

OVERVIEW AND OBJECTIVES  
OF HAZARDOUS WASTE MANAGEMENT

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by John P. Lehman\*

At the outset, let me say I believe it is noteworthy that this conference is jointly sponsored by a consortium of Federal, State, and local government agencies. This augurs well for the future. If all levels of government can get together to put on a major hazardous waste management conference, then there is hope that we can all work together to develop and implement a national hazardous waste management program as well. We can all look forward to an interesting and productive meeting over the next few days.

Highlights of the Resource Conservation and Recovery Act

Before getting into an overview of the hazardous waste management program, I believe it is necessary to understand how hazardous waste management relates to the overall waste management program. The new Resource Conservation and Recovery Act of 1976 (P.L. 94-580) expresses Congressional direction for that program. Thus, a quick review of the highlights of RCRA should serve as a good background for our hazardous waste management discussion.

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The Congress intended RCRA to address the following environmental problems:

- (1) The ever-increasing amounts of waste material being generated as a result of National economic and population growth.
- (2) Serious financial, management, intergovernmental, and technical problems in solid waste collection, treatment and disposal in urban areas resulting from population concentration.
- (3) Open dumping of solid waste which needlessly pollutes valuable land resources as well as air and water resources.
- (4) Human health and environmental dangers resulting from improper disposal of solid waste and especially hazardous waste.
- (5) Increasing amounts of pollution control residuals (sludges, etc.) destined for land disposal as a result of the Clean Air Act, Water Pollution Control Act, and other Federal and State laws.
- (6) The wasteful burial of recoverable resources with attendant increases in dependence on foreign energy and material sources, and in balance of payment deficits.
- (7) The need to continue the development of solid waste as an energy source to conserve and reduce

dependence on alternate energy sources such as petroleum, natural gas, nuclear and hydroelectric generation.

The goals and objectives of RCRA are to:

°Promote the protection of health and the environment, and

°Conserve valuable material and energy resources.

Congress intends that these goals and objectives be achieved by:

- (1) Providing technical and financial assistance and a broad-based information and public education program to State and local governments for development and implementation of solid waste management plans.
- (2) Prohibiting future open dumping on land and requiring upgrading or closing of existing open dumps.
- (3) Regulating the treatment, storage, transportation, and disposal of hazardous wastes.
- (4) Promulgation of guidelines for solid waste management practices and systems.
- (5) Conducting a research and development program for improved solid waste management and resource conservation techniques.
- (6) Demonstration of improved solid waste management and resource conservation and recovery systems.
- (7) Establishing a cooperative effort among Federal, State, and local governments and private enterprise.

Thus, the new Act mandates a comprehensive Federal-State-local approach to all aspects of waste management, including resource conservation and recovery, land disposal of municipal and industrial wastes, and authorizes a new regulatory program for hazardous wastes.

Highlights of the new Act are:

- (1) Solid waste is redefined to include waste sludges, liquids, and contained gases from industrial, commercial, mining, and agricultural operations, as well as the more traditional garbage and refuse we have usually regarded as "solid waste." Thus, the scope of solid waste management activities has been expanded significantly. Also note that hazardous waste is a sub-set of the overall solid waste definition.
- (2) The term "disposal" is broadly defined to include "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged to any waters, including groundwaters." Thus, the multi-media impacts of solid waste disposal, including impacts on groundwater, are to be considered when EPA and State and local governments carry out the new Act's provisions.

- (3) New solid waste management guidelines, similar in nature to those previously developed by the Office of Solid Waste, are mandated by the Act.
- (4) Technical assistance panels are to be formed to provide State and local governments, upon request, with advice and assistance regarding all aspects of solid waste management, including hazardous waste management. Not less than 20 percent of general appropriation funds are to be set aside for this purpose. This reinforces Congress's intent that technical assistance is a major thrust of the new Act and is not to be overshadowed by the regulatory provisions.
- (5) After consultation with the States, within one year EPA is to define criteria for sanitary landfills and open dumps. Given the expanded solid waste and disposal definitions, these criteria may well apply to many other land disposal practices besides the traditional "landfill" for garbage and refuse.
- (6) All open dumps are to be inventoried (probably by the States) and a list of such open dumps is to be published (by EPA) within two years. Thereafter, open dumping of solid waste or hazardous

waste is prohibited unless such open dumps are under a timetable or schedule for compliance (meaning closure or upgrading to sanitary landfill status) established as part of a State's solid waste plan. Compliance with the prohibition on open dumping can take no longer than five years after the inventory is published, in any event. Thus, seven years from now, in 1984, all open dumping will be prohibited. This provision will have a profound impact on solid waste management practices in this country, particularly in rural areas.

- (7) In cooperation with regional and local governments, States are to develop new solid waste plans which encompass all aspects of solid waste management, including resource conservation and recovery, and hazardous waste management. A substantial new planning and implementation grant program for State and local governments is provided for this purpose. These comprehensive solid waste management plans will represent a major new thrust in many States.
- (8) Under RCRA, all Federal facilities engaged in solid waste or hazardous waste activities, and all Federal agencies having jurisdiction over solid waste facilities, are subject to all Federal, State,

interstate, and local requirements, both substantive and procedural. This includes reporting and permit requirements. Thus, for the first time, Federal facilities will require State or local solid waste permits. This is a major departure from precedent established under air and water pollution control laws.

The new Act contains many other important provisions, but time, and, I suspect, your patience, will not allow me to cover them here. The highlights noted above should give you a sense of the new scope and direction Congress intends for the solid waste management activities in this country.

#### Overview of Hazardous Waste Management Program

With the enactment of RCRA last October, the U.S. hazardous waste management program has entered a new phase. For the first time, Congress has mandated Federal regulatory control over land disposal of hazardous waste. At the same time, Congress made it clear that the States should implement the hazardous waste regulatory program as part of a comprehensive solid waste management program. Special State grants for development and implementation of hazardous waste management programs are included in the new Act for that purpose.

Before RCRA, the Federal hazardous waste management program was aimed at developing a better data base concerning hazardous waste characteristics, damage assessment, and



control technology options; translating these data into advisory guidances; assisting the States to develop their programs; and providing technical assistance as needed.

After RCRA, most of these elements remain in the Federal program, but the emphasis has shifted to developing a comprehensive, integrated set of national standards for the definition and "cradle-to-grave" management of hazardous waste. What were to be guidances will now be Federal regulations. Instead of saying "you should do so-and-so," EPA can now say "you shall do so-and-so."

With these new powers come added responsibilities. We can no longer philosophize about the way hazardous wastes should be managed. We are now mandated to say how hazardous wastes will be managed. The program we develop has got to be tough enough to adequately protect the public health and environment, and yet be practical enough that State and local governments can implement it, and the private sector can live with it. The program is to be developed and in operation by October 1978. This is a tall order. Clearly, EPA cannot do it alone.

Most people would agree that the State government level is the optimum level to implement a hazardous waste management regulatory program. Many hazardous wastes are transportable, and are in fact transported for hundreds of miles to treatment and disposal sites within the State, or outside

the State of origin. Local and regional governments are not well equipped to deal with this. On the other hand, the Federal government is not well equipped to deal with State-by-State variations in climate, geology and other factors influencing proper hazardous waste management.

And yet the private sector, and many States, would like to see uniform national standards for hazardous waste management to remove the spectre of each State having different standards, definitions, and criteria.

All of this argues forcefully for a Federal/State partnership in developing and implementing the national hazardous waste management regulatory program. Local governments also have a strong say in the matter, since the hazardous waste treatment and disposal facilities, which must be developed to make the regulatory program work, will be located in their jurisdictions.

Fortunately, most States agree with this premise. Several States have already begun to develop hazardous waste management programs on their own, ahead of the Federal program. As has been the case in other environmental areas, the State of California was the first to develop and operate a hazardous waste management program. The Federal government and most other State and local governments have a lot to learn from the California experience in this area. Later in the program we will get a full briefing by California State

and county personnel on how they did it and how their program is working. I will be taking notes.

### RCRA Hazardous Waste Management Provisions

Most of you by now probably have a reasonably good idea of the hazardous waste management regulatory provisions in RCRA. They include a hazardous waste definition; national standards for hazardous waste generators, transporters, and treatment, storage and disposal facilities; a facility permit program; guidelines for State assumption of the program; and a one-time notification system to government by anyone who generates, transports, treats, stores, or disposes of hazardous waste. Consequently, I won't dwell on these provisions. But perhaps it would be of interest to discuss how all these provisions fit together into an integrated program. Figure 1 is an attempt to pull all of the provisions together on one page with an indication of their interrelationships.

The keystone of the program is the definition of hazardous waste. This element determines the scope of the program, and thus has an influence on whether or not States choose to participate in the program. Our goal is to base the hazardous waste definition on objective criteria for hazardous parameters such as flammability, corrosivity, toxicity, etc. This implies the development of standard sampling and analysis methods by which a waste can be tested against these criteria. Wastes which are found to be hazardous will then be placed on a list.

Determines Scope of Program  
Influences State Participation



Standard  
Sampling  
&  
Analysis  
Methods

AND

Establish  
Cut Off  
Levels

NATIONAL STANDARDS

PERMIT SYSTEM

- Generators Reporting, Labeling, Manifest >
- Transporters Reporting, Manifest >
- Facilities Reporting, Design, Operation, Fiscal Responsibility, etc. >

Notification System

None

None

Storage, Treatment  
& Disposal Facilities



State  
Permit  
Program

STATE PROGRAM

Equivalent and  
Consistent >

Develop  
&  
Implement  
With EPA  
Grant Assistance >

Next come the national standards for hazardous waste generators, transporters, and operators of hazardous waste treatment, storage, and disposal facilities. We view these standards as minimum levels of performance somewhat analogous to speed limits. They are independent, enforceable standards; various legal sanctions can be applied to violators. Note that all parties subject to the standards are required to notify EPA, or the State if they have an authorized program, during a 90-day period following final publication of the hazardous waste definition.

Common elements of all the standards are recordkeeping and reporting requirements, and compliance with a manifest system, which is a waste tracking and control mechanism to ensure that hazardous wastes are transported to approved treatment and disposal facilities. Each hazardous waste shipment will require a manifest. Thus we are talking about tens of thousands of transactions per year on a national basis. This implies that the manifest must be compatible with ADP systems. Since hazardous wastes are often transported across State lines, we are coming to the conclusion that the manifest system should be uniform across the nation, if at all possible.

A permit system for hazardous waste treatment/storage/disposal facilities is mandated, in addition to the national standards. Note that permits are required only for treatment/

storage/disposal facilities. Generators and transporters who do not have such facilities do not require a permit.

We look upon the permit system in a positive sense. Whereas someone who violates a national standard can be punished, a hazardous waste facility can only obtain a permit if the Federal or State authorities believe the surrounding community will be safe from harm. If we can impart this concept to the public, and preserve the integrity of the permit system, we will go a long way towards overcoming public opposition to siting new hazardous waste facilities.

As mentioned before, the Congress clearly intended for the States to implement the hazardous waste program. Among other things, implementation implies issuing hazardous waste facility permits, along with inspection and compliance enforcement activities. Several States, including California, do these things already, at least to some extent. One potential problem is that State programs, in order to be given implementation authority for RCRA, must be "equivalent" to the Federal program and "consistent" with other State programs. We are wrestling with the interpretation of these terms now. The Congress evidently foresaw this problem, however, and provided for interim authorization of State programs for a 24-month period while the details of full authorization are being worked out. We intend to be liberal in our requirements for interim authorization, with the understanding that State programs will achieve equivalency

in the 24-month transition period. Federal grant funds are mandated for the development and implementation of these State programs.

In total, then, the hazardous waste management program mandated by RCRA is an integrated, comprehensive program keyed to the definition of hazardous waste, followed by a series of implementation provisions. These provisions consist of national standards, a notification system, and a facility permit system developed by the Federal government to provide national consistency, but intended to be implemented and enforced by State governments with Federal financial and technical assistance. We believe this is a sensible and practical approach. The interplay between these program elements is complex, however, and most likely will require several iterations as the program develops and matures.

#### Current Status of Regulation Development

You may be interested in our progress to date. OSW has produced Development Plans for each hazardous waste regulation. The Development Plans contain a statement of the purpose of the regulation; identify major issues; outline how we will coordinate regulation development with other EPA offices, and with State and local governments, other Federal agencies, the Congress, and the public; describe anticipated requirements for environmental and economic impact appraisals;

and provide an anticipated schedule for regulation promulgation. At present we are projecting final promulgation of the hazardous waste regulations in April 1978, or 18 months after RCRA enactment as mandated by the new law.

Next, we are now preparing Advanced Notices of Proposed Rulemaking, which will be published in the Federal Register in the next few months. These documents are intended to alert the public that EPA is embarking on the regulatory development process, and to solicit public comment on a number of issues and options being considered by the Agency. We hope you will comment on the issues and options discussed in them; we need your input.

Each regulation will be developed by a Working Group composed of representatives from EPA Headquarters and regional offices, and where appropriate, from other Federal agencies and State and local governments. For example, the Department of Transportation will be represented on the hazardous waste transporter standards Working Group. State and local government representatives will be invited to participate in the Working Groups developing the State hazardous waste program guidelines and the facility permit regulations. All of these Working Groups will be activated this month.

#### Public Participation

EPA intends to provide ample opportunities for public participation in the development of the hazardous waste regulatory program. We have already held a public meeting on the new Act in Washington, D.C., in December. Similar public



meetings are scheduled in all 10 EPA regions throughout the country in late February and March of this year.

Two sets of public hearings on each regulation are planned. One series will be held after responses to the ANPRM's are received and before proposed rulemaking is published in the Federal Register. Another series is planned after the proposed regulations, but before final regulations are promulgated.

Further, OSW intends to form an Advisory Committee which will have a wide range of representatives from the public and private sectors. We will look to the Advisory Committee for review and comment on the hazardous waste regulations as they develop.

In addition, there will be a series of conferences and workshops on specific technical issues as they crop up. For example, we are already planning such a conference to discuss the application of standard leaching tests as they relate to the question of hazardous waste definition.

Finally, we plan to develop a public education program to effectively communicate the essence of hazardous waste issues to the general public. The public education program being pursued by the State of Minnesota as part of the Chemical Waste Landfill Grant program will provide useful input to the national program. Clearly, the hazardous waste management program cannot succeed without public understanding and support.

In summary, the new Resource Conservation and Recovery Act mandates a wide range of new initiatives in solid waste management which will have a substantial impact on public health and environmental protection, and on material and energy conservation and recovery. The hazardous waste management program is a sub-set of this overall program. While our attention is now focused on developing the new hazardous waste regulations and guidelines mandated by the Act, we also will continue our technical assistance and public education efforts. In the long view, the regulations are but the first step in the national hazardous waste management program. It will take a joint effort by Federal, State and local governments, by industry, and by the public to translate these beginnings into an effective program to protect the public health and environment from the potential damage inherent in improper hazardous waste disposal practices.

The Congress has given us the green light to proceed with this program. It will be up to all of us to make it work.

Thank you very much.

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