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Strengthening of the Resource Conservation and Recovery Act in 1984: The Original Loopholes, the Amendments, and the Political Factors Behind Their Passage

Richard Ottinger*

I. Introduction

The successful passage of very strong hazardous waste amendments to the Resource Conservation and Recovery Act (RCRA)¹ in 1984 was a remarkable feat.² The amendments vastly extended the regulatory authority of the Environmental Protection Agency (EPA) over municipal governments, and private industry in the area of toxic waste, accomplishing an objective contrary to the entire thrust of the Reagan administration's deregulatory ideology.

In the early 1960's, toxic chemicals were already a threat to the safety of our environment, and the challenge which inspired the ensuing environmental movement was set forth in

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1. 42 U.S.C. §§ 6901-6991 (1984). RCRA (PL94-580) "was enacted as an amendment to the 1965 Solid Waste Disposal Act." *Hazardous-Waste Legislation on the Move; Awaits Action in the Second House Committee*, Cong. Q., June, 5, 1982, at 1348.

2. See *infra* note 153 and accompanying text.

Rachel Carson's trailblazing novel, *Silent Spring*:

If, having endured much, we have at last asserted our 'right to know,' and if, knowing, we have concluded that we are being asked to take senseless and frightening risks, then we should no longer accept the counsel of those who tell us that we must fill our world with poisonous chemicals; we should look about and see what other course is open to us.³

By the early 1980's, however, measures to control the hazards of toxic chemicals were still grossly inadequate. The environmental challenge of the forthcoming decades, aside from the paramount threat of nuclear annihilation, is likely to be the control of hazardous substances that are ever more ubiquitous in our environment.

The severity of our toxic waste problem was recently dramatized by the release of methyl isocyanate (MIC)⁴ from underground storage tanks belonging to a Union Carbide plant in Bhopal, India. Approximately 2,500 people were killed and as many as 100,000 may have been permanently injured.⁵

Prior to the enactment of the 1984 RCRA amendments, MIC and the class of chemicals to which it belongs were not even listed as hazardous wastes in the U.S. by EPA, and the storage of chemicals in underground tanks was also not subject to EPA regulation in this country.⁶ In fact, above ground storage tanks in the U.S. remain outside of RCRA's purview even after the 1984 amendments.⁷

Internationally, hazards to human safety and health caused by industrially produced chemicals are increasing in frequency and severity. Although the Bhopal incident was the

3. Rachel Carson, *Silent Spring*, 277-78 (1962).

4. "MIC belongs to a family of toxins for which there is no antidote and no treatment. It is used in the manufacture of insecticides that kill by attacking the nervous system." Clark & Croshell, *An Unstoppered Killer*, *Newsweek*, Dec. 17, 1984 at 32.

5. Whitaker, *'It Was Like Breathing Fire . . .'*, *Newsweek*, Dec. 17, 1984, at 26.

6. Beck, *Could it Happen in America?*, *Newsweek*, Dec. 17, 1984, at 38.

7. Davis, *Bhopal Tragedy Prompts Scrutiny by Congress*, Cong. Q., Dec. 22, 1984, at 3147.

worst and most dramatic, it was by no means an isolated incident.⁸ Even in this country, tales of hazardous waste disaster have been reported with great frequency.⁹

The scope of our hazardous waste problem is evidenced by our ever-growing familiarity with chemicals that are linked

8. During the 1950s "at Minamata Bay in southern Japan, waste mercury from a chemical plant contaminated fish eventually inflicting disfiguring paralysis or slow death on thousands" of Japanese. Boraiko, *Storing Up Trouble . . . Hazardous Waste*, 167 Nat'l Geog. 346-47 (1985). The Minamata disease struck central Japan again in 1965 and "harbor dredging at the site of the first disaster threatens to send mercury up the food chain once again." *Id.*

9. In October 1984, "a derivative of the insecticide malathion escaped from an American Cyanamid tank in Linden, N.J., blanketing a 20-mile area with noxious fumes that drove 100 people to hospitals." Beck, *supra* note 6, at 44.

A month later, there were two more dangerous chemical releases from Linden, New Jersey plants, from which prevailing winds pass over New York City. *Id.*

Due to the discovery of long-buried chemicals in leaking drums at the Love Canal in Niagara Falls, New York in 1978 and the dioxin contamination at Times Beach, Missouri in 1983, residents had to be evacuated and their homes purchased by the federal government. Boraiko, *supra* note 8, at 323-25.

The Stringfellow acid pits in California (where "34 million gallons of solvents, acids, toxic metals and DDT" were dumped between 1956 and 1972) still remain and have started to seep into the "aquifer supplying seven eastern Los Angeles suburbs" in which a half million people reside. *Id.* at 336-37.

Causing additional concern are the more than 760,000 individual generators of hazardous waste at sites which are, as of yet, anonymous. Swanson, *Shifting the Burden of Environmental Protection*, 18 J. Econ. Issues 251, 253 (1984).

In Westchester County, New York, state action was recently initiated to prohibit the interstate sale of Hudson River striped bass which spawn in its Westchester reaches because of the high level of contamination Maniace, *What's Causing Tumors in Hudson River Fish*, Reporter Dispatch (Westchester, N.Y.), Feb. 28, 1985, at B6, col. 2.

As an affirmative measure, the Westchester County Board of Legislators undertook to consider a proposal to spend 1.2 million dollars per year for a specially trained and equipped hazardous waste firefighting unit. Greene, *Westchester Funds Sought to Create Fire Unit to Handle Hazardous Materials*, Reporter Dispatch (Westchester, N.Y.), March 14, 1985, at A6, col. 1.

As a step backwards, however, the N.Y. Court of Appeals affirmed an Appellate Division decision which held that local zoning laws take precedence over the State Hazardous Waste law, thereby preventing the placement of dredged polychlorinated biphenyls (PCBs) from the Hudson River in a safe repository upstate *Washington County Cease, Inc. v. Persico*, 99 A.D.2d 321, 473 N.Y.S.2d 610, (1984); *aff'd*, 64 N.Y.2d 923, 488 N.Y.S.2d 630 (1985). This was a serious set-back of efforts to clean up the PCBs in the Hudson River, and casts doubt on the State's ability to qualify for Superfund monies (*See infra* notes 35, 40-41 and accompanying text) since eligibility requires the pre-selection of clean-up disposal sites. 42 U.S.C. § 9604(c)(3)(B) (1980).

to causing cancer and genetic damage. An abridged list would consist of:

- (1) Dioxin;¹⁰
- (2) PCBs;¹¹
- (3) Pesticides such as aldrin, dieldrin, endrin, heptachlor, chloradane, toxaphene, and kepone;¹²
- (4) Asbestos;¹³
- (5) Saccharin;¹⁴
- (6) Hexachlorophene;¹⁵
- (7) TRIS¹⁶

10. Dioxin (TCDD) is a contaminant of phenoxy herbicides such as 2,4,5-T (2,4,5-trichlorophenoxyacetic). "It is the most toxic known chemical, inducing cancer and birth defects in experimental animals in parts-per-trillion concentrations." S. Epstein, L. Brown, & C. Pope, *Hazardous Waste in America* 26 (1982) [hereinafter cited as *Hazardous Waste*]. "Less than 3 ounces of TCDD could kill the entire population of New York City." *Id.* at 93.

11. Polychlorinated Biphenyl (PCB) is a synthetic organic chemical. It is produced "[b]y tacking chlorine onto particular hydrocarbons known as phenols." The chemical's "greatest value was its ability to resist breakdown from heat and electrical charges when used as insulating fluids in transformers and other electrical machinery." *Id.* at 23-24. PCBs are toxic organic chemicals and "are thought to be the 'most widespread chemical contaminant known to man.'" Swanson, *Shifting the Burden of Environmental Protection*, 18 J. Econ. Issues 253 (citation omitted).

12. Pesticides are chemicals "used to kill pests, esp. insects and rodents." The American Heritage Dictionary 927 (2d ed. 1982). The noted pesticides are all linked to chronic health and environmental problems. Swanson, *supra* note 11, at 253.

13. "Asbestos is the generic name for a group of minerals composed of calcium and magnesium silicates formed into long, threadlike fibers. . . . They possess the special qualities of very high resistance to heat and electricity." *Hazardous Waste, supra* note 10, at 19. This substance poses a danger to society. Its "fibrous nature" and "its resistance to biological degradation and chemical change" allows the tiny asbestos fibers to penetrate exposed surfaces of the lungs after being inhaled. This causes "a continuous irritation and cellular response which results either in progressive lung disease known as asbestosis or in a variety of cancers of the lung and other sites when blood and lymph streams carry the fibers through the body." *Id.* at 19-20.

14. Saccharin is "[a] white crystalline powder . . . having taste about 500 times sweeter than cane sugar, used as a calorie-free sweetener." The American Heritage Dictionary 1082 (2d ed. 1982). It was on the market for years before it was determined to be a cause of cancer. Swanson, *supra* note 11, at 253.

15. Hexachlorophene (HCP) can be found in cosmetic ingredients (*Hazardous Waste, supra* note 10, at 92) and is known for its ability to inhibit bacterial growth. Swanson, *supra* note 11, at 253. The chemical was used in lotions, aerosol sprays, and soaps and is considered toxic because it was found to cause damage to the central nervous system. *Id.*

16.

Tris (2,3 dibromoprophyl) phosphate (TRIS) is a "flame-retardant used in

- (8) Red Dye No. 2;¹⁷
- (9) DES;¹⁸
- (10) TCE;¹⁹
- (11) PBBs;²⁰
- (12) PCPs;²¹
- (13) Benzene;²²

children's sleepwear until 1977, when it was banned as a hazardous substance by the United States Consumer Product Safety Commission. TRIS, a potent mutagen and carcinogen, was found on unwashed children's sleepwear at concentrations of up to 72,000 parts per million (ppm). Significant quantities of TRIS could be ingested through children's and infants' frequent mouthing of the material or through skin absorption. It is estimated that over 60 million children were exposed to potentially dangerous levels of this toxin.

See Hazardous Waste, *supra* note 10, at 49-50.

17. Red Dye No. 2 was "banned as a carcinogen [a cancer-causing agent] in 1976 after Americans had been ingesting it at the rate of about 500 tons per year." Swanson, *supra* note 11, at 253 (citation omitted).

18. Diethylstilbestrol (DES) is "[a] synthetic estrogen." It was "implicated as the cause of vaginal cancer in daughters of mothers given the drug in the unfounded belief that it might prevent complications of late pregnancy." Hazardous Waste, *supra* note 10, at 293. It is also a "cancer-causing agent once used as an animal feed supplement." Swanson, *supra* note 11, at 253 (citation omitted).

19. Trichloroethylene (TCE) is a toxic chemical which "can induce acute liver and central nervous system damage; its chronic effects include deafness, visual defects, behavioral disturbances and carcinogenic [cancer-causing] effects, as evidenced in experimental animals." Hazardous Waste, *supra* note 10, at 37. TCE was "widely used as an industrial solvent . . . and is now appearing in groundwater across the country." Swanson, *supra* note 11, at 253 (citation omitted). See also Hazardous Waste, *supra* note 10, at 81-83.

20. Polybrominated biphenyl (PBB) is a synthetic organic chemical, produced by tacking bromine onto particular hydrocarbons known as phenols. This chemical was effectively used as a fire retardant. Its toxicity results in part from the bromine, very toxic chemical. Hazardous Waste, *supra* note 10, at 20-26. In 1974, "between five hundred and one thousand pounds of this highly toxic flame retardant were accidentally mixed with cattle feed and shipped out to Michigan farms. Millions of chickens, over thirty thousand cows, and thousands of sheep either died or had to be destroyed after consuming PBB-laden feed. The human cost is also high: the health of dozens of farm families was seriously affected, and thousands of Michigan residents now carry significant amounts of PBB in their bodies." *Id.* at 49 (contained in non-numerical footnote).

21. Pentachlorophenol (PCP) is a compound used in a solution "as a wood preservative to resist termites." *Id.*

22. Benzene is a synthetic organic chemical. *Id.* at 26. Benzene "is very flammable at high concentrations; in lower concentrations it is acutely toxic, causing skin irritation and drowsiness; and even at lower exposure levels it is chronically toxic, leading to a usually fatal blood disease known as aplastic anemia, as well as to acute myelogenous leukemia." *Id.* at 37.

(14) Vinyl Chloride.²³

To emphasize the dimension of our hazardous waste problem, more than 60,000 chemical substances are in use today,²⁴ and according to the National Research Council (NRC), only 20% of them have been tested for their health effects.²⁵ There are an estimated 180,000 shipments by truck or rail of hazardous substances in the U.S. per day,²⁶ which translates into seventy-one billion gallons per year or "264 million metric tons of liquid and solid hazardous wastes are produced" in the U.S. each year.²⁷

Moreover, there are an estimated 25,000 sites²⁸ at which hazardous materials have been dumped and OTA has recently reported that approximately ten thousand of these sites may require urgent clean-up at a cost of one hundred billion dollars.²⁹ Toxics from hazardous waste repositories are leaching into groundwater and aquifers³⁰ (from which our drinking water is derived),³¹ and an estimated ten to fifteen million tons of hazardous wastes are mixed with fuel oil and burned in conventional boilers each year³² causing frightening air pollution risks.

This commentary discusses the nature of the legal loopholes that existed in the original RCRA statute, and highlights several of the provisions of the 1984 RCRA amend-

23. Vinyl Chloride (VC) is a synthetic organic chemical and "a highly potent carcinogen." *Id.* at 26. "By adding halogens, simple precursors of new plastics, such as vinyl chloride (VC), are synthesized; the VC was subsequently polymerized to form polyvinyl chloride (PVC) for use in records, plastic pipe, and a wide range of other plastics." *Id.* at 24.

24. Beck, *supra* note 6, at 38.

25. *Id.*

26. *Id.* (emphasis added).

27. Shabecoff, *Toxic Wastes Go From One Leaky Dump to Another: On the Move But Not Yet on the Wane*, N.Y. Times, Nov. 18, 1984 at E2, col. 3.

28. Shabecoff, *Toxic Waste Threat Termed Far Greater than U.S. Estimates*, N.Y. Times, March 10, 1985, at A1, col. 1.

29. *Id.*

30. Memorandum from Judy Campbell Bird to Ken Murphy (March 9, 1985) (concerning Environmental and Energy Study Institute Seminar on Groundwater Protection: Emerging Issues and Policy Changes, Washington, D.C., March 11-12, 1985).

31. *Id.*

32. 98 Cong. Rec. S13820 (daily ed. Oct. 5, 1984) (statement of Sen. Chafee).

ments that serve to either rectify or ameliorate the prior deficiencies. It also examines the political factors that affected the passage of the 1984 amendments, enabling them to pass during a period of anti-regulatory emphasis.

II. Background: The Statutory Framework of Toxic Waste Regulation

The statutory framework for controlling hazardous waste is incredibly complicated and filled with many loopholes.³³ RCRA, the Toxic Substances Control Act (TSCA),³⁴ and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, commonly referred to as the "Superfund Act,"³⁵ are the principal statutes designed to address hazardous waste protection, but a myriad of additional legislation is applicable to various aspects of the problem.³⁶

33. See H.R. Rep. No. 198, 98th Cong., 2d Sess. 1, reprinted in 1984 U.S. Code Cong. & Ad. News 5576, 5577-79.

34. 15 U.S.C. §§ 2601-2629 (1982).

35. 42 U.S.C. §§ 9601-9657 (1982).

36. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S.C. §§ 136-136y (1982)) addresses the registration (*Id.* at § 136a), labeling (*Id.* at § 136a(c)(1)(C), 136a(c)(5)(B)) and use (*Id.* at § 136a(d)(1)) of pesticides and their residues, and contains some authority for EPA to regulate removal and disposal of hazardous pesticides from the market place (*Id.* at 136q).

The Consumer Product Safety Act (15 U.S.C. §§ 2051-2083 (1982)) provides for safety standards for consumer products including the power to ban from the marketplace those that may be toxic.

Ocean dumping of hazardous wastes is dealt with under the Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972 (16 U.S.C. §§ 1431-1434 (1982)).

The Federal Food, Drug and Cosmetic Act (21 U.S.C. §§ 301-392 (1982)) gives its administrator power to set standards for, and remove from the marketplace, food products that may be contaminated by hazardous substances.

The Occupational Safety and Health Act (OSHA) (29 U.S.C. §§ 651-678 (1982)) provides authority for adoption by the Labor Department of standards for workplace hazards including the exposure of workers to toxic substances.

The Safe Drinking Water Act (SDWA) (42 U.S.C. §§ 300f to 300j-10 (1982)) regulates underground injection of wastes and establishes maximum national contamination levels for public drinking water.

Radioactive wastes are subject to generally exclusive regulation by the Nuclear Regulatory Commission under the Atomic Energy Act (AEA) (42 U.S.C. §§ 2011-2296 (1982)) and subsequent nuclear legislation.

The Clean Air Act (CAA) (42 U.S.C. §§ 7401-7642 (1982)) and the Federal Water Pollution Control Act (FWPCA), commonly referred to as the Clean Water Act (CWA) (33 U.S.C. §§ 1251-1376 (1982)) address air and water pollution, respectively,

Many of these statutes overlap giving agencies far too much opportunity to allege the fault of another authorized agency in the event of a regulatory failure. Enforcement of the various statutes under the Reagan administration has been sparse and the loopholes in each of them are tremendous.

The Toxic Substances Control Act (TSCA) of 1975 seeks to assure the safety of chemicals by requiring pre-notification and testing of them by manufacturers prior to marketing, and giving EPA the power to exclude chemicals from the marketplace if they are not tested first or if the tests demonstrate a hazard to human safety or health.³⁷ EPA has construed this requirement to apply only to new chemicals,³⁸ although it has authority under the statute to require testing of all chemicals.³⁹

CERCLA, the complimentary statute to RCRA,⁴⁰ was designed to provide for the clean-up of hazardous substance spills and contamination at existing disposal sites.⁴¹ However, administration and enforcement of the superfund legislation have been abysmal. The legislation is so poorly funded that it can finance only a minute fraction of the necessary clean-ups.⁴² In fact, the superfund received only ten percent of the funds which OTA estimated would be necessary for effective implementation and enforcement.⁴³ While a conference committee of Congress is now addressing these inadequacies, the funding being considered for this year is still but a fraction of

including hazardous and toxic pollutants.

The Department of Transportation has authority to regulate the transportation of hazardous waste under the Hazardous Transportation Act (49 U.S.C. §§ 1801-1812 (1982)) and its generic statute (49 U.S.C. §§ 10101-11901 (1982)).

37. 15 U.S.C. §§ 2604(f), 2605(a).

38. 40 C.F.R. § 720.1 (1985).

39. See 15 U.S.C. § 2603(a)(1)(A)(i).

40. "Although RCRA established an extensive system for wastes now being produced, it created only limited means for cleaning up sites where such wastes had been improperly handled in the past." Comment, *Issues of Federalism in Hazardous Waste Control: Cooperation or Confusion?*, 6 Harv. Envtl. L. Rev. 307, 319 (1982). Congress delegated this task to CERCLA. *Id.*

41. *Id.*

42. Office of Technology Assessment, U.S. Congress, *Technologies and Management for Hazardous Waste Control* 6 (1983) [hereinafter cited as OTA].

43. See *id.*

the identified need.⁴⁴

RCRA was “first enacted in 1965 as a grant-in-aid program to assist the states in their dealing with the problem of open, burning dumps.”⁴⁵ In 1976, it was transformed into a comprehensive regulatory program designed to accomplish the following three objectives:

provide a system for tracking and preserving a record of the movement of hazardous waste from its origin to its ultimate disposal (euphemistically from ‘cradle to grave’); ensure that disposal of hazardous waste is accomplished by means that prevent escape of the wastes into the environment; and provide an enforcement mechanism to ensure compliance with the first two objectives.⁴⁶

Prior to the 1984 amendments, however, this “cradle to grave” approach to regulating toxic wastes contained immense statutory gaps, and the necessity of amending RCRA was demonstrated by its unenforceability and ineffective results.

III. RCRA—Before and After the Amendments

In March, 1983, OTA asserted that “about 255 to 275 million metric tons . . . of hazardous waste are generated” under federal and state regulation, and an “estimated several hundred million tons per year were going unregulated” due to Congressional and EPA exemptions.⁴⁷

A. *The Nature of the Loopholes*

At least 80% of regulated hazardous waste⁴⁸ is land disposed in surface impoundments,⁴⁹ landfills,⁵⁰ or by deep-well

44. While in the process of reauthorizing the CERCLA legislation which expired on September 30, 1985, House and Senate conferees tentatively agreed on an \$8.5 billion funding level for the next five years. *Conferees Agree on \$8.5 Billion for ‘Superfund’*, Cong. Q., May 10, 1986, at 1072.

45. Donald Stever, *Law of Chemical & Hazardous Waste* § 5.01 (in press, 1986).

46. *Id.*

47. OTA, *supra* note 42, at 8.

48. *Id.* at 5.

49. “Surface impoundments—natural topographic depressions, artificial excava-

injection⁵¹, all of which pose dangers to drinking water supplies.⁵²

1. *Surface Impoundments and Landfills.*

An extensive 1983 EPA study found that over 70% of all surface impoundments receiving hazardous wastes in the United States are unlined.⁵³ That is, there is no impervious material placed beneath the waste to prevent the leaching of toxic substances into ground water or aquifers. State surface impoundment surveys found that 79% of 416 documented sites were leaking and that liner failure accounted for only 7.6% of this leakage.⁵⁴ Thirty-nine percent (39%) of the 8,000 active impoundments studied were found to have a high potential for groundwater contamination.⁵⁵ According to an EPA draft report released on December 29, 1982, most of the 180,973 surface impoundments were "sited [and] constructed without apparent regard for the protection of groundwater quality."⁵⁶ "The study stressed that 'without proper design and siting, impoundments have a high potential for contami-

tions, or dike arrangements—can pose major threats to groundwater. Commonly referred to as pits, ponds, and lagoons, they are extensively employed for storage, treatment and disposal of industrial, municipal, agricultural, mining, and oil- and gas-brine liquid wastes." S. Epstein, L. Brown, & C. Pope, *Hazardous Waste in America* 304 (1982) [hereinafter cited as *Hazardous Waste*].

50. A landfill is "[a] method of rehabilitating land in which garbage and trash are buried in low-lying ground to build it up." *The American Heritage Dictionary* 713 (2d ed. 1982).

51. Deep-well injection is a method of waste disposal which utilizes the "process of forcing a liquid into a well." H.R. Rep. No. 198, 98th Cong., 2d Sess. 1, *reprinted in* 1984 U.S. Code Cong. & Ad. News 5576, 5587.

52. OTA, *supra* note 42, at 3.

53. Lecture by Richard C. Fortuna, in Washington D.C. (September, 1983) (available as a reprint: Richard C. Fortuna, *Same Wastes, New Solutions*, (from the Hazardous Waste Treatment Council, 1919 Pennsylvania Ave, N.W., Suite 300, Washington, D.C., 20006)) at 3 [hereinafter cited as Fortuna]. Originally cited from U.S. Env'tl. Protection Agency (Office of Drinking Water) *Surface Impoundment Assessment* (July 1983) (Draft Report).

54. *Id.* at 3-4.

55. *Id.* at 6.

56. Current Developments: Drinking Water, *Most Surface Impoundments of Wastes Threaten Groundwater, EPA Study Says*, *Env't Rep.* (BNA), 1503 (Jan. 7, 1983).

nating groundwater.'"⁵⁷ Fewer than 10% were found to adequately contain the materials disposed of,⁵⁸ and RCRA offered no restrictive or corrective measures.⁵⁹

Although landfills account for only a relatively small percentage of the destinations for hazardous wastes,⁶⁰ they still posed substantial health threats prior to the RCRA amendments, and they escaped regulation.⁶¹ After the Love Canal tragedy,⁶² EPA prohibited the disposal of containerized liquid hazardous wastes,⁶³ but failed to issue any restrictions on the bulk of liquid waste that was disposed directly into landfills, accounting for far more waste than containerized liquid disposal.⁶⁴ EPA then allowed containerized liquids to be disposed of in landfills as solids if they were mixed with kitty litter!⁶⁵ This practice was adopted by several companies because the cost is only a little more than five dollars per drum.⁶⁶

The RCRA amendments which passed in 1984 address the major inadequacies described above. After November 8, 1984, any permit issued for a new or replacement landfill or

57. *Id.*

58. Swanson, *Shifting the Burden of Environmental Protection*, 18 J. Econ. Issues 252 (1984) (citation omitted).

59. See 42 U.S.C. § 6924 (1976).

60. Fortuna, *supra* note 53, at 4.

61. *Id.* at 8.

62. See *supra* note 9 and accompanying text.

63. It should be noted, however, that on February 18, 1982 then current EPA Administrator, Anne Burford, ordered the abrupt and immediate suspension of this prohibition without advance notice or opportunity for any public comment. *Liners, Liquids and Conflict of Interest*, Nat'l J., Apr. 16, 1983, at 798. During this period, "thousands of drums of liquid waste were dumped into at least three landfills operated by Chemical Waste Management." *Id.* Fortunately, Congressional and public pressure prompted reimposition of the ban 18 days later. *Id.*

64. Fortuna, *supra* note 53, at 8. "In fact, EPA approved landfills as the most cost-effective method of hazardous waste disposal" (Mosher, *EPA Still Doesn't Know the Dimensions of Nation's Hazardous Waste Problem*, Nat'l J., Apr. 16, 1983 at 796) even when the National Academy of Sciences had criticized the use of landfills because "much of the waste will 'very likely migrate' into the groundwater" (*Id.*). Additionally, then Assistant Administrator Rita M. Lavelle believed that the federal government had no right to interfere with the marketplace by banning certain hazardous wastes from landfills (*Id.*). Rita Lavelle was dismissed from office on February 4, 1983 and Anne Burford resigned in March of 1983 (*Id.*).

65. Fortuna, *supra* note 53, at 11.

66. *Id.*

surface impoundment, or for the lateral expansion of an existing landfill or surface impoundment, minimally requires the installation of double liners, and a leachate collection system above and between the liners⁶⁷ and ground water monitoring.⁶⁸ An exception to these requirements exists if the owner or operator can demonstrate "that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as such liners and leachate collection systems."⁶⁹

By November 1986, EPA is to promulgate standards to implement the above requirements,⁷⁰ but in the interim, they may be fulfilled by installing a "top liner designed, operated, and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation . . . and a lower liner designed, operated and constructed to prevent the migration of any constituent through such liner during such period."⁷¹

In addition to the minimum technological requirements described above, as of May 1985, "the placement of bulk or noncontainerized liquid hazardous waste or free liquids contained in hazardous waste (whether or not absorbents have been added) in any landfill is prohibited."⁷² This recharacterization of liquid waste served to eliminate the kitty-litter type evasions previously discussed.⁷³ By February 1986, EPA was required to promulgate final regulations phasing out the disposal of containerized liquids as well.⁷⁴

Lastly, land disposal of certain particularly dangerous "specified wastes"⁷⁵ (except as provided in the section on deep well injections), is prohibited unless EPA determines that a

67. 42 U.S.C. § 6924(o)(1)(A)(i) (1986).

68. *Id.* at § 6924(o)(1)(A)(ii).

69. *Id.* at § 6924(o)(2).

70. *Id.* at § 6924(o)(5)(A).

71. *Id.* at § 6924(o)(5)(B).

72. *Id.* at § 6924(c)(1).

73. *See supra* notes 65-66 and accompanying text.

74. 42 U.S.C. § 6924(c)(2). Until then, the prior regulations, effective April 30, 1983, remain in full force and effect. *Id.*

75. *Id.* at § 6924(d)(2).

prohibition of one or more land disposal techniques is not required to protect human health and the environment.⁷⁶

Thus, the RCRA amendments provide a far more substantial regulatory scheme for surface impoundments and landfills than previously existed. The problems are so pervasive, however, and the costs so great, that enforcement of the provisions may prove to be an obstacle to effective regulation in the days to come, due to EPA's lack of resources.⁷⁷

2. Deep-Well Injections.

A recent EPA study revealed that more hazardous waste is disposed of in deep injection wells than in all other forms of land disposal combined.⁷⁸ The survey asserted that deep-well injection accounted for over 10.3 billion gallons of hazardous wastes in 1982.⁷⁹ There was no corrective action requirement under RCRA in the event that groundwater was contaminated by the operation of an injection well facility.⁸⁰ A vast majority of the deep-well injected waste was found to be corrosive and organic for which alternate forms of treatment exist.⁸¹

The 1984 amendments require EPA to conduct (by August of 1987) a complete review of the disposal of specified hazardous wastes into deep injection wells.⁸² If it is reasonably "determined that such disposal may not be protective of human health and environment for as long as the waste remains hazardous,"⁸³ then EPA "shall promulgate final regulations prohibiting the disposal of such wastes."⁸⁴ Also, if EPA fails to make this determination by August 1987, then "such hazardous waste shall be prohibited from disposal into any

76. *Id.* at § 6924(d)(1).

77. See H.R. Rep. No. 198, 98th Cong., 2d Sess. 1, reprinted in 1984 U.S. Code Cong. & Ad. News 5576, 5579.

78. Fortuna, *supra* note 53, at 8.

79. *Id.* at 4. Originally cited in U.S. Env'tl. Protection Agency (Office of Solid Waste), RIA Mail Survey Questionnaire on UIC Wells (Jan. 1982) (unpublished results of Initial Survey of Underground Injection Wells (Aug. 1983)).

80. See 42 U.S.C. § 6924 (1976).

81. Fortuna, *supra* note 53, at 8.

82. 42 U.S.C. § 6924(f)(1) (1985).

83. *Id.* at § 6924(f)(2).

84. *Id.*

deep injection well."⁸⁵

The amendments, at a minimum, require a review by EPA of most hazardous wastes disposed of into deep injection wells and may lead to a prohibition on their future use.

3. Hazardous Waste Generators.

Another major inadequacy of the RCRA statute was that 92% of the hazardous waste generators in this country were exempt from regulation because they were characterized as "small generators."⁸⁶ Such generators could dispose of up to 1000 kilograms of hazardous waste per month without regulation,⁸⁷ meaning that they could dispose of their waste at any location and without obligation to maintain records of contents or destination.

The amendments, however, now regulate generators of between 100 and 1000 kilograms per month (kg/mo) of hazardous waste,⁸⁸ bringing as much as fifteen million metric tons of hazardous wastes and over 130,000 additional generators under RCRA's purview.⁸⁹ By March 31, 1986, EPA was re-

85. *Id.* at § 6924(f)(3).

86. Fortuna, *supra* note 53, at 7.

87. 40 C.F.R. § 261.5 (1984).

88. 42 U.S.C. § 6921(d)(1). Representative James J. Florio, a New Jersey Democrat and Chairman of the House Energy and Commerce Subcommittee on Commerce Transportation and Tourism, introduced this bill in March 1983 (*EPA Clash Could Bring Major Changes in Law*, Cong. Q., March 18, 1983, at 583). Florio was greatly aided by the fact that Norman Lent, the ranking Republican on his subcommittee and now only member on the full committee was from Long Island where the water supply was gravely threatened by contamination of its groundwater and aquifer. Thus, Lent was also in favor of strong regulation despite the anti-regulatory philosophy of the Reagan administration (Author's personal knowledge).

Although the bill found support in the subcommittee (*Hazardous-Waste Legislation on the Move; Awaits Action in Second Committee*, Cong. Q., June 5, 1982, at 1348), Chairman Florio nearly destroyed his chances for a successful vote on the bill by overreaching for a total elimination of any exemption from regulation—or at least a requirement that all shipments of 100 kg/mo or less of hazardous waste comply with the notification and manifest requirements of the legislation (Interview with staff of the U.S. House of Representatives Subcommittee on Commerce, Transportation, and Tourism, in Washington, D.C. (Feb. 15, 1985). After much wrangling, the bill in its original form was passed in the House on November 3, 1983. Davis, *House Votes to Tighten Hazardous Waste Law*, Cong. Q., Nov. 5, 1983, at 2334.

89. Rosbe & Gulley, *The Hazardous & Solid Waste Amendments of 1984: A*

quired to have promulgated standards "sufficient to protect human health and the environment" for these small quantity generators.⁹⁰

In addition to regulating the legitimate use, reuse, recycling, and reclamation of such hazardous waste, the amendments require completion (by the small quantity generator) of a Uniform Hazardous Waste Manifest⁹¹ for shipments off the premises of between 100 and 1000 kg/mo of hazardous waste.⁹² This provision became effective on August 5, 1985.⁹³ A possible weakness remains in that the amendments allow for the storage of between 100 and 1000 kg/mo of hazardous waste for a period of 180 days without a permit, and the storage of up to 6,000 kg for up to 270 days if it must be shipped over 200 miles.⁹⁴

Lastly, if it is necessary to protect human health and the environment, EPA now has the authority to promulgate standards for the regulation of generators of less than 100 kg/mo.⁹⁵

This series of amendments closed an immense gap in the original RCRA statute.

4. *Listing of Hazardous Wastes.*

A majority of hazardous wastes had not been listed by RCRA for regulation, constituting yet another major deficiency prior to the 1984 amendments. Over 50% of the carcinogens⁹⁶ identified by EPA's Carcinogen Assessment Group

Dramatic Overhaul of the Way America Manages its Hazardous Wastes, 14 Env'tl. L. Rep. 10,458, 10,459 (Dec. 1984).

90. 42 U.S.C. § 6921(d)(2). To date these standards have not been promulgated by the EPA.

91. According to RCRA, "[t]he term 'manifest' means the form used for identifying the quantity, composition, and the origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of disposal, treatment, or storage." *Id.* at § 6903(12) (1976).

92. *Id.* at § 6921(3) (1985).

93. *Id.*

94. *Id.* at § 6921(d)(6).

95. *Id.* at § 6921(d)(4).

96. Carcinogens "are materials that cause cancer." Hazardous Waste, *supra* note 49, at 36.

were not listed, and no new wastes have been listed since May of 1980.⁹⁷ In fact, over 250 delistings were granted.⁹⁸

An example of a prior unlisted waste which is a serious health hazard is dioxin. Dioxins were not listed as hazardous wastes during the period of the Times Beach, Missouri tragedy⁹⁹—and even if they were, would have been exempt from regulation under a gaping loophole for all “recycled” toxins.¹⁰⁰ For example, when dioxin was mixed with oil and sprayed on public roads to prevent the accumulation of dust as in Times Beach, it was considered an exempt recycled toxin.¹⁰¹ Another abuse of the recycling exemption permitted between 10 to 15 million tons of hazardous wastes per year to be mixed with oil and burned in ordinary domestic and industrial boilers at temperatures that did not ameliorate their toxicity—without controls on their destruction efficiency or toxic emissions.¹⁰²

The RCRA amendments require the listing of a much more complete range of toxic substances. EPA must add to its already existing list¹⁰³ “those hazardous wastes which shall be subject to the provisions of this subchapter solely because of the presence in such wastes of certain constituents (such as

97. Fortuna, *supra* note 53, at 7.

98. *Id.*

99. See *supra* note 9 and accompanying text; see also Swanson, *supra* note 53, at 261.

100. 40 C.F.R. § 261.6 (1982).

101. See Swanson, *supra* note 58, at 261; see generally Hazardous Waste, *supra* note 49, at 133-51; see also Boraiko, *Storing Up Trouble*

102.

EPA exempt[ed] facilities that burn hazardous wastes for the primary purpose of energy recovery. EPA has estimated that 10-15 million metric tons of hazardous wastes are burned each year in boilers; over one-half of all hazardous wastes generated are burned in facilities [then], not . . . regulated under RCRA. EPA has acknowledged that the burning of hazardous waste for energy recovery . . . ‘could pose a parallel or greater risk of environmental dispersal of hazardous waste constituents and products of incomplete combustion.’

Fuel blending is one of several areas where EPA’s failure to promulgate regulations . . . led to direct threats to human health and environment. . . .

The potential impact of this loophole is even more significant as more and more wastes [were] burned in boilers, cement kilns, or other heat recovery units to avoid RCRA regulation and treatment costs.” 98 Cong. Rec. S13820 (daily ed. Oct. 5, 1984) (statement of Sen. Chafee).

103. 40 C.F.R. § 261.30-.33 (1985).

identified carcinogens,¹⁰⁴ mutagens,¹⁰⁵ or teratogens¹⁰⁶) at levels in excess of levels which endanger human health.”¹⁰⁷ All listed wastes are subject to EPA regulation.¹⁰⁸

In addition to the requirement of a more extensive listing, the exemption for “recycled toxins” was deleted,¹⁰⁹ bringing yet another previously unregulated area of hazardous waste disposal under EPA’s jurisdiction.

B. *New Regulatory Programs*

Besides strengthening existing statutory provisions, the RCRA amendments established two major regulatory programs.

The first of these programs governs leaking underground storage tanks.¹¹⁰ “Over 100,000 underground tanks containing stored toxic wastes are thought to be leaking” around the country, including mostly gas station storage tanks.¹¹¹ “An ad-

104. See *supra* note 96.

105. A mutagen is “[a]n agent, such as radioactive elements or ultraviolet light, that causes biological mutation.” The American Heritage Dictionary 824-25 (2d ed. 1982).

106. A teratogen is an agent “causing fetal malformations or monstrosities.” *Id.* at 1254.

107. 42 U.S.C. § 6921(b)(1).

108. *Id.*

109. 42 C.F.R. § 261.6 (1985).

110. EPA calls this the “LUST” program, an acronym for Leaking, Underground Storage Tanks. Dropkin, *An Ounce of Prevention: Leak Detection and the Driller*, Ground Water Age, June 1984, at 40. A principal sponsor of this amendment was Senator Dave Durenberger, a Republican from Minnesota, who had maintained that the provision could “be used to prevent Bhopal-type incidents in this country” (*Bhopal Tragedy Prompts Scrutiny by Congress*, Cong. Q., Dec. 22, 1984, at 3147). Introduction of the bill so enraged conservative Republican Senator Steve Symms of Idaho that he threatened a filibuster against the bill until the tank provisions were weakened. 98 Cong. Rec. S13812 (daily ed. October 5, 1984) (statement of Sen. Symms). Senator Symms eventually accepted a compromise, but engaged in a severe attack on Congressional intrusion into agency regulatory affairs represented by the “hammer” provisions of the legislation (*Id.*). Senator Alan Simpson of Wyoming was another main antagonist to the Durenberger amendment (*Id.*) and sought and obtained relief via the bill for radioactive uranium mill tailing provisions in other legislation (Interview with Steven J. Shimberg, Counsel and Director, U.S. Senate Subcommittee on Env’tl. Pollution, in Washington, D.C. (Feb. 15, 1985)).

111. Rosbe & Gulley, *supra* note 89, at 10464 citing 130 Cong. Rec. S9164 (daily ed. July 24, 1984).

ditional 350,000 underground storage tanks are expected to be leaking within the next five years."¹¹²

By April 1985, the governor of each state was required to designate an agency to receive notification from all tank owners in the state.¹¹³ By May 1986, each owner of an underground tank must notify the designated agency "of the existence of such tank, specifying the age, size, type, location, and uses of such tank."¹¹⁴ Before February 8, 1987, EPA must promulgate regulations that, as a minimum, require:

- (1) a leak detection system, an inventory control system, together with tank testing or a comparable method for identifying releases;
- (2) recordkeeping for monitoring and leak detection;
- (3) reporting of releases and corrective actions;
- (4) corrective actions in response to releases; and
- (5) closure of the tanks when necessary to prevent future releases of regulated substances.¹¹⁵

Additionally, EPA must issue regulations, as it deems necessary, requiring financial responsibility for taking corrective action and compensating third parties for bodily injury and property damage caused by accidental releases.¹¹⁶

Lastly, by May 8, 1987, EPA must promulgate regulations concerning the performance standards of new tanks.¹¹⁷ Such regulations are to include but need not be limited to tank design, construction, installation, release detection, and compatibility standards.¹¹⁸ In the interim, no underground storage tanks intended for the storing of regulated substances may be installed unless such tank will prevent releases due to corrosion or structural failure, or unless the "soil resistivity in an installation location is 12,000 ohm/cm or more."¹¹⁹

112. *Id.*

113. 42 U.S.C. § 6991a(b)(1).

114. *Id.* at § 6991a(a)(1).

115. Rosbe & Gulley, *supra* note 89, at 10464.

116. 42 U.S.C. § 6991b(d)(1).

117. *Id.* at § 6991b(e).

118. *Id.*

119. *Id.* at 6991b(g)(1), (2).

Thus, the RCRA amendments provide for the regulation of an estimated 2.8 to 5 million¹²⁰ underground storage tanks that were not covered prior to 1984. However, toxic material stored in above-ground tanks remain unregulated by RCRA and thus a large loophole still exists in the area of tank regulation.

The second new regulatory program concerns the burning and blending of hazardous wastes, a complement to the elimination of the "recycled toxins" exemption discussed above. Prior to the 1984 amendments, most hazardous wastes that were "beneficially used or reused"¹²¹ (including wastes burned as fuel or energy recovery) were exempt from EPA regulation.¹²² Due to the fact that there are "an estimated ten to fifteen million metric tons of hazardous wastes" and used oil burned each year as fuel in boilers,¹²³ EPA must now issue standards (by November 8, 1986), applicable to owners, operators, distributors, or marketers of fuels containing hazardous wastes, in order to protect human health and the environment.¹²⁴

Exemptions exist for "facilities which burn *de minimis* quantities of hazardous waste as fuel"¹²⁵ if the burned waste is used to recover useful energy *and* the waste is burned in a device designed and operated to have sufficient destruction and removal efficiency so as to protect human health and the environment.¹²⁶

Despite the exemptions, however, the escape device which previously allowed for hazardous substances to go unregulated if they were mixed with oil and used for fuel or energy recovery, no longer exists—thereby closing one of the more serious loopholes in the original RCRA statute.

120. Rosbe & Gulley, *supra* note 89, at 10464 citing 130 Cong. Rec. S9164 (daily ed. July 25, 1984).

121. 40 C.F.R. § 261.6 (1983).

122. *Id.*

123. 98 Cong. Rec. S13820 (daily ed. Oct. 5, 1984) (statement of Sen. Chafee).

124. 42 U.S.C. § 6924(q)(1).

125. *Id.* at § 6924(q)(2)(B).

126. *Id.*

C. *Emphasis on Treatment Technologies*

Industry's justification for its failure to recycle, chemically treat, or use high temperature incineration to eliminate its hazardous waste and to comply with RCRA has always been the increased economic cost of compliance.¹²⁷ Only 292 gallons of hazardous waste a year were being treated with approved incineration in 1982.¹²⁸ According to the director of environmental affairs at one of the largest disposal companies in the country, incineration costs between fifteen and twenty cents per pound of waste and chemical treatment costs up to sixty cents per pound, while land disposal cost only one to three cents per pound.¹²⁹

Nonetheless, while the costs of compliance may indeed be great, statistics overwhelmingly demonstrate the far greater costs of non-compliance where a company has to clean up toxic wastes after improper disposal.¹³⁰ EPA has estimated that industry compliance with RCRA will cost about \$90 per ton, whereas improper disposal and cleanup would cost over \$2,000 per ton.¹³¹ That startling contrast was borne out dramatically at Love Canal where proper treatment of the wastes "would have cost \$2 million (in 1979 dollars) versus \$36 million for remedial action . . . spent through 1980. Ultimate costs for remedial action are expected to exceed \$100 million; in addition, about \$2 billion in lawsuits have been filed by persons claiming damages."¹³²

OTA estimates that it costs ten to one hundred times

127. Marcus, *New Ways at Hand for Toxic Disposal*, N.Y. Times, Aug. 9, 1983 at C1, col. 4.

128. Fortuna, *supra* note 53, at 8. A fascinating aspect of the economics of hazardous waste treatment is the discovery by many companies that the toxics they have been discarding are valuable, sometimes far more so than continued manufacture of toxic products anew. For example, Monsanto boasts an \$8.2 million savings in 1982 "through waste recovery actions and the sale of previously discarded byproducts." Marcus, *supra* note 127, at C3, col. 1. The 3M Company announced that its "Pollution Prevention Pays" program saved the company \$26.5 million in 1982 and avoided the generation of 25,000 tons of sludge and solid waste." *Id.*

129. Marcus, *supra* note 127, at C3, col. 1.

130. *Id.*

131. OTA, *supra* note 42, at 6.

132. *Id.*

more to clean up a contaminated site and compensate victims than to prevent pollution migration through waste containment.¹³³ "Throughout the country, wastes improperly dumped decades ago are just now beginning to render drinking supplies unusable."¹³⁴

Perhaps the clincher on the diseconomics of non-compliance, however, will prove to be the soaring costs of insuring against hazardous waste liabilities and the increasingly frequent unavailability of liability coverage at any price, both due to a huge increase in awards arising out of environmental litigation.¹³⁵ Thus, it is more economical for a generator, transporter or disposer of hazardous waste to initially comply with environmental regulations than to pay for a later clean up or rely on insurance benefits that may accrue in the event of a violation.

For the above reasons, the RCRA amendments dramatically overhauled "the way America manages its hazardous wastes." The emphasis has shifted from disposal to recovery and reprocessing of these wastes.¹³⁶

By these amendments, Congress effectively has required EPA to phase out most, if not all, methods of land disposal of hazardous wastes. To the extent that any method of land disposal might still be allowed, Congress has shifted the burden to EPA to take action before the statutory prohibitions take effect and to industry to urge that EPA act in time.¹³⁷

It is likely that EPA will be unable to promulgate regulations for the land disposal of hazardous wastes by the statutory deadline. In the absence of regulations, industry has the burden of demonstrating to "a reasonable degree of certainty"¹³⁸

133. *Id.*

134. Hazardous Waste, *supra* note 49, at 69.

135. Diamond, *Insurance Against Pollution is Cut*, N.Y. Times, March 11, 1985 at A1, col. 6.

136. *Id.*

137. Rosbe & Gulley, *supra* note 89, at 10,463.

138. 42 U.S.C. § 6924(d)(1)(C), (e)(1).

that "no migration of hazardous constituents"¹³⁹ will result from "the disposal unit or injection zone for as long as the wastes remain hazardous."¹⁴⁰ Upon the failure of industry to meet this onerous burden and in the absence of EPA regulations, land disposal (other than the exemptions for deep well injections)¹⁴¹ of enumerated "specified wastes" is prohibited.¹⁴² Industry is thereby forced to consider other methods of disposal such as recycling and recovery, incineration, and physical-chemical treatment.¹⁴³ Hence the RCRA amendments establish a national policy discouraging land disposal of hazardous wastes and encouraging the use of new treatment technologies.

According to the National Academy of Sciences, there exists "some technology or combination of technologies capable of dealing with every hazardous waste so as to eliminate concern for future hazards."¹⁴⁴ A staff scientist with the National Research Council has concluded that, "[t]here is no one panacea, but there are enough technologies out there to cover virtually every instance."¹⁴⁵

D. *Automatic Regulating Provisions*

Perhaps the most important innovation of the 1984 RCRA amendments is the incorporation of self-executing regulations. In the event that EPA fails to meet any of the numerous statutory deadlines imposed by the amendments, so called "hammer provisions"¹⁴⁶ automatically become effective. Thus, if EPA does not act within the time frame specified by the statute, the statute itself specifies the regulations that be-

139. *Id.*

140. *Id.*

141. *See id.* at § 6924(f).

142. *Id.* at § 6924(d)(1)(C), (e)(1).

143. Rosbe & Gulley, *supra* note 89, at 10,463.

144. Marcus, *supra* note 127, at C3, col.1.

145. *Id.*

146. They are called "hammer provisions" by EPA staff because of their *in terrorem* effect. Rogers & Darrah, *RCRA Amendments Indicate Hill Distrust of EPA*, *Legal Times*, Nov. 19, 1984, at 28.

come effective as of the deadline date.¹⁴⁷

The innovation of these hammer devices is the most unique and intriguing part of the 1984 amendments. They enable Congress to circumvent one of the recent major obstacles to effective regulation: the intervention of the Office of Management and Budget (OMB) to abort the issuance of regulations or to water them down. Anti-regulatory EPA administrators can also use OMB as an excuse for regulatory inadequacies. Unfortunately, however, there is no way Congress can use the hammer system to prevent agencies from appointing incompetent people or administrators hostile to the program. Nor can it be used to provide funds or motivate a desire for adequate implementation and enforcement.

E. *Enforcement Provisions*

The RCRA amendments vastly expand the parties that may be subject to a citizen suit in the event of an imminent and substantial endangerment to health or the environment.¹⁴⁸

Citizen suits are also available against any person "alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order"¹⁴⁹ under RCRA, and against EPA for failing to perform any non-discretionary act or duty under RCRA.¹⁵⁰ There are, however, certain citizen suit limitations under this provision.¹⁵¹

Lastly, criminal and civil penalties have been expanded

147. In order to get this amendment passed in the Senate, Senator John Chafee, a Republican from Rhode Island, took the very unusual and clever precaution of having the EPA Director of the Office of Hazardous Waste sit in on the Senate and conference committee markup sessions. The director, now EPA Administrator, Lee Thomas, testified during the mark-up sessions, on the record, as to the reasonableness of the established timetables for the generation of EPA regulation under the RCRA amendments and as to EPA's capabilities. Interview with Steven J. Shimberg, Counsel and Director, U.S. Senate Subcommittee on Env'tl. Pollution, in Washington, D.C. (Feb. 15, 18, 1985).

148. 42 U.S.C. § 6972(a)(1)(B).

149. *Id.* at § 6972(a)(1)(A).

150. *Id.* at 6972(a)(2).

151. *Id.* at § 6972(b)(1), (2).

for knowing violators.¹⁵²

IV. The Political Atmosphere During Passage of the 1984 RCRA Amendments

Just three and a half years before the amendments were signed, daily cutbacks were proposed in EPA staff, the Office of Management and Budget resisted the use of Superfund monies for the clean-up of abandoned waste sites, informal negotiations by EPA were taking place to avoid litigation with industry concerning regulatory standards, and the restrictions on the disposal of toxic liquids in landfills were eased.¹⁵³

The above scenario was highlighted by the turmoil within EPA's own administration. When Anne McGill Burford resigned from her post as EPA Administrator in March of 1983, she was "under a deluge of charges of political and managerial wrongdoing," and "six House subcommittees . . . [were] investigating allegations of political manipulation, conflict of interest and industry bias among . . . [EPA's] former top management."¹⁵⁴ Between 1981 and the early part of 1983, the office that was responsible for enforcing the nation's hazardous waste laws was working harder for industry than for the public safety.¹⁵⁵

The first term of the Reagan administration did not achieve acclaim for its achievements in environmental protection. Democratic critics attacked the administration for moving too slowly to clean up the country's 419 worst toxic dump

152. *Id.* at §§ 6928(d)(e), 6991(e).

153. Rogers & Darrah, *RCRA Amendments Indicate Distrust of EPA*, *Legal Times*, Nov. 19, 1984 at 28.

154. *Liners, Liquids and Conflict of Interest*, *Nat'l. J.*, Apr. 16, 1983, at 798.

155. Between March 1981 and June 1982, James W. Sanderson, a Denver attorney representing Chemical Waste Management, Inc. (a subsidiary of a major landfill company in the U.S.), was serving as Burford's personal consultant. *Id.* It was during this period that EPA issued its final landfill regulations under the original RCRA statute and also lifted the ban placed on "dumping containerized liquid wastes into landfills." *Id.*; see *supra* notes 63-64 and accompanying text.

sites,¹⁵⁶ and the League of Conservation Voters¹⁵⁷ rated Reagan “about a D-” on his environmental record.¹⁵⁸ To complete the scenario, a reauthorization of RCRA failed in 1982 because “various controversies could not be settled” before Congress adjourned.¹⁵⁹

The signs of necessary Congressional action had become evident. Fortunately, “key congressional staffers” indicated that a new momentum had evolved in 1983 to “renew and tighten RCRA. . . .”¹⁶⁰ By November, 1983, the House had passed its version of the bill and on July 25, 1984, the Senate had unanimously passed its version¹⁶¹ (after the White House had indicated it “might welcome a major toxic waste bill for President Reagan to sign before the election”).¹⁶² Compromise language was worked out during the latter weeks of September¹⁶³ and the bill passed unanimously in both the House and the Senate on October 3rd and 5th, respectively.¹⁶⁴

The bill, “aimed at closing loopholes in existing law,”¹⁶⁵ and overturning “many of the blatantly pro-pollution decisions made by Anne Burford during her tenure at EPA,”¹⁶⁶ is structured around the rigid “hammer provisions” that become effective if EPA fails to act within the time prescribed by the statute. These *in terrorem* devices¹⁶⁷ reflected a distinct dis-

156. Mosher, *EPA Still Doesn't Know the Dimensions of the Nation's Hazardous Waste Problem*, Nat'l. J., Apr. 16, 1983, at 796.

157. The League of Conservation Voters is “a political action group that rates candidates and lawmakers on their environmental stands.” Davis, *The Environment Issue: Cleaner Than Thou*, Cong. Q., June 2, 1984, at 1338.

158. *Id.*

159. Davis, *Clash Could Bring Major Changes in Law*, Cong. Q., March 19, 1983, at 583.

160. *Id.*

161. Davis, *Senate Votes to Toughen Toxic Waste Law*, Cong. Q., July 28, 1984, at 1817.

162. Davis, *Conferees Reach Agreement on Hazardous Waste Bill*, Cong. Q., Sept. 29, 1984, at 2404.

163. *See id.*

164. Davis, *RCRA Rewrite Strengthens Hazardous Waste Provisions*, Cong. Q., Oct. 6, 1984, at 243; Granat, *Congress Struggles to Quit But Does Not Finish*, Cong. Q., Oct. 6, 1984, at 2415.

165. Davis, *supra* note 162, at 2404.

166. Davis, *supra* note 161, at 1817-18.

167. *See supra* note 146, and accompanying text.

trust by Congress of EPA's ability to effectively enforce the many RCRA provisions in light of its prior enforcement record.¹⁶⁸

The remarkable nature of the passage of such strong regulations in the face of the administration's anti-regulatory fervor is well expressed by one of the measure's most outspoken opponents, Senator Steven Symms of Idaho, during the Senate's consideration of the conference report on the RCRA amendments:

Can any Member of this body explain why it is necessary to require EPA to list halogenated dibenzofurans as hazardous wastes within the next 15 months? Or why the lower line of a hazardous waste disposal facility should have a permeability of 1×10^{-7} centimeter per second? Or why secondary waste-water treatment ponds employing biological treatment should be retrofitted if they have a retention time in excess of 5 days? Or why steel underground tanks can no longer be used in soils with a resistivity of 12,000 Ohms? I submit that making these kinds of judgements [sic] is the function of EPA, not the Congress. These particular regulations may be workable, even appropriate, but writing regulations is not our job.¹⁶⁹

Despite the criticism, however, the bill unanimously passed in the House and the Senate—clearly indicating Congressional desire to take affirmative action in the area of toxic waste regulation.

The amendments place an overwhelming burden on EPA by requiring numerous rulemakings to be conducted and regulations to be issued.¹⁷⁰ It is likely that EPA will “default on a

168. See Rogers & Darrah, *supra* note 153, at 28.

169. 98 Cong. Rec. S13812 (daily ed. Oct. 5, 1984) (statement of Sen. Symms).

170. For example, within 24 months of November 8, 1984, EPA must submit to Congress a schedule for reviewing all hazardous wastes listed under § 6921 of RCRA and publish guidelines within the established schedule period concerning the disposal of such wastes. If EPA fails to make a determination as to the first third of the list by August 1988, the second third of the list by June 1989, and the last third of the list by May 1990, then the hammer provisions under this section take effect. See 42 U.S.C. § 6924 (1985).

number of accounts,"¹⁷¹ but the effect is that industry will not be allowed to dispose of its hazardous wastes without regulation in the event of an EPA failure.¹⁷² For the safety of our environment and the public health, we simply can't allow it.

VI. Conclusion

"The Reagan Administration thought a nation that had voted for less government would tolerate less protection of the environment."¹⁷³ But the premise failed to recognize the enormous public clamor for a safer environment which could not exist if toxic waste were not strictly regulated.

The passage of the 1984 amendments to RCRA was an "ironic conclusion" to the history of federal environmental protection policies in this country.¹⁷⁴ The innovative and extensive amendments represent the harshest environmental laws passed in the last ten years and they were signed by President Reagan.¹⁷⁵ They were passed in reaction to the fears created by the Love Canal-type tragedies¹⁷⁶ and the ominous threat of a gradual destruction of our environment. Industry's failure to regulate itself in the wake of these fears precipitated Congressional consideration of harsher federal regulation, and thus made the passage of the amendments a political imperative.¹⁷⁷

171. Rogers & Darrah, *supra* note 153, at 33.

172. The more likely result actually occurring, is that industry will urge EPA to issue its regulations as soon as possible so as to prevent the application of the strict hammer provisions.

173. Boraiko, *Storing Up Trouble . . . Hazardous Waste*, 167 Nat'l Geog. 350 (1985).

174. Rogers & Darrah, *RCRA Amendments Indicate Distrust of EPA*, Legal Times, Nov. 19, 1984 at 28. It is interesting to note that President Reagan did not sign the RCRA amendments into law until November 8, 1984, *after election day*.

175. *Id.*

176. *See supra* note 9 and accompanying text.

177. Nevertheless, House staff members interviewed by the author expressed doubts that the bill would have passed in the Senate and obtained White House approval had not Reagan made the incredible blunder of attempting to reappoint Ann Burford (*See supra* notes 63-64 and accompanying text) to an environmental position. Mrs. Burford resigned again, this time on August 1, 1984, the day before she was to be sworn into the position as Chair of the National Advisory Committee on Oceans and Atmosphere, a job she foolishly characterized as a "nothing-burger" and "a joke."

Despite many remaining deficiencies,¹⁷⁸ the amendments represent an awareness by Congress that only intensive uniform federal regulation can control a burgeoning nationwide use of hazardous materials and creation of hazardous wastes.

The possibility and the extent of hazardous waste tragedies have already been demonstrated. The burden of meaningful regulation and enforcement now rests on Congress and EPA to insure that the benefits of modern-day industry are not outweighed by the irreversible destruction of our people and our environment.

Burford Resigns Under Fire—Again, Cong. Q., Aug. 4, 1984, at 1913.

178. While the 1984 RCRA amendments represent the toughest and most far-reaching extension of hazardous waste regulations in existence today, there is still much omitted and there remain duplications, inconsistencies, inadequacies, and gaps in the regulatory and enforcement scheme. For example, lack of regulatory authority over above ground storage tanks containing toxic materials still exists. Furthermore, the budgetary strictures of the Gramm-Rudman Act threatened to deny to EPA the funds it needs to do the incredibly complex and demanding job of effectively regulating toxic substances and wastes. The Gramm-Rudman Act (PL 99-177, Dec. 12, 1985), requires that the "federal deficit be eliminated using conventional legislative means or, failing that, through unprecedented automatic spending cuts." Wehr, *Congress Enacts Far-Reaching Budget Measure*, Cong. Q., Dec. 14, 1985, at 2604. The act takes the historic step of binding the federal government into "five years of forced deficit reductions with the goal of balancing the budget by October 1990." *Id.* On February 7, 1985, a special three-judge federal panel held unconstitutional a critical section of the Gramm-Rudman Act (providing for the "automatic, uniform spending cuts if Congress and the president fail, through regular legislation, to reduce the federal budget deficit to levels specified" by the statute). *Id.* Wehr, *Court Rejects Gramm-Rudman-Hollings Cuts . . . But Case Appealed*, Cong. Q., Feb. 8, 1986, at 216. The court held that the provision violated the constitutional separation of powers because it delegated executive powers to the comptroller general (who is removable by Congress) rather than to the president. *Id.* at 217. The comptroller general of the General Accounting Office would make the "final determination of how large each year's anticipated budget deficit will be and how much spending must be cut to bring the deficit into line with targets set by the law. *Speedy Ruling on Gramm-Rudman*, Cong. Q., Mar. 1, 1986, at 513. The Supreme Court, has recently reviewed the constitutionality issue on appeal and has decided to affirm the court of appeals decision that the key provisions are unconstitutional. *Bowshner v. Synar*, 106 S. Ct. 1488 (1986).