

foul up other people's backyards. Finally, Section V describes how these new sewerage systems have, themselves, produced a different type of waste and how the newer problem of now fouling our own backyards, rather than someone else's, has not yet been solved.

I. DEVELOPMENTS IN HAZARDOUS WASTE MANAGEMENTNANCY JAMES

A. Introduction

One of the foremost environmental problems to emerge in recent years is the disposal and containment of hazardous waste.²¹ Numerous incidents of spills, leaks, or releases of hazardous substances have come to light.²² Ensuing investigation has revealed a threat to human and environmental health of as yet unknown proportions.

The Environmental Protection Agency (EPA) estimates that hazardous waste production reached fifty-seven million metric tons in

21. An official definition of "hazardous waste" appears in the Resource Conservation and Recovery Act of 1976, 42 U.S.C. § 6903(5) (1976). In this article, however, the term will designate residues containing hazardous substances.

The term "hazardous substances" will be used in this paper to mean "elements, compounds, mixtures, solutions, and substances which, when released into the environment may present substantial danger to the public health or welfare or the environment." Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Pub. L. No. 96-510, § 102 94 Stat. 2767 (to be codified in 42 U.S.C. §§ 9602).

22. One of the most publicized of these incidents is the Love Canal disaster. From 1942 to 1951, Hooker Chemical Corporation dumped over 21,000 tons of toxic chemical wastes into an old canal in Niagara Falls, New York. Hooker then covered the dump and conveyed the canal property to the City Board of Education. The Board built a school and playground on part of the site and conveyed the rest to the city and a developer. Some time in 1976, chemicals from the dump began to seep into the basements of houses encircling the canal. Subsequent studies and tests revealed a high incidence of miscarriage, birth defects, and other medical problems. Monitoring confirmed the existence of significant levels of toxic, carcinogenic, and tertogenic substances inside the houses and in surrounding soil and surface water. See Comment, *Hazardous Waste: EPA, Justice Invoke Emergency Authority, Common Law in Litigation Campaign Against Dump Sites*, 10 ENVTL L. REP. (ELI) 10034, 10035 (1980).

Other examples of toxic pollution are found in the contaminated groundwater of Woburn, Massachusetts; Dover and Jackson Townships, New Jersey; New Hanover County, North Carolina; Hardeman county, Tennessee; and Lathrop, California. Chemical wastes migrated from disposal sites into lakes, rivers, and streams in Muskegon, Michigan; Riverside County, California; West Point, Kentucky; and Saltville, Virginia. Fires and explosions erupted at disposal sites in Gary, Indiana and Elizabeth, New Jersey. See Parisi, *Who Pays? Cleaning up the Love Canals*, N.Y. Times, June 8, 1980, § 3, at 1, col. 1. See also Magnuson, *The Poisoning of America*, TIME, Sept. 22, 1980, at 58.

1980 and that, absent new regulations,²³ ninety percent of that waste would be disposed of in an unsound manner.²⁴ Based on its study of inactive and uncontrolled hazardous waste sites, EPA estimates that 30,000 to 50,000 sites existed in 1970—of which 1,200 to 2,000 present a serious health risk.²⁵ The estimated cost of remedying this problem is staggering. Congress assessed the expense of removal and containment of all hazardous waste that presently endangers public health and the environment to be between thirteen and twenty-two billion dollars.²⁶

The lack of established procedures for dealing with such a crisis situation prompted Congress to consider several proposals²⁷ for defining liability and responding to hazardous substance emergencies. After much negotiation and compromise,²⁸ the Ninety-sixth Congress in its final days enacted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.²⁹ This article examines the new law, its roots, and its future.

B. *Background*

Before passage of this "superfund" legislation,³⁰ there was no comprehensive federal definition of liability or compensation for harm

23. See notes 56-58 and accompanying text *infra*.

24. Comment, *EPA Issues RCRA's 'Cradle to Grave' Hazardous Waste Rules*, 10 ENV'T L. REP. (ELI) 10130, 10130 (1980). Prior to the enactment of the Resource conservation and Recovery ACT (RCRA), 42 U.S.C. §§ 6901-87 (1976 & Supp. III 1979), producers of hazardous wastes had little economic or regulatory incentives to dispose of the wastes in an environmentally sound fashion. Usually disposal methods included inadequate on-site landfills and ponds, uncontrolled incineration, and off-site disposal by a commercial transporter. Comment, *The Hazardous Waste Crisis: EPA Struggles to Implement RCRA; Amendments Needed*, 9 ENV'T L. REP. (ELI) 10060, 10060 (1979). [hereinafter cited as *Hazardous Waste Crisis*].

The RCRA entirely amended and completely revised the Solid Waste Disposal Act (SWDA), 42 U.S.C. §§ 3251-69 (1970), which had been enacted in 1965. RCRA entirely amended and completely revised SWDA. The Act as amended was recodified in 42 U.S.C. §§ 6901-87. In this paper, all references to the revised Act will be designated as "RCRA".

25. H.R. REP. NO. 1016, pt. I, 96th Cong., 2d Sess. 18 (1980).

26. *Id.* at 20.

27. See notes 63-66 and accompanying text *infra*.

28. See 11 ENVIR. REP. (BNA) 1097 and 1177 (1980).

29. Pub. L. No. 96-510, 94 Stat. 2767 (to be codified in 42 U.S.C. §§ 9601-57; 26 I.R.C. §§ 4611-12, 4661-62, 4681-82; 42 U.S.C. § 6911).

30. "Superfund" became the generic term for various bills proposing, among other things, a large trust fund to pay for emergency pollution cleanup.

caused by hazardous waste.³¹ Rather, authority existed in various statutes for a federal response to specified toxic or hazardous substance problems.³² Although the federal government occasionally provided emergency assistance,³³ an affected state often bore alone the expense of cleanup, monitoring, and other necessary remedial action.

1. Common Law

Hazardous pollution incidents impose costs not only on governments but frequently result in personal, proprietary, or economic injury to private individuals. Such private parties have had to rely on state common law remedies for compensation.³⁴ The common law, however, is not designed to cope with environmental pollution injuries.³⁵ The generally applicable principles of tort and property law are oriented toward disputes between individuals, and thus are unsuitable for large-scale incidents injuring many persons.³⁶ Such plaintiffs often face formidable problems with statutes of limitation,

31. INTERAGENCY TASK FORCE ON COMPENSATION AND LIABILITY FOR RELEASES OF HAZARDOUS SUBSTANCES, *THE SUPERFUND CONCEPT*, 31 (1979).

32. *Id. See, e.g.*, Section 311 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. § 1321 (1976 & Supp. III 1979) (threatened or actual discharge of oil or hazardous substances into navigable waters activates federal response; section authorizes cleanup funding, to be reimbursed by discharger who is held strictly liable); Section 504(b) of FWPCA, *id.* § 1364 (authorizes assistance for emergencies resulting from release of pollutant or contaminant into the environment); Outer Continental Shelf Lands Act Amendments of 1978, 43 U.S.C. §§ 1811-47 (Supp. II 1978 & Supp. III 1979) (authorizes response to finance cleanup and compensate certain economic injuries from oil pollution; costs recoverable from strictly liable owners and operators of discharging offshore facilities and vessels).

33. For example, federal technical assistance followed the Kepone pollution of the James River in Virginia and the carbon tetrachloride pollution of the Ohio River. Cong. Research Serv., Library of Congress, Superfund Issue Brief No. IB77019 at 1-2 (1980). The 1978 presidential declaration qualifying the Love Canal area for federal disaster assistance was, however, the first such designation resulting from chemical pollution. Maugh, *Toxic Waste Disposal a Growing Problem*, 204 SCIENCE 819, 820 (1979).

34. Pfennigstorf, *Environment, Damages and Compensation*, 1979 A.B.F. RESEARCH J. 347, 360; Comment, *Superfund Proposed to Clean Up Hazardous Waste Disasters*, 20 NAT. RESOURCES J. 615, 621 (1980).

35. Trauberman, Dunwoody & Horne, *Compensation for Toxic Substances Pollution: Michigan Case Study*, 10 ENV'T'L L. REP. (ELI) 50021, 50022 (1980) [hereinafter cited as *Michigan Case Study*].

36. Pfennigstorf, *supra* note 34 at 353-54.

proof of causation,³⁷ long and costly litigation, and complex technical issues.³⁸ These legal barriers to recovery press many victims to settle for less than adequate compensation and dissuade others from even pursuing damages.³⁹

2. Statutory Law

Although the federal and state legislatures made moderate responses to hazardous substance threats, most statutes focused on abatement and left common law limitations intact.⁴⁰ Typical statutes created pollution prevention and control standards, compliance mechanisms, and noncompliance penalties.⁴¹ They did not, however, establish principles of liability and compensation for third party injuries.⁴²

Many states enacted statutes requiring that persons disposing of hazardous waste obtain liability insurance or otherwise demonstrate financial responsibility.⁴³ A smaller number of states established funds for cleanup of hazardous substances or maintenance of hazardous waste disposal sites.⁴⁴ Legislation in only a few states, however, explicitly covered certain third party damages.⁴⁵

3. Resource Conservation and Recovery Act

Recognizing that waste production and disposal could not continue

37. Statutes of limitations and proof of causation are particularly onerous for persons suffering latent injuries from hazardous substance exposure. *Michigan Case Study*, *supra* note 35, at 50022.

38. *Id.*

39. *Id.*

40. Pfennigstorf, *supra* note 34, at 404.

41. *Id.*

42. *Id.*

43. *See, e.g.*, MASS. ANN. LAWS ch. 21C, § 4 (Michie/Law. Co-op 1980) and UTAH CODE ANN. § 26-37-7(4)(c) (Supp. 1979). For a detailed discussion of state approaches to financial responsibility, see Cohen & Derkics, *Financial Responsibility for Hazardous Waste Sites*, 9 CAP. U. L. REV. 509, 526-44 (1980).

44. *See, e.g.*, CONN. GEN. STAT. § 25-54ee (1981); GA. CODE ANN. § 43-2909(4) (Supp. 1980).

45. *See, e.g.*, ALAS. STAT. § 46.03.822 (Michie 1980) (imposing strict liability for injury to persons or property from release of hazardous substance); N. J. STAT. ANN. § 58:10-23.11g (West Supp. 1980) (authorizing state fund to reimburse lost income, impaired earning capacity, and damaged property resulting from hazardous substances); OKLA. STAT. ANN. tit. 63, § 2759(B) (West Supp. 1980) (requiring liability insurance that covers bodily injury and property damage).

unrestrained, Congress enacted the Resource Conservation and Recovery Act (RCRA)⁴⁶ in 1976. Its objectives were to protect health and the environment and to conserve resources through improved waste management techniques.⁴⁷ Subtitle C⁴⁸ of RCRA provided for a "cradle to grave" regulatory scheme to control hazardous waste.⁴⁹ The major provisions of the Act directed EPA to (1) identify and list hazardous wastes;⁵⁰ (2) establish minimum operating standards⁵¹ and permit systems⁵² for handlers of such wastes; (3) set up an information reporting system⁵³ for tracking the waste from generation through disposal;⁵⁴ and (4) promulgate guidelines for and to approve state hazardous waste programs.⁵⁵

Although Congress ordered EPA to promulgate regulations for implementing RCRA within eighteen months of its October, 1976, enactment,⁵⁶ final regulations for Subtitle C did not appear until May of 1980.⁵⁷ Furthermore, those regulations did not become effective

46. 42 U.S.C. §§ 6901-87 (1976 & Supp. III 1979).

47. *Id.* § 6902.

48. *Id.* §§ 6921-31.

49. Until Congress enacted RCRA, no unified program existed to regulate non-nuclear hazardous waste. Andersen, *The Resource Conservation and Recovery Act of 1976: Closing the Gap*, 1978 Wis. L. REV. 633, 639.

In the past, regulation consisted of local health and safety ordinances for solid waste disposal sites, with minimal state-level oversight. *Hazardous Waste Crisis*, *supra* note 24, at 10060.

The federal government's first response to the problem of waste disposal came with the Solid Waste Disposal Act of 1965, 42 U.S.C. §§ 3251-3259 (1970) (current version at 42 U.S.C. §§ 6901-6987 (1976 & Supp. III 1979)). That act used technical and financial assistance to promote state planning. Congress authorized funding in 1970 for state-constructed resource recovery systems. Congress also ordered promulgation of federal waste management guidelines. *Hazardous Waste Crisis*, *supra* note 24, at 10060. By 1975, however, only four states (Kentucky, Mississippi, Oregon and South Carolina) had hazardous waste regulations. 1 F. GRAD, TREATISE ON ENVIRONMENTAL LAW § 4.02 (1975).

50. 42 U.S.C. § 6921 (1976).

51. *Id.* §§ 6922-24.

52. *Id.* § 6925. Note that permits were required only for treatment, storage, or disposal of hazardous waste.

53. *Id.* § 6903(12).

54. *Id.* § 6922(5).

55. *Id.* § 6931.

56. *Id.* §§ 6921-26.

57. 40 C.F.R. §§ 260.1-265.430 (1980).

until six months after issuance.⁵⁸

RCRA suffers several major shortcomings besides the delay in its implementation. First, the statute left the siting of facilities to state regulation and gave no guidance for handling the inevitable problem of local opposition.⁵⁹ Second, RCRA focused on the disposal stage, leaving the generation of hazardous waste unrestricted.⁶⁰ Third, the Act controlled future waste handling and active disposal facilities, but gave EPA little authority to deal with past practices or inactive sites.⁶¹ Fourth, the statute failed to provide funds for emergency action to alleviate imminently dangerous situations.⁶² Finally, the Act ignored the problem of third party damages. In sum, while Congress aimed RCRA in the right direction, it failed to address adequately numerous important issues.

C. *Evolution of the Act*

The deficiencies of previous legislation plus increasingly frequent reports of contamination incidents illuminated the need for further action. Federal legislators suggested various schemes to fill in the gaps. Most of the schemes proposed some type of systematic federal program, including a funding mechanism capable of responding to hazardous substance emergencies.⁶³ Three bills that eventually

58. Resource Conservation and Recovery Act, 42 U.S.C. § 6930(b) (1976).

59. Goldfarb, *The Hazards of Our Hazardous Waste Policy*, 19 NAT. RESOURCES J. 249, 258 & n.42 (1979).

60. *Id.* at 255. Under the Act, the generator's only responsibility was to provide information. A more logical and farsighted approach to waste management would have required generators to curtail hazardous waste production as well. *Id.*

61. Comment, *Hazardous Waste: EPA, Justice Invoke Emergency authority, Common Law in Litigation Campaign Against Dump sites*, 10 ENV'T'L L. REP. (ELI) 10034, 10034 (1980). Under section 7003, EPA could seek an injunction against any hazardous waste operation "presenting an imminent and substantial endangerment to health or the environment." RCRA, 42 U.S.C. § 6973 (1976). The "imminent endangerment" requirement presents a difficult burden of proof. *Hazardous Waste Crisis, supra* note 24, at 10066. In addition, EPA can use the section only against the present owner of the inactive site location. *Id.* No part of the statute contended with those abandoned sites for which no responsible owner or operator is available.

62. See Eschwege, *Implementing the Resource Conservation and Recovery Act: Problems of the Present, Recommendations for the Future*, 9 CAP. U. L. REV. 467, 481 & n.115 (1980). A law enacted October 21, 1980, however, provides funding for inventory and cleanup of hazardous waste sites and for development of conservation and recovery programs. Solid Waste Disposal Act Amendments of 1980, Pub. L. No. 96-482, 94 Stat. 2334 (to be codified in 42 U.S.C. §§ 6901-81).

63. See, e.g., S.1341, 96th Cong., 1st Sess, 125 CONG. REC. S7695 (daily ed. June

moved to the forefront were H.R. 85,⁶⁴ H.R. 7020,⁶⁵ and S.1480.⁶⁶

The House of Representatives chose to separate the problem of abandoned waste sites from that of oil and chemical spills. H.R. 85 authorized two funds of \$375 million each, one for oil spills and the other for hazardous substances spills into navigable waters.⁶⁷ Both funds would be established over five years from taxes on the oil and chemical industries.⁶⁸

The House in H.R. 7020 focused on abandoned hazardous waste disposal sites. It provided for a national inventory of inactive sites⁶⁹ and a program for emergency action and containment.⁷⁰ The bill proposed a Hazardous Waste Response Fund,⁷¹ based on a five-year accumulation of \$880 million from industry fees⁷² and \$300 million from federal appropriations.⁷³ The bill further created a cause of action in strict liability to allow the federal government to recover the costs of response measures.⁷⁴ Neither H.R. 85 nor H.R. 7020, however, gave third-party victims a federal court claim.

14, 1979), H.R. 4571, 96th Cong., 1st Sess., 125 CONG. REC. H4957 (daily ed. June 21, 1979), and H.R. 4566, 96th Cong., 1st Sess., 125 CONG. REC. H4957 (daily ed. June 21, 1979) (three versions of the Carter Administration's proposal for a fund covering releases of oil and hazardous substances); H.R. 5790, 96th Cong., 1st Sess., 125 CONG. REC. H10246 (daily ed. Nov. 2, 1979) (proposal for fee-based response fund for releases of hazardous substances from inactive and abandoned disposal sites); H.R. 1048, 96th Cong., 1st Sess., 125 CONG. REC. H187 (daily ed. Jan. 18, 1979) (proposal for funding abandoned site cleanup through fees on storage and disposal of hazardous wastes).

64. *Comprehensive Oil Pollution Liability and Comparison Act: Hearing on H.R. 85 Before the Committee of the Whole House on the State of the Union*, 96th Cong., 2d Sess., 126 CONG. REC. H9185-9209 (daily ed. Sept. 19, 1980).

65. *Proposed Amendments to the Solid Waste Disposal Act: Hearings on H.R. 7020 Before the Committee of the Whole House on the State of the Union*, 96th Cong., 2d Sess., 126 CONG. REC. H9436-79 (daily ed. Sept. 23, 1980).

66. SENATE COMMITTEE ON ENVIRONMENTAL AND PUBLIC WORKS, S. REP. NO. 96-848, 96th Cong., 2d Sess., 126 CONG. REC. S9452 (daily ed. July 21, 1980).

67. See H. R. REP. NO. 172, Pt. III, 96th Cong., 2d Sess 2 (1980). The fund could pay for cleanup and removal costs, property damage, fishermen's loss of income, and destruction of federal- or state-controlled natural resources. *Id.*

68. See *id.* at 5-8.

69. See H. R. REP. NO. 1016, Pt. I, 96th Cong., 2d Sess. 3-5 (1980).

70. See *id.* at 6-9.

71. See H. R. REP. NO. 1016, Pt. II, 96th Cong., 2d Sess. 10 (1980).

72. See *id.* at 6-9, 14.

73. See *id.* at 10.

74. H. R. REP. NO. 1016, Pt. I, 96th Cong., 2d Sess. 14-15 (1980).

Senate bill S. 1480 took a much more comprehensive approach, and consequently incurred greater opposition.⁷⁵ The Senate's approach rested upon several premises:⁷⁶ First, those responsible for damage caused by hazardous substances should bear the cost of cleanup and compensation.⁷⁷ Second, a federal fund must finance response action when the liable party is unknown or does not or cannot pay the costs.⁷⁸ Third, the fund should consist mainly of contributions from those associated with the profiting from hazardous substances.⁷⁹ Fourth, the federal response should include cleanup of chemical disasters.⁸⁰ Finally, those suffering economic, health, and other injuries should receive adequate compensation.⁸¹

The bill established a fund of \$4.085 billion to accumulate over six years, with about eighty-seven percent coming from industry fees and the remainder from federal revenues.⁸² This fund would compensate third parties sustaining medical, proprietary, and economic losses whenever a liable party was unknown or failed to satisfy the claim.⁸³ The fund would also cover governmental expenditures for emergency containment and cleanup, restoration of natural resources, resident evacuation and relocation, and long-term treatment or removal of hazardous substances.⁸⁴

The Senate proposal also contained novel liability provisions. Persons responsible for a hazardous release would be strictly liable, jointly and severally,⁸⁵ for all government response costs and certain third party damages.⁸⁶ Furthermore, the bill at last gave victims a federal cause of action for personal injury.⁸⁷

As the session drew to a close, however, the Senate was unable to

75. *See, e.g.*, 11 ENVIR. REP. (BNA) 327-28, 707-08 (1980).

76. *See* S. REP. NO. 848, 96th Cong., 2d Sess. 13 (1980).

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.*

82. *See id.* at 69.

83. *See id.* at 64-69.

84. *See id.* at 51, 64-69.

85. *See id.* at 31.

86. *See id.* at 32.

87. *See id.* at 36, 64.

reach agreement on S.1480.⁸⁸ Aware of the pressing need for legislation, members relinquished that bill and passed another, similar to H.R. 7020.⁸⁹ The House approved this compromise bill on December 3,⁹⁰ and President Carter signed it into law on December 11, 1980.⁹¹

D. *The Act*

1. Financing and Coverage

The Hazardous Substance Response Trust Fund⁹² comprises the central feature of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.⁹³ Taxes imposed for five years⁹⁴ on industries producing crude and refined oil⁹⁵ and forty-two specified chemicals⁹⁶ will contribute \$1.38 billion to the fund.⁹⁷ Five

88. See 11 ENVIR. REP. (BNA) 1041 (1980).

89. *Id.* at 1097. Senator Mitchell (R-Maine) stated that, in view of a likely filibuster by opponents of S.1480, "we are faced with a choice of this compromise, or no bill at all." *Id.*

90. *Proposed Senate Amendments to the Solid Waste Disposal Act, Hearings on H.R. 7020 Before the House of Representatives*, 126 CONG. REC. H11773-803 (daily ed. DEC. 3, 1980).

91. 126 CONG. REC. D1567 (daily ed. DEC. 11, 1980).

92. Pub. L. No. 96-510, § 221, 94 Stat. 2767 (to be codified in I.R.C. § 4611).

93. Pub. L. No. 96-510, 94 Stat. 2767 (to be codified in 42 U.S.C. §§ 9601-57); I.R.C. §§ 4611-12, 4661-62, 4681-82; 42 U.S.C. § 6911.

94. *Id.* § 221 (amending I.R.C. § 4611).

95. The Act will tax oil at a rate of 0.79 cents per barrel. *Id.*

96. The Statute taxes industries producing the following chemicals at the specified rate:

<u>Chemical</u>	<u>Tax Per Ton</u>	<u>Chemical</u>	<u>Tax Per Ton</u>
Acetylene	\$4.87		
Chromite	1.52		
Benzene	4.87	Potassium dichromate	1.69
Butane	4.87	Sodium dichromate	1.87
Butylene	4.87	Cobalt	4.45
Butadiene	4.87	Cupric sulfate	1.87
Ethylene	4.87	Cupric oxide	3.59
Methane	3.44	Cuprous oxide	3.97
Naphthalene	4.87	Hydrochloric acid	0.29
Propylene	4.87	Hydrogen fluoride	4.23
Toluene	4.87	Lead oxide	4.14
Xylene	4.87	Mercury	4.45
Ammonia	2.64	Nickel	4.45
Antimony	4.45	Phosphorus	4.45
Antimony trioxide	3.75	Stannous chloride	2.85

annual appropriations of \$44 million⁹⁸ from general federal revenues will constitute the remainder of the \$1.6 billion trust fund. The Act also enables the Treasury to advance appropriations to the fund, repayable by September 30, 1985.⁹⁹

The statute authorizes the federal government to undertake response measures whenever a release or threatened release of any hazardous substance endangers the public health or environment.¹⁰⁰ The fund will pay governmental and other approved removal¹⁰¹ costs.¹⁰² The Act also allows expenditures for longer term remedial actions¹⁰³ if the affected state agrees to pay ten percent of those costs.¹⁰⁴ In addition, the state must assume future maintenance of the remedial actions and secure an acceptable disposal facility.¹⁰⁵

The Act provides a detailed claims procedure for persons¹⁰⁶ desiring reimbursement from the fund.¹⁰⁷ A claimant must first present the claim to the owner or operator of the facility or vessel responsible

Arsenic	4.45	Stannic chloride	2.12
Arsenic trioxide	3.41	Zinc chloride	2.22
Barium sulfide	2.30	Zinc sulfate	1.90
Bromine	4.45	Potassium hydroxide	0.22
Cadmium	4.45	Sodium hydroxide	0.28
Chlorine	2.70	Sulfuric acid	0.26
Chromium	4.45	Nitric acid	0.24

Id. § 211 (amending I.R.C. § 4661).

97. *Id.* § 303 (to be codified in 42 U.S.C. § 9653).

98. The Act authorizes appropriations for fiscal years 1981 through 1985. *Id.* § 221 (to be codified in 42 U.S.C. § 9653, I.R.C. §§ 4611(d), 4661(d)).

99. *Id.* § 223(c) (to be codified in 42 U.S.C. § 9633(3)).

100. *Id.* § 104(a)(1) (to be codified in 42 U.S.C. § 9604(a)(1)).

101. *See id.* § 101(23) (to be codified in 42 U.S.C. § 9601(23)), for the definition of "removal."

102. *Id.* § 111(a) (to be codified in 42 U.S.C. § 9611(a)).

103. *See id.* § 101(24) (to be codified in 42 U.S.C. § 9601(24)), for the definition of "remedial action," which includes permanent containment of waste sites, monitoring, and relocation of residents where necessary.

104. *Id.* § 104(c)(3)(C) (to be codified in 42 U.S.C. § 9604(c)(3)(C)).

105. *Id.* §§ 104(c)(3)(A)-(B) (to be codified in 42 U.S.C. §§ 9604(c)(3)(A)-(B)).

106. *See id.* § 101(21) (to be codified in 42 U.S.C. § 9601(21)), for the definition of "person."

107. *See id.* § 112 (to be codified in 42 U.S.C. § 9612). Section 111 describes who may assert a claim against the Response Trust Fund. Eligible claimants include federal and state governments and other persons approved to carry out the national contingency plan outlined in § 105. *Id.* 111(a) (to be codified in 42 U.S.C. § 9611).

for the release of hazardous substances.¹⁰⁸ If the claim remains unsatisfied for 60 days, the claimant may initiate a court action against the owner.¹⁰⁹ In this alternative, the claimant may file the claim with the administrator of the fund,¹¹⁰ who will attempt to arrange a settlement between the parties.¹¹¹ If they do not reach a settlement within forty-five days of filing, the administrator may pay the claim.¹¹² The Attorney General may then sue all liable parties to recover any compensation paid out of the fund.¹¹³ Claim presentation or commencement of suit must generally occur within three years of discovery of the loss.¹¹⁴

A new agency within the Public Health Service will study and monitor the health effects of toxic substances.¹¹⁵ The administrator of this agency will maintain a national register of persons exposed to toxic substances and, in case of public health emergency, direct medical care and testing to exposed persons.¹¹⁶

2. Liability and Penalties

Persons either arranging for disposal or disposing of hazardous substances at a facility from which there is an actual or threatened release, and the owner of the facility, are liable for all removal or remedial costs which the federal and state governments or other ap-

108. *Id.* § 112(a) (to be codified in 42 U.S.C. § 9612(a)). The term "owner" includes both owners and operators, and the term "facility" includes both facilities and vessels.

109. *Id.*

110. *Id.*

111. *Id.* § 112(b)(2) (to be codified in 42 U.S.C. § 9612(b)(2)). By settling, the parties waive all claims against the fund. *Id.* If a liable party is unknown, the administrator will attempt to settle the claim against the fund. *Id.*

112. *Id.* § 112(b)(3) (to be codified in 42 U.S.C. § 9612(b)(3)). A dissatisfied claimant may appeal an award to the federal district court. *Id.* If the administrator desires an award altogether, a Board of Arbitrators will review the claim. *Id.*

113. *Id.* § 112(c)(3) (to be codified in 42 U.S.C. § 9612(c)(3)).

114. *Id.* 112(d) (to be codified in 42 U.S.C. § 9612(d)). Federal district courts have exclusive original jurisdiction over all cases under the Act, *id.* § 113(b) (to be codified in 42 U.S.C. § 9613(b)), with the exception that only the District of Columbia Circuit Court of Appeals may review cases involving regulations promulgated under the Act. *Id.* § 113(a) (to be codified in 42 U.S.C. § 9613(a)).

115. *Id.* § 104(i) (to be codified in 42 U.S.C. § 9604(i)). The Agency for Toxic Substances and Disease Registry will report to the Surgeon General. *Id.*

116. *Id.*

proved persons incur.¹¹⁷ Liability also extends to damaged or lost natural resources under federal or state control.¹¹⁸

A defense to liability arises when the release and consequent damages are caused by an act of God, war, or an independent third party.¹¹⁹ The Act does not cover damages resulting from federally permitted releases.¹²⁰ Where a facility operating under permit in accordance with Subtitle C of the Resource Conservation and Recovery Act releases hazardous substances, the facility's liability transfers to a Postclosure Liability Fund¹²¹ following closure of the facility in accordance with EPA regulations.¹²² The Postclosure Fund, consisting of up to \$200 million¹²³ (distinct from the Response Trust Fund) will be formed from taxes imposed on hazardous waste deposited at licensed disposal facilities.¹²⁴

Owners of facilities handling hazardous waste who do not demonstrate specified levels of financial responsibility¹²⁵ may face penalties of \$10,000 per day of violation.¹²⁶ The Act also authorizes fines and imprisonment for an owner or operator's failure to notify the appropriate agency of a hazardous substance release¹²⁷ or of a facility's existence¹²⁸ and for failure to maintain accurate records of the location and contents of hazardous substance facilities.¹²⁹ In addition, willful violation of a presidential order to abate a hazardous sub-

117. *Id.* § 107(a) (to be codified in 42 U.S.C. § 9607(a)). Section 107(c)(1) (to be codified in 42 U.S.C. § 9607(c)(1)) sets liability limits, however, for vessels and specified facilities.

118. *Id.* §§ 107(a)(4)(C), 107(f) (to be codified in 42 U.S.C. §§ 9607(a)(4)(C), 9607(f)).

119. *Id.* § 107(b) (to be codified in 42 U.S.C. § 9607(b)). A third party defense arises only if the defendant shows he exercised due care and "took precautions against foreseeable acts or omissions" of the third party. *Id.* § 107(b)(3) (to be codified in 42 U.S.C. § 9607(b)(3)).

120. *Id.* § 107(j) (to be codified in 42 U.S.C. § 9607(j)).

121. *Id.* § 232.

122. *Id.* § 107(k) (to be codified in 42 U.S.C. § 9607(k)).

123. *See id.* § 231 (amending I.R.C. § 4682).

124. A tax of \$2.13 per dry weight ton will apply to hazardous waste received at qualified disposal facilities after September 30, 1983. *Id.* § 231 (amending I.R.C. §§ 4681-82).

125. *See id.* § 108 (to be codified in 42 U.S.C. § 9608).

126. *Id.* § 109 (to be codified in 42 U.S.C. § 9609).

127. *Id.* § 103(b) (to be codified in 42 U.S.C. § 9603(b)).

128. *Id.* § 103(c) (to be codified in 42 U.S.C. § 9603(c)).

129. *Id.* § 103(d) (to be codified in 42 U.S.C. § 9603(d)).

stance threat may result in a fine of \$5,000 per day of violation.¹³⁰

3. Other Provisions

The statute does not preempt additional state-imposed liability or requirements, except for additional contributions to a compensation fund or further evidence of financial responsibility.¹³¹

Within 180 days of the statute's enactment, the President must establish procedures and standards for responding to hazardous substance releases, including a national list of priority facilities.¹³² Within the same time period, EPA must publish guidelines for using the statute's response authorities.¹³³ Congress may, however, veto any agency rules or regulations issued pursuant to the Act.¹³⁴

The Act further requires the formation of a study group composed of twelve representatives of various legal organizations.¹³⁵ The group must report to Congress by December, 1981, on "the adequacy of existing common law and statutory remedies in providing legal redress" for hazardous substance-related injury to persons and the environment.¹³⁶

130. *Id.* § 106(b) (to be codified in 42 U.S.C. § 9606(b)).

131. *Id.* § 114 (to be codified in 42 U.S.C. § 9614).

132. *Id.* § 105 (to be codified in 42 U.S.C. § 9605).

133. *Id.* § 106(c) (to be codified in 42 U.S.C. § 9606(c)).

134. *Id.* § 305.

135. *Id.* § 301(e)(2).

136. *Id.* § 301(e)(1). The study group is to evaluate:

(A) the nature, adequacy, and availability of existing remedies under present law in compensating for harm to man from the release of hazardous substances;

(B) the nature of barriers to recovery (particularly with respect to burdens of going forward and of proof and relevancy) and the role such barriers play in the legal system;

(C) the scope of the evidentiary burdens placed on the plaintiff in proving harm from the release of hazardous substances, particularly in light of the scientific uncertainty over causation with respect to—

(i) carcinogens, mutagens, and teratogens, and

(ii) the human health effects of exposure to low doses of hazardous substances over long periods of time;

(D) the nature and adequacy of existing remedies under present law in providing compensation for damages to natural resources from the release of hazardous substances;

(E) the scope of liability under existing law and the consequences, particularly with respect to obtaining insurance, of any changes in such liability;

(F) barriers to recovery posed by existing statutes of limitations.

Id. § 301(e)(3).

E. *Evaluation*

The new statute falls short of the hopes and expectations of many persons.¹³⁷ It makes important strides, however, in developing a body of law to deal with hazardous substance problems.

A major accomplishment lies in the Response Trust Fund. The industry fee arrangement appropriately places the bulk of hazardous substance response costs upon those who profit most from the creation of such substances.¹³⁸ In addition, since the amount of the fee depends upon the volume of taxable substances generated, the system may induce industries to decrease production of hazardous matter.

Imposing the full costs of cleanup measures upon the persons responsible for spills or releases provides an incentive for careful handling and proper disposal. Similarly, the penalty provisions for noncompliance with the statute's requirements appear sufficiently stringent to motivate compliance in most cases.

The Act authorizes prompt federal participation in the cleanup of hazardous substance releases and inactive disposal sites. Swift action will avoid much of the unnecessary escalation of environmental and health damage that often accompanies indecision and inertia.¹³⁹ The statute approves important removal and remedial measures and recognizes the necessity of restoring damaged natural resources. Finally, the Act seems to allow fairly speedy reimbursement from the fund for eligible claimants.

On the negative side, the Act leaves many crucial issues unresolved. Serious problems surround the liability provisions. First, the statute should have retained the "strict, joint and several liability" language of the earlier Senate version.¹⁴⁰ This deletion may make

137. For various reactions to the Act, see 11 ENVIR. REP. (BNA) 1231-32 (1980).

138. The taxpayers' contribution of \$220 million to the fund should answer the criticism of those who propose that all of society should bear the burden since all of society reaps the benefits of hazardous substance production.

139. For example, by mid-1980 the state of New York and the city of Niagara Falls had spent approximately \$36 million testing and containing the wastes in Love Canal and relocating a small percentage of the residents wishing to move. Parisi, *Who Pays? Cleaning Up the Love Canals*, N.Y. Times, June 8, 1980, § 3, at 4, col. 1. EPA estimates that the original cost of proper disposal would have been \$40 per ton of waste. The \$36 million already spent comes to \$1800 per ton. *Id.* at 5, col. 3. As another example, the estimated cost of cleaning up the source of the kepone pollution of the James River would have been \$250,000 in 1975. The 1980 estimate of cleaning up the river was \$2 billion. Magnuson, *The Poisoning of America*, TIME, Sept. 22, 198, at 69.

140. See note 65 and accompanying text *supra*.

full recovery of damages difficult. Although the government need not prove negligence, it will have to show the extent of each party's liability in the case of multiple defendants. Second, the inclusion of a third party defense may leave an escape route by which some persons will avoid legal responsibility. Third, allowing owners who close their facilities in compliance with federal regulations to transfer their liability to the government may create another unnecessary loophole.¹⁴¹

An additional problem lies in the power of Congress to veto any rules and regulations issued under the Act. This provision will undoubtedly aggravate the usual delays in implementing a new law.¹⁴²

The biggest gap in the legislation is the absence of compensation provisions for victims of hazardous substances. Restriction of third party damages to government claimants is a woefully inadequate approach. Most urgently needed is compensation for immediate medical expenses due to personal injuries.¹⁴³ Compensation for economic harm, such as lost income, and private property damage is needed as well. It is essential to provide victims with a federal cause of action¹⁴⁴ so that recovery for such injuries becomes a realistic possibility.¹⁴⁵

141. One environmental lobbyist suggests that this transfer of liability sets "a dangerous precedent" and that Congress should be slow to relieve facility owners of responsibility. 11 ENVIR. REP. (BNA) 1232 (1980). A spokesperson for the National Solid Wastes Management Association predicts, however, that the postclosure liability fund will temper local opposition to siting and encourage construction of new facilities. *Id.* at 1231.

142. For example, EPA issued final regulations for the Resource Conservation and Recovery Act of 1976, in May, 1980. *See* notes 56-57 and accompanying text *supra*.

143. S.1480 contained a provision for out-of-pocket medical expenses. *See* notes 83, 85-86 and accompanying text *supra*.

144. S.1480 included such a provision. *See* note 67 and accompanying text *supra*. Regarding the absence of a federal court claim, Representative Albert Gore, Jr. stated that "[e]xisting state tort laws present a convoluted maze of requirements . . . that make it extremely difficult for a victim to be compensated for damages. A clear, uniform federal law defining a victim's cause of action in these areas is sorely needed" H. R. REP. NO. 1016, Pt. I, 96th Cong., 2d Sess. 63-64 (1980).

145. The Act does require a study of the adequacy of common law remedies. Other studies, however, have already concluded that the common law tort approach is unsatisfactory. *See, e.g., Michigan Case Study, supra* note 35.

F. Conclusion

Despite industry opposition and shifting political winds, Congress managed to enact a surprisingly strong piece of legislation. The "superfund" begins where the Resource Conservation and Recovery Act stopped. Systematic regulation and tracking of hazardous wastes are now backed by a funding mechanism for corrective action. Still needed, however, are devices to assure that those responsible for hazardous substance injuries will bear the costs and that those harmed will receive compensation.¹⁴⁶

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 begins to deal with a massive social and environmental problem. Resolution of that problem must await further changes in attitude, practices, and the law.

II. DEVELOPMENTS IN NUCLEAR

WASTE DISPOSAL..... STEVEN SIMONS

A. Introduction

The proper role of states in nuclear waste disposal is an increasingly debated legal issue.¹⁴⁷ Under the Atomic Energy Act of 1954,¹⁴⁸ the federal government is responsible¹⁴⁹ for management and regulation of high-level nuclear waste disposal.¹⁵⁰ Nevertheless,

146. Environmental Action lobbyist Marchant Wentworth labeled the Act "a property bill and not a victims bill." 11 ENVIR. REP. (BNA) 1232 (1980). Similarly, Senator George Mitchell (R-Maine) found the law deficient "because while it provides for the cleanup of places and compensation for damage to things, it provides nothing for what is the most important part of the problem, damage to people." 11 ENVIR. REP. (BNA) 1097 (1980). Upon CERCLA's passage, both Rep. James Florio (D-NJ and sponsor of H.7020) and Rep. John La Falce (D-NY and representing the Love Canal district) indicated they would seek victim compensation legislation in the Ninety-seventh Congress. 11 ENVIR. REP. (BNA) 1261 (1980).

147. See 65 KY. L. J. 917, 930 (1977).

148. 42 U.S.C. §§ 2011-2296 (1976).

149. *Id.* at § 2021(C).

Although the Act makes the federal government responsible for high-level waste regulation, some aspects of nuclear regulation may be delegated. See Swan, *Management of High-Level Radioactive Wastes: The AEC and the Legal Process*, 1973 LAW & SOC. ORD. 263, 286.

150. High-level wastes are a by-product of the reprocessing of spent fuel for further use as nuclear fuel. Linker, Beers, & Lash, *Radioactive Wastes: Gaps in the Regulatory System*, 56 DEN. L.J. 1, 5 (1979) [hereinafter cited as *Gaps in the Regulatory System*.] Federal regulations define high-level wastes as "those aqueous wastes resulting from the operation of the first cycle solvent extraction system, or equivalent,