chemical neutralization or incineration (EPA, 1983). The SMU staff works with the operator to formulate a feasible clean-up plan. After the plan is drawn up, and the operator agrees to fund and execute it, the role of the SMU staff is to monitor and enforce the progress of the clean-up.

Unfortunately, there are a number of factors which impede the mitigation process considerably. First of all, serious delays can occur when the responsible operator cannot be found. The SMU often has to do detective work to track down the whereabouts of the owner of the abandoned site. Until he can be found, the project cannot be funded unless it is covered by the Superfund Program. Even if the owner can be found, there is no guarantee that he will have the financial resources to fund the clean-up or he may disclaim responsibility and take the State to court. In either situation, the site could still be left untreated, and continue to be a health hazard.

If the private sector does not assume financial responsibility, SMU must refer the site to the site mitigation headquarters where the State and Federal Superfund monies are managed. Superfunding involves large amounts of "red tape." The state must contract out the work to private environmental firms; to channel state funds into private contracts has never been a rapid process. As a result, it can take from several months to several years to mitigate any given site through Superfunding.

And finally, as has been the case with all the units, insufficient staffing results in a major backlog of sites to be given attention; the list of abandoned sites is very extensive. As one SMU staff-person put it, "our resources are incredibly stretched. Our personnel needs to be tripled" in order to begin to approach completion of the task (Marcotte, 1984, pers. comm.).

Clerical Unit

How well information flows within an organization depends largely upon the effectiveness of the clerical unit. In the case of the regional office system, this aspect becomes particularly relevant. The clerical unit represents the hub of communication between the three operational units

and the outside, including Sacramento headquarters and private industry; all forms of communication including written correspondence and telephone messages are channeled through it (Figure 5).

It should be emphasized that the Regional Office has three operational units as described above, yet it has only one clerical unit to service them all. Thus, efficient office procedures (e.g., typing request systems) are crucial and are sometimes creatively devised by members within the clerical staff itself. One former clerical staff-person pointed out, however, that the functions of the Clerical Unit would be carried out more effectively if the staff were more knowledgeable in the technical aspects of hazardous waste management (Kahn, 1984, pers. comm.). Size of staff is still probably the primary problem; the amount of paperwork and communicational activity generated by a massive hazardous waste management organization such as a TSCD Regional Office calls for a larger clerical support staff.

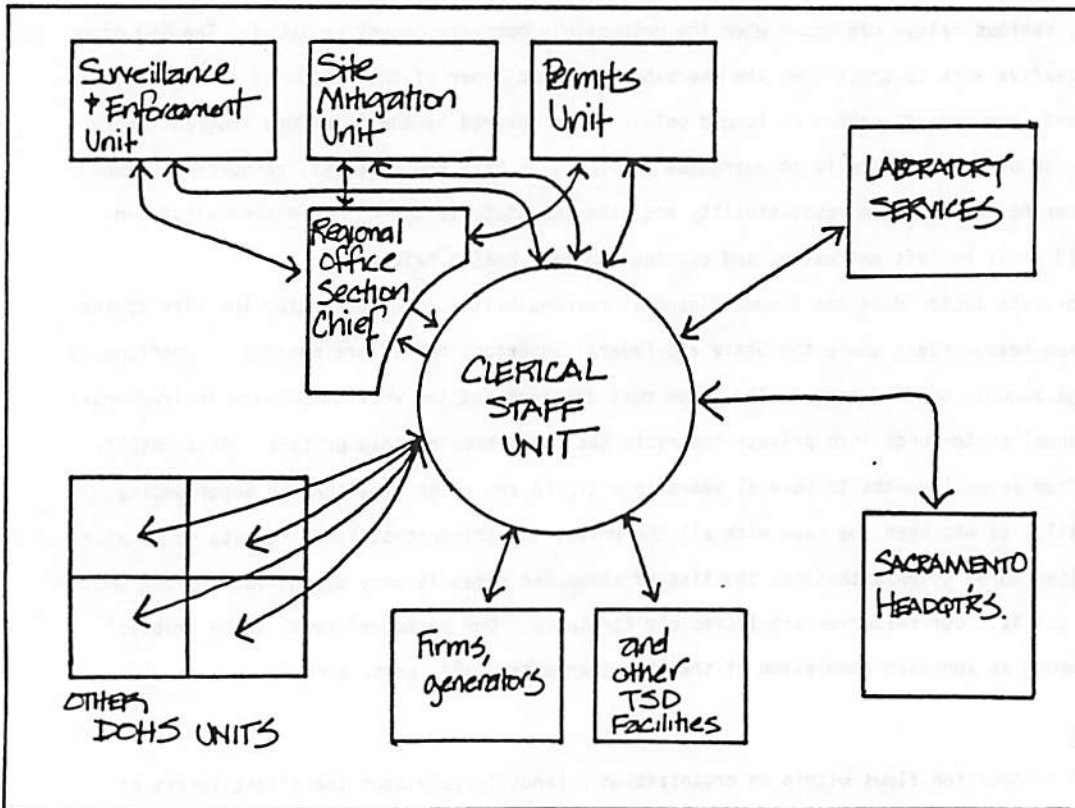


Figure 5. Communication Pathways.

Regional Office - Headquarter Relations

Bureaucracies are typified by long chains of communication and command. TSCD is no exception (Figure 6). Suppose, for example, the Surveillance and Enforcement Unit in Berkeley needed to order new protective gear for site inspection. They must first write up an order form and submit it to their section chief for approval. He then forwards it to the Program Evaluation Unit (PEU) in Sacramento. If the PEU approves the request, they send a letter of consent back to the SEU in Berkeley. The SEU must then send the request to another DOHS section called the Regional Operations Section (ROS), which in turn orders the goods from a private vendor. Upon receipt of the goods, the ROS sends them to the SEU. It can be a matter of months before this process is completed (Low, 1984, pers. comm.). The impact of these kinds of logistical delays can be extremely detrimental. Overall, however, there is generally good communication between the Regional Offices and headquarters. Mail courier service between the two institutions seems to be very efficient. And there are regularly scheduled meetings between regional unit representatives and section chiefs with the corresponding staff persons in Sacramento to keep each other informed.

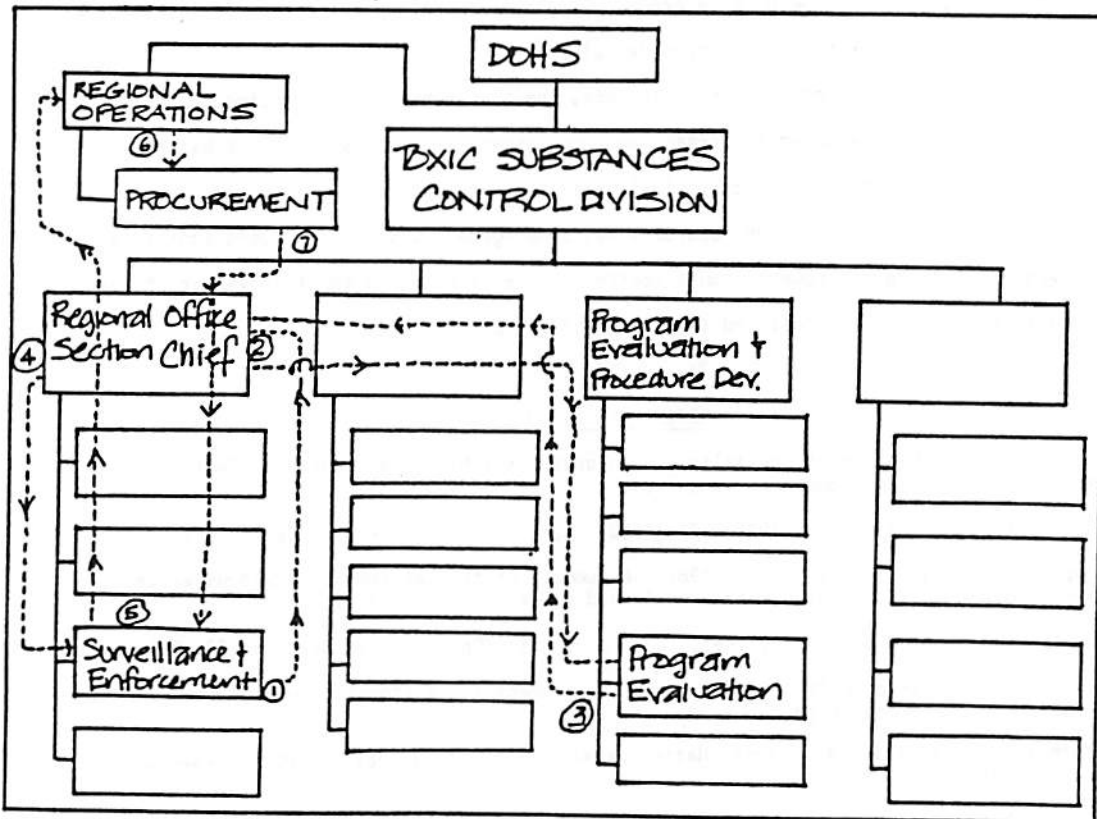


Figure 6. Bureaucratic Pathway for Obtaining Supplies.

Summary and Conclusion

The Toxic Substances Control Division represents a remarkable achievement in the history of public health, and a gallant effort in the battle against hazardous wastes in California. But like any large and relatively young program, there are problems and difficulties to be surmounted.

Probably the largest problem has to do with staffing. The job is far greater than the resources available to execute it. Tied in with this is the observation that one staff person made: Sacramento is constantly generating more and more very good policies and regulations; the only problem is that the staffing is not increasing along with them (Marcotte, 1984, pers. comm.).

Another problem that needs to be solved is the lack of better guidelines for making judgments on compliance issues. Perhaps a regulations and policy specialist could be assigned to each regional office permanently, to be on hand to clarify any ambiguities.

Laboratory support should also be more readily accessible to each of the regional offices. Decentralization of this function would be in order. Complete laboratory facilities at each of the Regional Offices would speed up the process considerably.

And finally, as in many governmental organizations, the procurement and financing process is far too slow. Actions should be taken to streamline these essential processes so that hazardous waste sites can be given attention much more quickly than they presently are.

The motivations and ideas behind our hazardous waste management system are indeed admirable and well received. Our energies, however, must continue to be directed in the improvement of our system, for the sake of our environment and the health of our people.

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