

# Legislative Aspects of Hazardous Waste Management

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In the fall of 1976 Congress enacted the Resource Conservation and Recovery Act, commonly referred to as RCRA. The objective of the statute is to create an orderly system for the generation, handling and disposal of hazardous waste by means of a comprehensive tracking and record keeping mechanism. RCRA does not regulate directly by statute so much as it delegates rule making authority to the U.S. Environmental Protection Agency. Pursuant to its mandate to develop regulations in accordance with the broad criteria of RCRA, EPA has published extensive regulations. These regulations address hazardous waste generation, transportation, treatment, storage and handling and its final disposal. The statute also offers remedies available to both EPA and the public at large to ensure enforcement of the provisions of RCRA and the EPA regulations. Additionally, it sets guidelines for states to implement their own hazardous waste management programs.

This article is intended to introduce this complicated statutory/regulatory package to scientists and health professionals. It outlines the provisions of RCRA and the EPA regulations, abbreviates early judicial decisions interpreting these provisions and sets forth a brief description of various state approaches to hazardous waste management.

In October of 1976 the Congress of the United States enacted the Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq., commonly called RCRA (1). For a legislative scheme as broad and far-reaching as RCRA, the legislative history is surprisingly scant. It is clear that Congress was quickly responding to public concern—almost panic—as to the slipshod manner in which our society has discarded its hazardous waste. Hence, a major piece of legislation was passed with a minimum of supportive and explanatory backup and a wide variety of new requirements and considerations.

The full impact of RCRA has yet to be felt, as the statute is essentially a mandate to an administrative agency of the Executive Branch, the Environmental Protection Agency (EPA), to make rules and regulations pursuant to and consistent with RCRA. It is the aim of this paper to synthesize this complicated statute in a fashion that highlights those parts of the law that are of greatest relevance and interest to scientists and health professionals.

Perhaps the best way to begin to define the purview of RCRA is to establish at the outset that which the Act does not do. First, the Act is silent as to the siting of hazardous waste facilities. Clearly, the question of siting has been determined by Congress to be an issue of local concern and prerogative. Whether this omission is born of avoidance of a thorny problem or, rather, a commitment to a "strict constructionist" constitutional view is unclear. Such a determination would be aided by a perusal of the legislative history and RCRA, as previously noted, offers little to assist in the understanding of the legislative intent.

The second description of what RCRA does not do is that it does not attempt to ameliorate the nation's hazardous waste problem by prohibiting or preventing the generation of these materials. In roundabout fashion it attempts to limit the generation of hazardous waste by offering incentives for resource recovery, but it in no way makes any specific proscription against the production of particular materials.

With this as a background as to what RCRA is not, let us turn to what the Act does, in fact, accomplish. The basic coverage of the Act relevant to hazardous waste management can be summa-

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rized as follows, each item to be covered in greater depth below: (1) RCRA defines the term "hazardous waste"; (2) it develops a manifest system designed to track hazardous wastes from "cradle to grave"; (3) it sets standards for generators and transporters of hazardous waste; (4) RCRA establishes a permit requirement for hazardous waste treatment, storage and disposal facilities; and (5) it sets a basis for states to implement their own hazardous waste management programs.

All statutes contain a section devoted to definition of terms. It is critical to an understanding of statutory provisions to consult the definitions section, as Congress may have created a definition of a term other than that which is used either by technical people or in common parlance. RCRA §1004 is the definitions section and it provides some interesting insight into an understanding of the Act.

Two terms are of initial interest in understanding the law; that is, the definitions of "solid waste" and "hazardous waste." Solid waste is incorporated into the definition of hazardous waste, therefore we will look at that definition first. "Solid waste" is defined as:

... any garbage, refuse, sludge from a waste treatment plant, or air pollution control facility and other discarded material including solid, liquid and contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and community activities.

The phrase in this definition that has attracted the most controversy is "and other discarded material," as the door is apparently open to an exceedingly expansive interpretation of what may be included in the definition of solid waste. Of particular amusement to scientists in reviewing this definition, is that Congress in its wisdom has defined a "solid" waste as a solid, liquid or gaseous material. If ever there was a demonstration of the importance of reading statutory definitions, this inconsistency provides a prime example.

Once Congress defined solid waste it proceeded with its definition of "hazardous waste" as follows:

... a solid waste, or combination of solid wastes, which because of its quantity, concentration or physical, chemical or infectious characteristics may (a) cause, or significantly contribute to an increase in mortality or to an increase in serious irreversible, or incapacitating reversible illness; or (b) pose a substantial present or potential hazard to human health or the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.

RCRA mandates broad regulatory powers to EPA. An initial task of the agency was to work these two definitions, with their attendant problems, into useful form so that potential generators, transporters, storers, treaters or disposers of hazardous waste could evaluate more practically the

applicability of RCRA to their activities. Specifically, RCRA §3001 mandates EPA to develop criteria for identifying the characteristics of hazardous waste taking into account (1) toxicity, persistence and degradability; (2) potential for accumulation in tissue; and (3) other related factors such as flammability, corrosiveness and other hazardous characteristics. §3001 further mandates EPA to develop a list of specific wastes to be designated as hazardous.

EPA's response to this rule-making mandate is found in 40 CFR 261 (2). Here, EPA offers essentially three alternative ways to identify a waste as hazardous. Either the waste is on the list of specifically defined hazardous wastes, or the waste is of a process specifically designated by EPA as producing hazardous waste or, third, the material fails to meet established tests for either reactivity, ignitability, corrosivity or extraction procedure (EP) toxicity.

Also, EPA specifically exempts certain materials from RCRA regulation (e.g., household waste) even though they would, technically, fall within the statutory definition.

The manifest system devised by RCRA is referred to as "cradle to grave" because its express purpose is to identify and track these materials from their creation to their ultimate disposition. The theory of the manifest system is that the most applicable regulatory technique for hazardous waste is one which gives the most information in order that regulators may deal in a world of the optimum number of "knowns," rather than a system which permits materials to scatter in random fashion around the country. Therefore, the manifest system operates to control via disclosure, a method the success of which cannot adequately be evaluated until the law has a longer history of implementation.

RCRA goes on to set standards applicable to generators and transporters of hazardous waste. Interestingly, RCRA does not define "generator" in §1004. However, EPA corrected the defect in its 40 CFR 261 regulations by defining a generator as "any person . . . whose act or process produces hazardous waste identified or listed in 40 CFR 261, or whose act first causes a hazardous waste to become subject to regulation".

This points up a clearly problematic, although undoubtedly inadvertent, problem in this definition. The overriding purpose of RCRA and the manifest system created pursuant to it is to encourage disclosure and reporting so that hazardous wastes may be tracked from "cradle to grave." Those who commercially generate hazardous wastes are presented with procedures and requirements which

are costly, but not necessarily significantly more costly than those procedures already in practice for the transport, storage and disposal of materials. RCRA spells out new requirements and imparts statutory liability to each entity along the chain, from generation to disposal. The EPA definition of "generator" of hazardous waste, however, adds a wrinkle that may in fact work against RCRA's goals. According to the definition, any act which subjects a material to RCRA regulation qualifies to define the actor as a "generator." An extreme example to illustrate the problem thereby created is as follows: Citizen Jones wakes up one morning to find drums of an unknown substance on his or her lawn. Under RCRA, the act of calling the police, EPA, local environmental authority, etc., is sufficient to attribute the designation "generator" of hazardous waste to Citizen Jones. Such a person should not have to bear the burden, both financial and otherwise, on generators of hazardous waste within the industrial sector. Were Citizen Jones wise to EPA's regulations, he or she would have incentive to become the so-called "midnight dumper," that is, come daybreak the drums will appear on the neighbor's property. Similarly, enforcement agencies such as state and local departments of environmental protection and EPA itself, when they come upon unclaimed or anonymously identified hazardous wastes, are also subject to the designation of "generator" which is hardly a seemly description of a governmental enforcement unit.

Considering that this definitional problem is found in the regulations and not in the statute itself, it is, therefore, easier to correct. Agencies may amend their own regulations, whereas statutory provisions may be altered only by acts of Congress. Should the scenario suggested above become prevalent, EPA may on its own initiative redefine "generator" so as to achieve, not defeat, RCRA's goals.

Once having defined a generator, RCRA §3002, as expanded in 40 CFR 261, imposes several duties, among them: (1) compliance with the manifest system, (2) acquisition of an EPA I.D. number, (3) use of approved containers and labels, (4) maintenance of records as to type, quantity and final disposition of waste, (5) submittal of annual summary to EPA, (6) use of only transporters with EPA I.D. numbers and (7) acquisition of a permit for material stored over 90 days. Once material collects over 90 days, EPA declares the generator also to be a "storer" of hazardous waste and, thus, subject to the permit requirement to be discussed herein. There are, of course, exclusions from these requirements for small generators who produce under certain threshold amounts.

Transporters are treated in a similar manner, as described in RCRA §3003, 40 CFR 263. Additionally, transporters must comply with the existing detailed U.S. Department of Transportation (DOT) regulations already enacted for interstate transport of certain chemicals and radioactive materials. Transporters are also held responsible for cleanup of all discharges of materials that may occur during transport.

The only actual permit established under the Act is for the operation of a treatment, storage and disposal (TSD) facility. RCRA §3004 sets standards for owners and operators of TSD facilities and §3005 establishes the permit requirement.

As previously noted, definitions are vital to understanding. "Treatment," "storage" and "disposal" are all terms that warrant a close look at their statutory definitions (§1004).

"Treatment" is defined as: ". . . any method, technique or process, including neutralization, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to render such waste nonhazardous, safer for transport, amenable for storage, or reduced in volume."

"Storage" constitutes ". . . containment of waste, whether on a temporary basis or for a period of years in such a manner as not to constitute disposal of such hazardous waste."

"Disposal" is ". . . discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment, or be emitted into the air or discharged into any waters, including groundwaters."

RCRA §3004 imposes certain statutory duties on TSD facilities, such as (a) maintaining records of all wastes treated, stored or disposed of, and manner of such treatment, storage or disposal; (b) reporting, monitoring and inspection duties; (c) otherwise complying with the manifest system and EPA regulations; (d) developing contingency plans for emergencies; (e) following requirements as to facility maintenance, continuity of ownership, personnel training, financial assurances, etc., and (f) complying with §3005 permit requirements.

An essential element of the permit procedure for TSD facilities is safety. The risk of accident, short- or long-term damage to the environment and health, including latent risks, as dramatically revealed by the events at Love Canal, Valley of the Drums and so on, have produced statutory provisions directly geared towards minimization of potential harm. TSD facilities must, for example, have a formalized waste analysis plan with two features: spot sample

procedure before handling a given waste and inspection and analysis of each and every delivery to ensure compliance with the manifest.

Further, TSD facilities must incorporate the following safety features:

- Facility security system to impede uninvited entries

- Routine inspections of several types
- Formal personnel training programs
- Specific criteria for mixing wastes
- Groundwater monitoring
- Preparedness and prevention plan
- Contingency plan and emergency procedures
- Closure and postclosure care plans

The preparedness and prevention plan must, at a minimum, feature an internal communications system, special hookups with local emergency response authorities, fire, spill and decontamination equipment on-site and, finally, regular testing of all such equipment.

The contingency plan is to be implemented in case of fire, explosion or accidental discharges which pose a threat to health or the environment. What constitutes that which is up to the level of a "threat" is, obviously, a serious judgment call, and, as RCRA is as yet new and largely untried, little guidance exists for further determining or defining that which comes up to the standard. The TSD facility must have at the very least established evacuation procedures, arrangements with local authorities or, if local authorities are uncooperative for some reason, a satisfactory documentation of efforts to make such arrangements, and identify specific on-site coordinators to take charge in emergencies.

The closure and postclosure plans are, of course, of particular public concern in light of the much publicized debacles which aroused the very same public alarm that led to the hurried passage of RCRA. 40 CFR 264.5 deals with the requirements of owners and operators of TSD facilities for closure and a period of 30 years postclosure. The facility must have a written closure plan and demonstrate that there will be minimal need for postclosure care and that optimal precautions have been taken to prevent escape of materials. Postclosure care must include at least 30 years of groundwater monitoring and maintenance of monitoring and waste confinement systems. Furthermore, future land use restrictions are imposed postclosure to ensure that future Love Canals will not erupt.

To increase the certainty that the final cover and other features of the containment system will not be disturbed, a notation must be filed on the deed disclosing the former land use and future restrictions. This guards against violation of safety pre-

cautions due to unwitting acts of subsequent owners.

There is another provision of RCRA that warrants mention here. RCRA §7003, which has been dubbed the "imminent hazards provision" gives EPA the following power: ". . . upon receipt of evidence that the handling, storage, treatment or disposal of any solid waste or hazardous waste is presenting an imminent and substantial endangerment to health or the environment, the administrator may bring suit on behalf of the United States . . . to immediately restrain any person . . . to stop such handling, storage, treatment, transportation or disposal or take such other action as may be necessary." This emergency power is one which may or may not be a significant tool in achieving the safe management of hazardous waste. The reason for the uncertainty as to §7003 "bite" is found in the question, what constitutes "imminent and substantial endangerment"?

Early judicial interpretations, yet to be subject to appellate review, have established some guidelines. For example, it was recently held that a preliminary injunction could be issued under §7003 powers subject to the established rules which govern the issuance of preliminary injunctions under common law as reiterated in the Federal Rules of Civil Procedure; that is, there must be a showing that in the absence of a preliminary injunction, irreparable injury will occur (3). Further, dumping activities that occurred prior to the passage of RCRA may be subject to §7003 action (4).

As to the question of what materials and under which circumstances imminent and substantial endangerment occurs, little information is, as yet, provided by the courts. In one example, however, of a case in which imminent and substantial endangerment to human health was found (5), dioxins escaped from buried insecticide waste into nearby streams.

In addition to suits brought on behalf of the U.S. by EPA, citizens are given a right to institute actions under the citizen suit provisions of RCRA §7002. The individual is given statutory authority to legally challenge any person, company or governmental unit who violates RCRA, EPA regulations or the terms of their permit. This includes suits against EPA for failure to enforce the provisions of the Act as mandated in both the statute and the regulations.

The final aspect of the Act to be discussed is RCRA Subtitle D, which sets a basis for state programs. A state may enact its own hazardous waste program provided EPA approves the state plan, the program is compatible with RCRA, the

state program does not constitute an interference with interstate commerce, e.g., a state may not impose standards that are so much more stringent than RCRA that it essentially serves as a bar to the movement of hazardous waste through the state. Finally, EPA retains a right to revoke state authority if the program is not administered in accordance with the approved terms.

As one might expect, state programs are concerned primarily with that area as to which RCRA is noticeably silent; that is, the siting of hazardous waste facilities. Two common approaches emerge from an analysis of state programs. States either develop plans to lead to the creation of a state-operated facility or, alternatively, they encourage private sector development of TSD facilities.

New York State offers an example of a state program whose goal it is to develop a state-operated facility. New York is currently examining several alternate sites for the development of a land-based rotary kiln incineration facility for the disposal of hazardous waste to be state owned and operated. The Industrial Siting of Hazardous Waste Facilities Law, ECL §27-1103, is devoted primarily to a mechanism for evaluating the various sites to ensure minimum risk to health and environment. Once a state certificate of operation is granted, however, the local municipality of the site may not impose further conditions regarding the facility operation.

In New Jersey, S1300—which was signed into law in late summer of 1981—takes a different approach to the siting question. It is geared towards the encouragement of private sector development and provides a mechanism by which the local municipality of the site, once state approval is obtained, is offered an annual gross receipts tax of 5% as well as full assessment real property taxes on the facility site specifically earmarked for defrayment of local government's costs for housing such a facility, e.g., additional police and fire personnel, hospital emergency response capabilities, maintenance of roads

for the transport of wastes, etc. Before a hazardous waste facility may be approved by the state, New Jersey requires the filing and review of an Environmental and Health Impact Statement (EHIS). The EHIS incorporates all of the traditional elements of an environmental impact statement with a new requirement to demonstrate potential health effects and measures to mitigate harm.

The State of Massachusetts shares with New Jersey a goal of encouraging private sector development of TSD facilities. But rather than statutorily providing tax revenues for the use of the municipality of the site, Chapter 21D mandates contract negotiations between the private developer and the local municipality for sites that pass muster at the State level. Should the developer and the municipality be unable to agree, the law requires compulsory arbitration of the issue.

All of these laws are new and essentially untried. To date, no new major hazardous waste facility has been successfully sited pursuant to any of these acts. Further, so far the operation of any existing hazardous waste facility has yet to receive a general permit under RCRA. Only interim permits have been granted.

As evidenced from the above, this entire field is new and exciting territory. Legislation is new, rule-making incomplete and litigation is just beginning. Clearly, the future holds much interest for all those concerned with and involved in the management of hazardous waste from all aspects, be it engineering, medical and health, public policy or law.

#### REFERENCES

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