

State and Local Hazardous Waste Management — A Framework for Action?

The management of hazardous waste has been referred to by many experts in the field as the environmental problem of the 1980s. Recognition of the problem, however, began and grew throughout the 1970s. For example, Section 212 of the Resource Recovery Act of 1970 required that the Environmental Protection Agency (EPA) prepare a comprehensive report to Congress on the storage and disposal of hazardous waste. In the 1974 report, EPA concluded that the prevailing methods of hazardous waste management were inadequate and resulted in the uncontrolled discharge of hazardous waste residues into the environment (U.S. EPA, 1977). As a result, the Administration proposed that Congress enact legislation to prevent dangerous and environmentally unsound hazardous waste treatment and disposal practices (U.S. EPA, 1977). Congress responded by enacting the Resource Conservation and Recovery Act of 1976 which is aimed at the regulatory control of hazardous waste from its generation to its ultimate disposal. Thus, throughout the 1970s there was a growing concern at the federal level over the risk posed to the public health and the environment from improper hazardous waste disposal practices.

News of Love Canal raised the hazardous waste problem to its present level of public notoriety. Since then, many problems resulting from past and present disposal practices have surfaced. Some of the more infamous include the Valley of the Drums in West Point, Kentucky, the PCB spill along highways in North Carolina, and the huge fire at an Elizabeth, New Jersey storage and disposal site. These environmental catastrophes and many others of a similar nature have pointed out the possible severity of the nation's hazardous waste problem. In its 1979 report on hazardous waste disposal, the Subcommittee on Oversight and Investigations of the House Interstate and Foreign Commerce Committee summarized the situation:

"The hazardous waste disposal problem cannot be overstated. The Environmental Protection Agency (EPA) has estimated that 77,140,000,000 pounds of hazardous waste are generated each year, but only

10 percent of that amount is disposed of in an environmentally sound manner. Today there are some 30,000 hazardous waste disposal sites in the United States. Because of years of inadequate disposal practices and the absence of regulation, hundreds and perhaps thousands of these sites now pose an imminent hazard to man and the environment. Our country presently lacks an adequate program to determine where these sites are; to clean up unsafe active and inactive sites; and to provide sufficient facilities for the safe disposal of hazardous waste in the future" (U.S. Oversight and Investigations Subcommittee, 1979).

HAZARDOUS WASTE PROBLEMS IN NORTH CAROLINA

Unfortunately North Carolina has not escaped its share of problems stemming from improper hazardous waste management. Two examples illustrate this point effectively. Between July 27 and August 3, 1978 a total of 211 miles of roadway shoulder in fourteen central and eastern Piedmont counties were contaminated with polychlorinated biphenols (PCBs). It was determined that 30,000-35,000 gallons of liquid PCB waste was deliberately discharged along the roadside from a passing truck, resulting in the contamination of 40,000 cubic yards of soil. State officials, aware of the potential hazards posed by PCBs, attempted to develop control strategies for cleaning up the contaminated soil. Alternate strategies included removal and disposal of contaminated soil in a chemical waste landfill, treatment in place with activated carbon to stabilize the PCBs, and a "do nothing" alternative (Bulman, 1980). Two and one-half years after the PCB dumping incident, the

Terrence K. Pierson will complete the M.R.P. program at the University of North Carolina in May 1981 with a concentration in environmental and land use planning. He has just finished a two-year study on hazardous waste management practices across the country.

state has not found an acceptable solution to the problem.

In Flemington, North Carolina, a small community of 100 people in the northwest corner of New Hanover County, the groundwater used as a water supply for thirty-three residential and ten industrial wells was found to be contaminated with hazardous chemicals that had leached from a nearby landfill operated by Waste Industries, Inc. According to EPA investigations in 1979, chemicals found in sufficient levels to affect human health include: tetrachloroethylene, benzene, trichloroethylene, 1,2-dichloroethane, vinyl chloride, methylene chloride and lead. In addition, chlorides, dichlorophenol, chlorobenzene, iron manganese, phenol and zinc were found in levels to make the water unfit for human consumption because of odor or taste problems (U.S.A. v. Waste Industries et.al.). In April 1979, EPA and the North Carolina Division of Environmental Management warned the residents not to drink the water from their wells. A rudimentary temporary water supply system was set up for the residents by New Hanover County. The landfill was closed in June of 1979 when capacity was reached.

Also in June 1979, the Flemington Residents Association filed suit against both the county and Waste Industries, Inc. in North Carolina Superior Court. The plaintiffs are seeking abatement of the nuisance, restoration of the groundwater to its prior condition, and provisions from the county for a permanent and convenient supply of water to residents of the Flemington community. There are many third party defendants in the case, including the State Department of Human Resources, which has responsibility for granting landfill operation permits, and the Division of Environmental Management, which has responsibility for monitoring groundwater (Sanford, 1980). The case is still before the North Carolina Superior Court.

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EPA, after continued monitoring and testing of the groundwater, filed suit in federal District Court against New Hanover County, Waste Industries, Inc. and the owners of the landfill in January 1980. The suit is brought under the provisions of Section 7003 of the Resource Conservation and Recovery Act of 1976. EPA is seeking injunctive relief and requesting that the county be required to supply the Flemington residents with a suitable permanent supply of water and to restore the quality of the groundwater. This



EPA estimates that only 10% of hazardous waste are disposed of in an environmentally sound manner. Photo by Lee A. Krohn

case has not yet been brought before the court.

There are numerous examples of environmental and public health problems caused by the improper disposal of hazardous waste in North Carolina, including the contamination of the Kernersville water supply and the illegal dumpsites found in Mecklenburg County. All of these incidents illustrate that North Carolina has a hazardous waste problem. The crucial question is the extent of the hazardous waste problem in the state.

North Carolina is ranked eleventh in the United States in the generation of hazardous waste. The North Carolina Department of Human Resources estimates that the state generates 120 million gallons of hazardous waste annually. Over half of this quantity is generated by seven industries: Chemical and Allied Products, Machinery, Textile Mill Products, Fabricated Metal Products, Electrical Machinery and Electronics Equipment and Supplies, Primary Metal Industries and Printing and Publishing (NC Dept. of Human Resources, 1978).

One major problem faced by North Carolina is that there are no licensed disposal sites within the State where this waste can be deposited. At present, hazardous waste that is properly disposed of is being shipped to the

licensed SCA Services Corporation hazardous waste landfill in Pinedale, South Carolina, or the Waste Management, Inc. landfill in Livingston, Alabama. However, a 1979 survey of major American chemical firms by the U.S. House Subcommittee on Oversight and Investigation identified 125 sites in North Carolina where industrial chemical waste had been disposed of in unlicensed facilities. The primary methods of disposal used at these sites included pits, ponds, and lagoons; incineration and land farming. The highest concentration of these sites is in Mecklenburg County (26), Guilford County (21), New Hanover County (13), Cumberland County (13), and Wake County (9) (U.S. Oversight and Investigations Subcommittee, 1979). The hazard posed by these sites and others that have not yet been identified is unknown. At present the Department of Human Resources is monitoring some of these sites to assess the potential threat to the health and safety of nearby residents.

These problems resulting from the improper management of hazardous waste point out at least three major issues that the state must deal with: 1) the regulation of hazardous waste generated within the State to ensure that environmentally safe management practices are used; (2) the identification and monitoring of sites used for hazardous waste disposal in the past; and (3) the clean-up of spills and disposal sites that pose a risk to public health or the environment.

STATE RESPONSE

There are four state acts which control hazardous substance generation, discharge, transport, disposal, and/or treatment. These acts are: The Solid Waste Management Act, the Oil Pollution and Hazardous Substances Control Act, the Toxic Substances Control Act, and the North Carolina Radiation Protection Act. Some of these laws were significantly amended during the 1979 North Carolina legislative session (Heath and Postel, 1979).

SOLID WASTE MANAGEMENT ACT (G.S. 130, Art. 13B)

This Act was essentially rewritten during the 1978 special legislative session and was again amended by the General Assembly in 1979. The act establishes the Department of Human Resources (DHR) as the single agency responsible for implementing all state and federal legislation on solid and hazardous waste management. The Department is authorized to "engage in research, conduct investigations and surveys, make inspections, and establish a statewide solid waste management program." Additional state authority is granted to the Commission for Health Services (CHS) to promulgate rules for the "establishment, location, operation, maintenance, use and discontinuance of solid

waste management sites and facilities," which are to be enforced by DHR.

The Act directs CHS to promulgate and DHR to enforce rules for hazardous waste management. These rules must provide for:

- (1) Record-keeping and reporting (and inspection of such records) by generators, transporters, and facility operators and owners;
- (2) Use of appropriate containers, and proper labeling and transportation of hazardous waste, including a manifest system;
- (3) A permit system governing the establishment and operation of hazardous waste facilities, and proper maintenance, operation and monitoring of such facilities;
- (4) Standards governing treatment, storage, disposal, location, design, ownership and construction of facilities;
- (5) Analyses of hazardous waste samples;
- (6) Plans to minimize unanticipated damage;
- (7) Plans providing for the establishment and/or operation of one or more hazardous waste facilities, in the absence of adequate hazardous waste facilities established or operated by any person within the State;
- (8) Criteria for identifying characteristics of hazardous waste.

Under RCRA, the rules promulgated by the State may be no less stringent than federal EPA regulations. Additionally, as a result of 1979 amendments, CHS is authorized to adopt hazardous waste rules which are no more stringent than the federal regulations. Thus, CHS is authorized to adopt rules that are essentially the same as the federal regulations that were promulgated by EPA in February and May of 1980. These regulations provide a cradle-to-grave manifest tracking system for hazardous waste; provide criteria for the identification and listing of hazardous waste; set standards applicable to generators and transporters of hazardous waste; and set standards and interim status standards for owners and operators of hazardous waste treatment, storage and disposal facilities (45 Federal Register 33063). CHS has instituted these regulations, and in January 1981, North Carolina became the first state in the Southeast to receive interim authorization from EPA to manage the State's hazardous waste program.

DHR may delegate authority to municipalities or counties to perform any portion of the state management program within a local government's jurisdiction. At present, DHR has not delegated such authority to any local government.

OIL POLLUTION AND HAZARDOUS SUBSTANCES CONTROL ACT OF 1978 (G.S. 143-215)

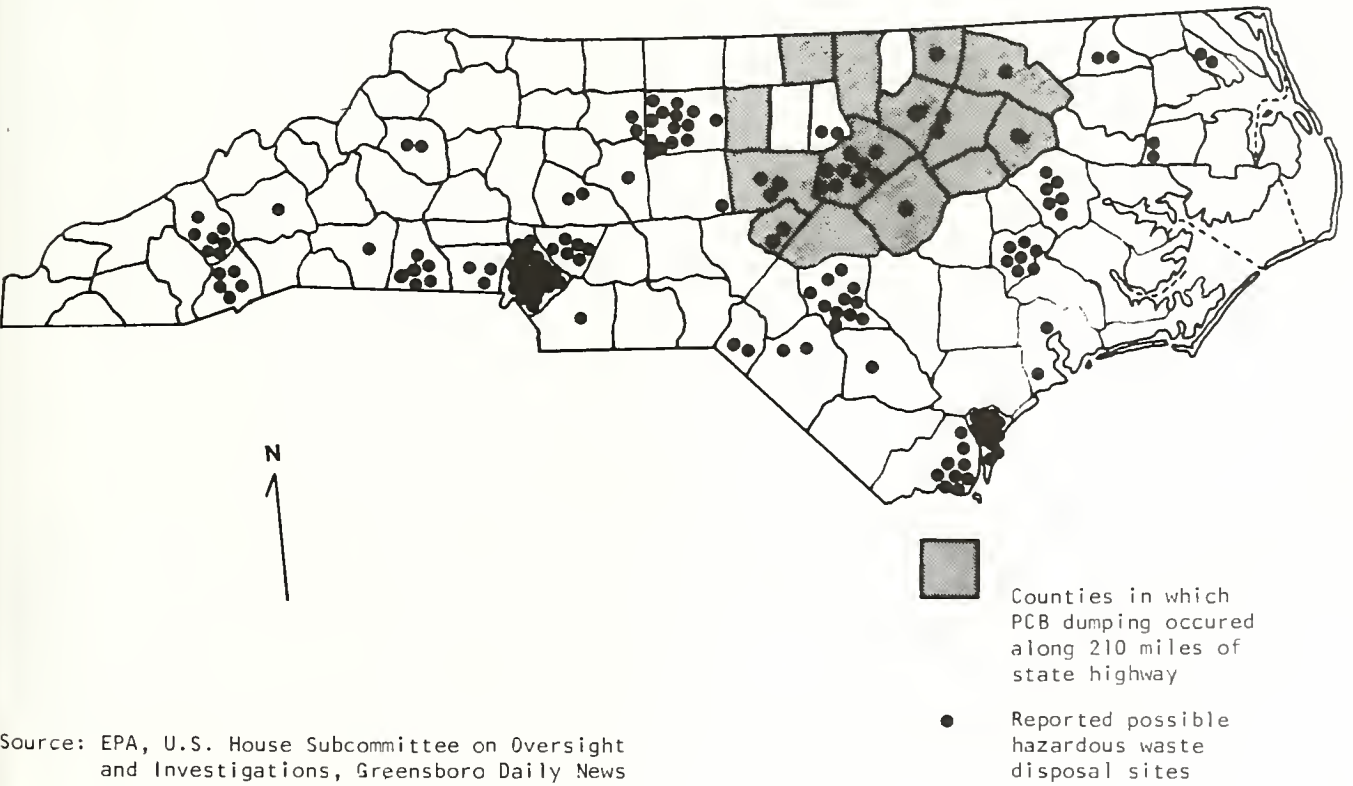
This Act gives the State's authority for response to hazardous substance emergencies, as defined under RCRA, to the Department of Natural Resources and Community Development (NRCD). Prior to 1979 amendments, this Act only applied to the intentional dumping of hazardous substances in water (Heath, 1979). The Division of Environmental Management (DEM) within NRCD is given permitting authority over all sources of water pollution discharges. This Act also authorizes NRCD to use available staff, equipment, and materials "to collect, investigate, perform surveillance over, remove, contain, treat, or disperse oil or other hazardous waste substances illegally discharged onto the land or into the waters of the State and to perform any necessary restoration." Activities authorized under this subsection must be in compliance with the National Contingency Plan established pursuant to the Federal Water Pollution Control Act. Also, the N.C. Department of Transportation is specifically author-

ized and required to have trucks located around the State ready to facilitate clean-up operations.

Amendments to the Act establish new liability provisions for damage to public resources. Procedures are established by which NRCD may assess and collect damages before any court appeal proceeding. The Department's damage cost estimate is prima facie evidence of the actual costs. DEM is also allowed to recover investigation costs as part of the overall damages collected.

The essence of this Act is emergency action to deal with illegal discharges. The 1978 and 1979 amendments are, in part, a response to the PCB spills along North Carolina highways. When this dumping occurred in 1978 the State lacked an emergency plan for toxic waste accident response. At that time the North Carolina Department of Crime Control and Public Safety coordinated efforts to direct and initiate State action pertaining to PCB spills. Other agencies involved in a response effort were the Department of Human Resources, the Department of Natural Resources and Community Development and the Department of Transportation (Bulman, 1980, p. 18). Also, at the time of this dumping the State had no liability provision to recover damages resulting from such actions.

Reported Possible Hazardous Waste Disposal Sites



Source: EPA, U.S. House Subcommittee on Oversight and Investigations, Greensboro Daily News

TOXIC SUBSTANCES ACT (G.S. Chap. 981 (H-5-6))

The Toxic Substances Act was enacted in 1979 to control the disposal of specific toxic substances. Within this Act, toxic substances are defined as specified heavy metals (mercury, plutonium, selenium, thallium and uranium) and specified halogenated hydrocarbons (PCBs and Kepone). This Act makes it a felony to dump, incinerate, or otherwise dispose of any toxic substances, as here defined, in the waters or on land, except where it is conducted pursuant to federal or state law, regulation or permit. Violators are subject to a fine of \$100,000 per day, imprisonment or both.

The Act also designates the Department of Crime Control and Public Safety as coordinator of State agencies' initial response to toxic or hazardous substance critical incidents. This Act can be viewed as a legislative response to the 1978 PCB dumping incident.

NORTH CAROLINA RADIATION PROTECTION ACT (G.S. 104E)

This Act establishes a single system for regulating radiation sources within the State. The Department of Human Resources is designated to administer the statewide radiation protection program. DHR is authorized:

- (1) To conduct ongoing studies of radioactive source control;
- (2) To require submission of plans on proposed design of radioactive installations and on proposed systems of radioactive waste disposal;
- (3) To maintain records of license applications and denials;
- (4) To maintain a statewide environmental radiation program for monitoring radioactivity levels in the environment; and
- (5) To implement all provisions of and regulations promulgated under the Act.

The Act creates the North Carolina Radiation Protection Commission within DHR which is authorized to promulgate rules and regulations within the radiation protection program. The Commission is authorized "to require licensing by DHR of all persons producing, selling, utilizing, or otherwise disposing of radioactive material to ensure compliance with promulgated rules and regulations." It also requires the Commission, or designee, to hold a public hearing in the county where there is a proposal to operate or enlarge a radioactive waste treatment or disposal facility.

Local governmental or board of health ordinances, resolutions, or regulations relating to source, by-product or special nuclear materials are not superseded by this Act, provided they are consistent and compatible with provisions of the Act, and with rules and regulations promulgated by the Commission.

ANALYSIS

North Carolina's existing management framework for hazardous and low-level radioactive waste consists of extensive regulatory programs for both types of waste; established procedures for responding to emergencies related to waste spills, accidents or illegal dumping; procedures for cleaning up spills that pose a dangerous threat to human health; and liability provisions for damage to public resources.

An important link in this regulatory program for hazardous waste is still missing, however. The regulations establishing performance standards applicable to owners and operators of facilities for the treatment, storage, and disposal of hazardous waste have not been promulgated in final form by EPA. Such standards will presumably include requirements concerning recordkeeping, monitoring, training of personnel, and financial responsibility (Governor's Task Force Draft Report, 1980, p. 23). The State had adopted EPA's proposed standards for such facilities which were effective from September 1979 to November 19, 1980 so that construction of new facilities could be permitted. At present, the State is waiting for EPA's standards for these facilities to be finalized. Existing facilities that applied for interim permits before November 19, 1980 have been allowed to continue operation until the final standards and permitting processes are in place. There were 270 applications for interim permits in North Carolina. The majority of these permits were issued to generators for the storage of hazardous waste on-site. Other permits were issued to facilities having incinerators or other treatment processes (Breckling, 1981).

In reviewing the state's regulatory and legal framework for managing hazardous waste, certain defects become obvious: the approach is piecemeal, lacking in long-term perspective, and still incomplete. Most of these laws and regulations have been in place less than two years. In effect, the 1979 amendments to these laws can be viewed as a reaction to the PCB spill and other hazardous waste problems that have come to light in the past several years. In an effort to develop a more comprehensive management system for hazardous waste and low-level radioactive waste, in July of 1980, the Governor assembled a Task Force to address this issue.

THE GOVERNOR'S TASK FORCE ON WASTE MANAGEMENT

The Governor's Task Force on Waste Management is composed of nineteen members from departments within State government, the State legislature, industry, local government, the university system, and citizens-at-large. The goals of the Task Force include:

- (1) Determine the need for North Carolina to develop the capacity to manage hazardous and low-level radioactive waste;
- (2) Recommend a comprehensive waste management strategy;
- (3) Recommend the appropriate roles for the public and private sectors to respond to the needs of the comprehensive waste management system;
- (4) Review current laws and regulations governing these wastes and recommend any necessary changes;
- (5) Make management recommendations for the ongoing planning, implementation,

and monitoring of the State's comprehensive waste management system; and

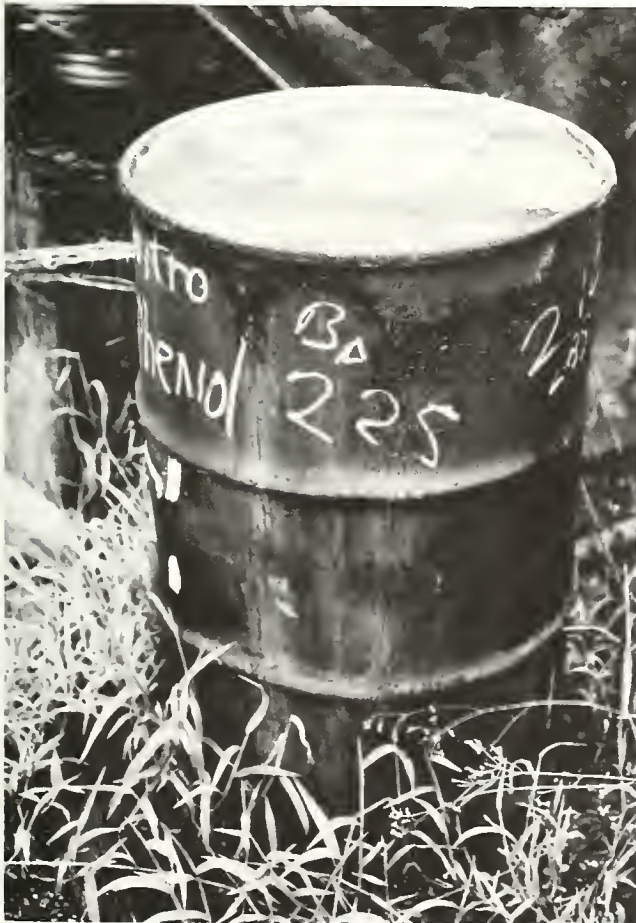
- (6) Propose necessary legislation to enable North Carolina to begin implementing a comprehensive waste management system (Governor's Task Force Draft Report, 1980, p. 7).

The efforts of this Task Force have resulted in a Draft Report issued on January 12, 1981 for public review and comment. Seven public hearings were scheduled in January in different cities throughout the State. The purpose of these public hearings was to elicit public response to the Draft Report. The Task Force Draft Report will undergo modifications based on comments made at these public hearings and the Final Report was presented to the Governor on March 9, 1981.

Without going into detail, a few of the major issues and recommendations of the Task Force's Final Report are presented below.

The major emphasis of the report is on prevention, resource conservation and recovery to minimize the volume of waste buried. With regard to resource conservation and recovery of hazardous waste, the Report recommends in-plant process modifications that reduce specific toxic substances in the waste stream or that recycle waste; off-site facilities that provide thermal treatment (e.g. incineration), chemical treatment (e.g. fixation, neutralization), physical treatment (e.g. separation) or biological treatment; and a waste information exchange. For ultimate disposal of hazardous wastes the Report recommends the development of one or more secure and EPA-approved landfills within the State. The Task Force concluded that the private sector is better prepared and capable of developing and operating waste treatment and disposal facilities than the State. It therefore recommends the State's role in facility development be initially limited to seeking qualified private firms that are interested in locating recycling, volume reduction and disposal facilities in North Carolina, and assisting such companies in contacting willing communities with suitable sites. Only in the event that private industry does not respond adequately will the State government acquire approved sites and own and operate them.

The Task Force strongly recommends that a Governor's Waste Management Board be created to oversee the activities of the agencies involved in waste management. The Board would promote interagency coordination, monitor the effectiveness of the combined efforts of the various agencies, and make recommendations for improving the overall management effort. More specifically, eleven functions of the Board are addressed in the Final Report and include:



*Inadequate disposal of hazardous wastes has raised concern over public health risks.
Photo by Tim Hergenrader*

- (1) To facilitate the development of necessary facilities to safely manage hazardous and low-level radioactive waste;
- (2) To promote process modification and encourage research and development to aid in the prevention of waste generation;
- (3) To develop policy recommendations on issues such as strict liability for facility owners and operators, public involvement in facility siting issues and compensatory regulations; and
- (4) To recommend whether or not a proposed treatment, storage, or disposal facility which has been blocked by local ordinances is necessary for the state as a whole.

The membership of the Board would include the Secretary or Commissioner (or a designee) from eight departments of State government, plus eleven representatives from the legislature, local governments, private industry and public interest groups appointed by the Governor, and the Executive Director of the North Carolina Board of Science and Technology.

Finally, the most controversial recommendation in the Task Force's Final Report relates to the siting of treatment, storage, and disposal facilities for both hazardous waste and low-level radioactive waste. In short, the Task Force recommends that the State have final authority to decide on facility sites. That is, all local ordinances banning or restricting the siting of a facility could be pre-empted by the State. To establish this pre-emption authority, the State Legislature would amend the Solid Waste and Radiation Protection Acts to clearly give the State this authority. The Waste Management Board would ascertain the necessity of a proposed facility. If the Board decides the facility is essential, the Governor would be authorized to pre-empt the local ordinances. Prior to exercising this authority, the Board must:

- (1) Determine that the proposed site and facility meet all federal and state environmental standards;
- (2) Give local citizens adequate opportunity to express their viewpoint and concerns; and
- (3) Document and set forth the justification for overriding local concerns.

Several additional recommendations relate directly to this siting issue. The Task Force recommends that localities be given statutory authority to establish appropriate taxes on

waste handled by treatment or disposal facilities located within their jurisdiction. Such taxes are for localities to recoup costs associated with local health and environmental monitoring, fire preparedness, emergency protection measures to ensure safe traffic patterns and transportation, and loss of real property tax revenues. Also, the Task Force recommends the establishment of local siting advisory committees in localities where waste facilities are proposed. These committees would serve as a forum for exchange of information and opinions between State regulatory agencies and the involved locality.

LOCAL RESPONSE

These last recommendations lead to the heart of the waste management problem as seen at the local level. There is a great deal of public opposition to the siting of hazardous waste and low-level radioactive waste treatment, storage and disposal facilities (TSDF) at the local level. This public opposition is a major political force in local politics as well as state politics. For example, it is widely believed that if the Task Force's Final Report to the Governor recommends amending the Solid Waste and Radiation Protection Acts to give the State pre-emption authority, the North Carolina League of Municipalities and the Association of County Commissioners will lobby against such a bill. In fact, both of these organizations intend to lobby for the enactment of a bill giving local governments veto power in all siting decisions.

Since public opposition appears to be a major problem to be overcome in the siting of TSDFs, it would be worthwhile to explore some of the reasons for such strong opposition at the local level.

A recent study conducted for EPA attempted to identify factors which have given rise to public opposition toward hazardous waste TSDFs. Probably the most important factor contributing to opposition is the national publicity given to hazardous waste in general, including specific disasters such as Love Canal. This publicity has resulted in an increased public awareness of the hazards associated with this waste. No longer are people willing to live with these hazards in their backyards. Closely related to this general opposition towards hazardous waste TSDFs is the critical scrutiny given prospective waste facility developers. If the developer of a proposed site has owned or operated a similar type of facility in an environmentally unsound manner, then the local public is unlikely to accept assurances that the proposed newer operation will be properly conducted. The manner in which local residents and elected officials are involved in the siting process can also have a profound effect on the development of opposition toward a facility.

Failure to inform local residents and officials of the development plans, or informing the public in such a way that the lack of local input is readily apparent has been a major cause of public opposition in many instances. Another factor related to opposition is the type of waste to be accepted at a proposed site. Substances such as PCBs, Kepone and radioactive waste, which are perceived by the public as extremely dangerous regardless of disposal method or safety precautions, are usually considered to increase the likelihood of public opposition. Finally, the political sophistication of the population in the vicinity of a proposed site can affect the development of organized opposition (Centaur Associates, 1979, p. 9-11).

When public opposition to a hazardous waste TSDf arises, certain legitimate issues and concerns are commonly expressed. These include aspects of site suitability, such as soil permeability and seismic stability; problems associated with site operations, such as odors and fires; the possibility of groundwater contamination; more appropriate or higher uses for the site; and provisions for long term maintenance. Transportation of hazardous waste to the facility is also a major issue, including potential hazards of waste spills and damage to highways and property caused by heavy trucks. If the wastes to be disposed of are not locally generated, the public often manifests opposition, especially if the wastes are from out of state. Residents of rural areas have expressed opposition to accepting waste generated by urban areas. The objection here is that those bearing the risks do not receive any of the benefits, such as jobs and taxes, from the industry generating the waste. Finally, issues concerning the area surrounding a proposed or operating site have led to strong opposition. These include the assertion that the area is too populated, that community image and property values will suffer, or that the aesthetics and quality of life in the area will be adversely impacted (Centaur Associates, 1979, p. 12).

The most common means used by local residents and elected officials in opposing hazardous waste management facilities are testimony at public hearings, initiating or threatening to initiate lawsuits against the facility sponsor to have the site closed, and hiring outside experts to testify or develop a technical case against the facility. In addition, elected officials have passed resolutions against a particular facility, promulgated a local ban on acceptance of hazardous waste in general or on acceptance of a specific substance such as PCBs, and ordered a facility to close down (Centaur Associates, 1979, p. 14). To illustrate the extent of public opposition to such facilities in North Carolina, the following examples are provided.

In August 1979, one year after the PCB spills along North Carolina roads, the State attempted to purchase a 142 acre farm in Warren County for the construction of a PCB chemical landfill. This was the second attempt by the State to site such a facility in Warren County. The first attempt, in January 1979 was met by strong public opposition, as a public hearing attracted more than 650 outraged citizens. In August of 1979, however, the Council of State voted to appropriate \$165,000 for the purchase of the farm. Immediately the Warren County Board of Commissioners filed a civil complaint in Warren County Superior Court to block the sale of the site. The complaint alleged the site was unsafe for PCB storage, that EPA approved the site in violation of federal regulations, and that the State did not file an environmental impact statement, required under State law, for the purchase of the site. A temporary restraining order enjoining the State from purchasing the site was granted on August 16, 1979 and a hearing was set for August 24. On August 29, the Forsythe County Superior Court lifted the court order that blocked the state from purchasing the Warren County site but issued an order temporarily prohibiting the State from preparing the site as a dump for PCBs. The injunction was to remain in effect until the trial of the action on whether the State should be prohibited from using the site as a PCB dump had been settled (Bulman, 1980, p. 30). This issue is still in litigation and the PCBs still remain along North Carolina highways.

On August 21, 1979 the Warren County Board of Commissioners passed an ordinance prohibiting the storage and disposal of PCBs within the county and made violation of the ordinance a public nuisance subject to injunctive relief. Although this was the first such local ordinance in North Carolina, there are currently six counties (Cleveland, Stokes, Surrey, Warren, Wilkes, and Yadkin) and one city (Burlington) that have ordinances prohibiting the treatment, storage, or disposal of radioactive and/or hazardous waste within the jurisdictional limits. In addition, Mecklenburg County, Kernersville, and Reidsville currently have zoning ordinances requiring special use permits for hazardous and/or radioactive waste facilities. These ordinances restrict the siting of such facilities to a very limited space and have additional requirements that must be met before a special use permit is issued. Most of these ordinances have been passed in response to a specific siting attempt like the Warren County incident discussed above.

The legal basis on which these ordinances are constructed resides in the zoning and general ordinance making powers delegated to local government by the State of North Carolina. The general zoning enabling provisions of North Carolina (G.S. 153A-340) allow the issuance of

special use permits, which give localities an additional degree of control over activities within their jurisdiction. Also, North Carolina law (G.S. 130-17(b) Supp. 1977) requires the county health board to make "such rules and regulation, not inconsistent with the law, as are necessary to protect and advance the public health."

Whether such ordinances will hold up in court is yet to be determined in North Carolina. Other state courts have found such ordinances to be pre-empted by federal and state laws. It is these ordinances that the Governor's Task Force is addressing in the recommendation that the State have the authority of pre-emption over local ordinances and zoning.

It has become very difficult to site new TSDFs, due primarily to strong public opposition. The Governor's Task Force on Waste Management attempted to deal with this issue in several of its recommendations. As stated previously, the recommendation that State laws pre-empt local ordinances, that the Waste Management Board have decision-making authority with regard to the siting of facilities, and that public participation be actively sought all address this issue. The question is, are these recommendations feasible and are they enough.



Improper waste disposal management has resulted in environmental damage, public health hazards and complex court cases. Photo by Lee A. Krohn

It is not clear at this time whether or not the State legislature will amend current legislation to give the State pre-emption authority in the field of hazardous and low-level radioactive waste management. North Carolina has a long history of opposing such legislation. If the League of Municipalities and Association of County Commissioners lobby in the State legislature, it is feasible such legislation will not pass. In addition, this particular issue appeared to be of great concern to citizens at the public hearings held throughout the State. Undoubtedly, the majority of citizens are opposed to such legislation.

The concept of a Waste Management Board to coordinate the comprehensive waste management system has a great deal of appeal. However, giving this Board the decision-making authority with regard to siting facilities is somewhat questionable. First, eight board members will be from State government and all others will be appointed by the Governor. Although this would provide a wide variety of individuals on the Board, it does not necessarily include representatives from the local community where the facility has been proposed. Second, the role of public participation is not well defined but appears to be less than a decision-making role. Third, there appears to be a conflict with the Board having authority to determine how essential a particular facility is, and also promoting the development of facilities. Without direct representation on the Board by the local community affected, public opposition to such facilities will most likely develop.

One possible solution to this siting problem is the concept of an independent siting board. Michigan is the first state to adopt legislation establishing a Site Approval Board. This is a nine-member board that includes five permanent and four ad hoc positions. The permanent positions consist of one member each from three state agencies -- the Department of Public Health, the Department of Natural Resources, and the State Police -- and a chemical engineer and a geologist appointed by the Governor. The ad hoc members include two residents of the city, town or village and two of the county in which the proposed facility is to be located. The main idea behind this approach is to maximize local input into the decision-making process, without giving total permitting authority to either local or state governments (Fore, 1981).

In Michigan, applications for the development of hazardous waste management facilities are submitted to the Department of Natural Resources (DNR). This department has 120 days to review an application and then submit it to the Site Approval Board with a recommendation for approval or rejection. The Site Approval Board has 120 days to hold public hearings to

review the risks of accidents during transportation of hazardous waste; the risk of contamination of ground or surface water; the environmental impact; and the impact on the town in which the facility is located. The board then makes a final decision on the site application, having the authority to override local zoning and special permits and the DNR (Fore, 1981). The effectiveness of such an approach is not yet known, as Michigan is just beginning to use its Site Approval Board. This approach, however, is thought to be the most realistic strategy currently available and has been endorsed by the Chemical Manufacturers Association (Burns, 1980) and the National League of Cities (Shapiro, 1980).

CONCLUSION

It is apparent that North Carolina has a hazardous waste management problem that must be dealt with immediately. The current legislation establishes a regulatory framework and delegates specific authority to state agencies. However, this legislation is not comprehensive. Issues such as state pre-emption authority, local involvement in siting decisions, and strict liability have not been addressed. The Governor's Task Force has attempted to deal with the many issues relating to hazardous and low-level radioactive waste in the context of a long-term management strategy. The emphasis the Task Force has placed on prevention, waste reduction and recycling is extremely important in this long-term context. In order for the hazardous waste management program to work effectively in the short-run, however, an adequate number of treatment, storage and disposal facilities will be needed.

REFERENCES

Breckling, Emil. Environmental Planner, Solid and Hazardous Waste Branch, Division of Health Services, Department of Human Resources, Interview, February 2, 1981.

Bulman, James. "A Case Study of the North Carolina PCB Spill of 1978." A Report Submitted to the Faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Science in Public Health in the Department of Environmental Sciences and Engineering, 1980.

Burns, Timothy F., Legislative Representative on Environmental Issues, Chemical Manufacturers Association, Interview, November 6, 1980.

Centaur Associates. *Siting of Hazardous Waste Management Facilities and Public Opposition*. Washington, D.C.: U.S. Environmental Protection Agency. 1979. pp. 9-11.

Fore, Jerry. Chairman of Michigan Site Approval Board, Interview, February 2, 1981.

Heath, Milton S., Jr. and Sandi Postel. "Natural and Economic Resources and the Environment," *North Carolina Legislation 1979*. Chapel Hill, N.C.: Institute of Government. 1979.

Meacham, Thomas G. Jr. Associate Attorney, N.C. Department of Justice, Interview, February 2, 1981.

N.C. Department of Human Resources. *Hazardous or Difficult to Handle Waste*. Raleigh: Department of Human Resources, 1978.

Sanford, Jo Anne. Assistant Attorney General, Attorney General's Office, Interview, April 15, 1980.

Shapiro, Mark. Staff Member at National League of Cities, Interview, August 20, 1980.

Subcommittee on Oversight and Investigations of the House Committee on Interstate and Foreign Commerce, *Hazardous Waste Disposal Report*. Washington, D.C.: U.S. Government Printing Office. 1979. p.1.

Subcommittee on Oversight and Investigation of the House Committee on Interstate and Foreign Commerce, *Waste Disposal Site Survey*. Washington, D.C.: U.S. Government Printing Office. October 1979. pp. 260-276.

U.S. District Court Civil Action 80-4-Civ-7 *U.S.A. v. Waste Industries et. al.*

U.S. EPA. *State Decision-Makers Guide for Hazardous Waste Management*. Washington, D.C.: U.S. Government Printing Office. 1977. p. 10.

45, Federal Register 33063.