

COMMENTS

ALLEGRA HELFENSTEIN*

U.S. Controls on International Disposal of Hazardous Waste

I. The Problem

It is an old saying that one person's trash is another one's treasure. Practical experience has shown, unfortunately, that one person's trash can also be another's tragedy. While waste management has become a goldmine for some,¹ it is worse than worthless for others.² Few communities may welcome the money and jobs a treatment facility can foster.³ One entrepreneurial recycler found out just how rare such a welcome is when his garbage barge travelled 6000 miles vainly seeking (in three countries and several states) to dispose of possibly hazardous municipal waste.⁴

In the United States,⁵ and in other industrialized nations,⁶ the facilities for treating and disposing of hazardous waste are reaching capacity and few if any new ones are being built. Recently, public and private institutions have responded to this situation by focusing on domestic measures

*J.D.-M.B.A. Candidate, 1989, Southern Methodist University. Articles Editor, THE INTERNATIONAL LAWYER.

1. See, e.g., Leonard, *Cleaning up*, FORBES, June 1, 1987, at 52 (big market gains for public waste management companies); Main & Fromson, *Who Will Clean Up By Cleaning Up*, FORTUNE, March 17, 1986, at 96 (hazardous waste industry could be worth \$300 billion and last over fifty years).

2. See Marbach, *What to Do with Our Waste*, NEWSWEEK, July 27, 1987, at 51 (even with advanced technologies and "exotic waste busters," no one wants a waste dump); Schwab, *Garbage in, Garbage out*, PLANNING, Oct. 1986, at 4.

3. See, e.g., *Waste Dump Wanted*, TIME, July 20, 1987, at 70.

4. *New York Begins Getting Rid of Trash No One Wanted*, N.Y. Times, Sept. 2, 1987, at B1, col. 4 (late ed.). The barge eventually returned to New York where authorities responsible for incinerating the waste discovered that it was ordinary municipal garbage and contained no hazardous waste.

5. See Crawford, *Hazardous Waste: Where to Put It?*, SCIENCE, Jan. 9, 1987, at 156.

6. See Rich, *Waste Regulators Seek Global Accord*, CHEMICAL WEEK, Sept. 3, 1986, at 20.

to minimize the production of hazardous waste.⁷ Unfortunately, minimization is not the only response to increased regulation and public antipathy: industrial producers or disposers of hazardous waste can escape regulatory and physical constraints by shipping their wastes to other countries.⁸ This comment discusses U.S. measures for control of the land-based disposal of hazardous wastes outside the United States. The discussion does not include controls on radioactive wastes, which, although hazardous and subject to extensive regulation, are not considered "hazardous waste" within the context of government regulations. The discussion also excludes disposal at sea, whether controlled (e.g. ocean incineration) or uncontrolled (e.g. shipping waste), although some of the regulations discussed overlap into those areas.

II. The Solutions

There are at least two points at which to regulate international hazardous waste disposal: at the foreign disposal sites and at the domestic departure points. Regulation of disposal sites outside the United States requires the extraterritorial application of U.S. law; export laws control hazardous waste departure at the borders.

A. EXTRATERRITORIAL REACH OF ENVIRONMENTAL LEGISLATION

The United States passed its comprehensive National Environmental Policy Act of 1969 (NEPA)⁹ at a time when other industrialized countries also established institutions and policies for environmental protection.¹⁰ Although NEPA, which required federal agencies to consider the environmental impacts before deciding any major actions, contained possible

7. See, e.g., Biden, *A New Direction for Environmental Policy: Hazardous Waste Prevention, Not Disposal*, 17 ENVTL. L. REP. 10400 (1987); Hunter, *An International Forum Looks at Waste Disposal*, CHEMICAL WEEK, April 1, 1987, at 23; Williams, *A Study of Hazardous Waste Minimization in Europe: Public and Private Strategies to Reduce Production of Hazardous Waste*, 14 B.C. ENVTL. AFF. 165 (1987); Note, *Legal Incentives for Reduction, Reuse, and Recycling: A New Approach to Hazardous Waste Management*, 95 YALE L.J. 810 (1986).

8. Nonuniformity of treatment and disposal standards and lack of facilities is also blamed for exports from and between countries of the European Community, Williams, *supra* note 7, at 222 n.248.

9. Pub. L. No. 91-190, 83 Stat. 852 (codified as amended at 42 U.S.C. §§ 4321-4370a (1982 & Supp. III 1985)) [hereinafter NEPA].

10. Jacobson & Kay, *A Framework for Analysis*, in ENVIRONMENTAL PROTECTION/THE INTERNATIONAL DIMENSION 6 (H. Jacobson & D. Kay eds. 1983) (e.g. Japan passed environmental legislation in 1967 and Sweden in 1969; Sweden also established an environmental protection board in 1967; the U.K. established a cabinet position in 1970).

references to its international application,¹¹ attempts to apply NEPA extraterritorially met with mixed results.

In *Sierra Club v. Coleman*¹² the district court issued a preliminary injunction to halt construction of a U.S.-funded highway in Panama and Colombia because the environmental impacts had not been sufficiently analyzed under NEPA. Without deciding whether NEPA was applicable, the D.C. Court of Appeals found that the voluntary environmental analysis was adequate.¹³ A district court in Pennsylvania found no jurisdiction to halt a mining project in Australia on environmental grounds in *Conservation Council v. Aluminum Co. of America*.¹⁴ That same year, the D.C. Court of Appeals decided in *Natural Resources Defense Council v. Nuclear Regulatory Commission*¹⁵ that neither NEPA nor other nuclear regulatory acts required consideration of the environmental impacts from nuclear exports that might occur wholly within a foreign jurisdiction.¹⁶

The question was almost moot when decided, due to Executive Order No. 12,114 (Order 12,114)¹⁷ issued by President Carter in the previous year. Order 12,114 resolved an executive branch controversy¹⁸ over the extent of NEPA's requirements without conceding or rejecting NEPA's international reach and set forth the requirements for analysis of environmental impacts abroad. For major federal actions significantly affecting the environment of the global commons,¹⁹ Order 12,114 requires a complete "environmental impact statement."²⁰ If the proposed action involves hazardous or radioactive waste or production facilities, or if it affects the

11. Krauland, *NEPA, Nukes and Non-Proliferation: Clarifying the Transnational Impact Statement Mandate in Nuclear Export Licensing*, 4 HASTINGS INT'L & COMP. L. REV. 201, 214 (1981); Comment, *NEPA's Role in Protecting the World Environment*, 131 U. PA. L. REV. 353 (1982).

12. 405 F. Supp. 53, 54 (D.D.C. 1975).

13. *Sierra Club v. Adams*, 578 F.2d 389 (D.C. Cir. 1978).

14. 518 F. Supp. 270 (W.D. Pa. 1981).

15. 647 F.2d 1345, 1347-48 (D.C. Dir. 1981).

16. *Cf. United States v. Catz Am. Co.*, 53 F.2d 425, 426 (9th Cir. 1931) (even if both the importing and exporting country ban the use of a product, it could still be exported to that country; the court presumed the importer would make the product comply with the law before importing it).

17. *Environmental Effects Abroad of Major Federal Actions*, 44 Fed. Reg. 1957 (1979), reprinted in 42 U.S.C. § 4321 (1982) [hereinafter Order 12,114].

18. The Council on Environmental Quality (CEQ) informed federal agencies that NEPA did apply abroad and that CEQ had the regulatory responsibility, whereas the State Department had determined that NEPA only applied to federal actions outside the jurisdiction of any state, i.e. in the "global commons." Grundman, *The New Imperialism: The Extraterritorial Application of United States Law*, 14 INT'L LAW. 257, 265 (1980); Comment, *supra* note 11, at 364.

19. See *supra* note 18.

20. Order 12,114, *supra* note 17, §§ 2-3(a), -4(a)(i), (b)(i).

environment beyond the borders of the nations participating in the action, the agency undertaking the action determines whether to do a less-extensive "multilateral environmental study" or "concise review of the environmental issues."²¹ For major federal actions significantly affecting global resources specifically designated for protection by the President or by international agreement, Order 12,114 requires one of the above-mentioned environmental analyses, to be determined by the acting agency.²² Export permits, except for nuclear facilities, are specifically exempted from Order 12,114.²³

Although Order 12,114 and NEPA only apply to U.S. governmental actions, federal agencies supervise many of the development projects undertaken in areas of the world where domestic environmental regulations are less likely to be enforced.²⁴ Recently the Reagan Administration has been pressing the World Bank and the regional development banks to include environmental safeguards in third world projects.²⁵

B. EXPORT CONTROLS ON HAZARDOUS WASTE

Export permits were specifically exempted from Order 12,114,²⁶ but shortly before leaving office, President Carter signed another Executive Order (Order 12,264),²⁷ which closed the gap. In the wake of controversy over the export of dangerous products,²⁸ Order 12,264 established procedures for dealing with export requests for products restricted or banned in the United States. Order 12,264 relied primarily on notification and reporting requirements, although it also provided for limited export controls.²⁹ Among the exports regulated by Order 12,264 were hazardous substances³⁰ banned under the Federal Hazardous Substance Act³¹ and

21. *Id.* §§ 2-3(b), (c), -4(a)(ii), (iii), -4(b)(ii),(iii).

22. *Id.* §§ 2-3(d), -4(a)(i),(ii), (iii), -4(b)(iv).

23. *Id.* § 2-5(a)(v).

24. Muldoon, *The International Law of Ecodevelopment: Emerging Norms for Development Assistance Agencies*, 22 *TEX. INT'L L.J.* 1 (1986).

25. *Saving the Earth: U.S. Asks World Bank to Make Safeguarding the Environment a Priority*, *Wall St. J.*, July 3, 1987, at 1, col. 1. (Treasury Secretary James Baker has also been pressing the African Development Bank, the Asian Development Bank, and the Inter-American Development Bank to take similar steps).

26. *see supra* text accompanying note 23.

27. Exec. Order 12,264, *On Federal Policy Regarding the Export of Banned or Significantly Restricted Substances*, 46 *Fed. Reg.* 4,659 (1981).

28. *See Note, Executive Authority: Revocation of Executive Order Requiring Notification of Export of Hazardous Substances*, 22 *HARV. INT'L L.J.* 683 (1981).

29. Exec. Order 12,264, *supra* note 27, § 1-301.

30. *Id.* § 1-101(I).

31. 15 U.S.C. §§ 1261-1276 (1982) [hereinafter FHSA].

chemical mixtures³² subject to the Toxic Substances Control Act.³³ Within a month, a newly elected President Reagan revoked Order 12,264.³⁴

Notification requirements similar to those under Order 12,264 already existed for hazardous waste exports under the Resource Conservation and Recovery Act of 1976 (RCRA).³⁵ RCRA itself did not expressly address the export of hazardous waste but the standards applicable to generators and transporters of hazardous waste formed the basis³⁶ for limited export regulations promulgated by the Environmental Protection Agency (EPA) in 1980.³⁷

The 1980 export regulations were minimal: they required that the exporter notify the EPA each year before the initial shipment of hazardous waste to each foreign country by identifying the waste and the consignee who would receive the waste;³⁸ they required transporters of hazardous waste to note the date the waste left the United States on their own copy of the manifest and on the copy returned to the waste generator;³⁹ and they required that the generator get confirmation of the delivery of the waste from the consignee.⁴⁰ Although the same general requirements of recordkeeping and handling applied equally to domestic hazardous wastes and hazardous wastes for export while in the United States, the export regulations did not require reporting of the quantity of waste, the frequency of shipment, or the manner of transportation or treatment outside the United States.⁴¹ The regulations also gave EPA no authority to prohibit any export refused by a foreign country.⁴² Similarly, the State Department communicated concerns about health and environmental risks to governments to whom toxic waste offers had been made, and advised them to obtain full information (from potential exporters as well as from U.S. government agencies) and to evaluate the risks before making a decision.⁴³

32. Exec. Order 12,264, *supra* note 27, § 1-101(n).

33. 15 U.S.C. §§ 2604-2606 (1982) [hereinafter TSCA].

34. Exec. Order 12,290, 46 Fed. Reg. 12,943 (1981).

35. Pub. L. No. 94-580, codified as amended at 42 U.S.C. §§ 6901-6991i (1982 & Supp. III 1985).

36. *Hazardous Waste Management System: Exports of Hazardous Waste*, 51 Fed. Reg. 28,664 (1986) (final rule) [hereinafter *Hazardous Waste*].

37. 45 Fed. Reg. 12,732, 12743-44 (codified at 40 C.F.R. pts. 262-63 (1986)).

38. Standards Applicable to Generators of Hazardous Waste, 40 C.F.R. pt. 262 subpt. E (1986) [hereinafter Standards]; see also *Hazardous Waste Management System: Exports of Hazardous Waste*, 51 Fed. Reg. 8744 (1986) (proposed rule) [hereinafter *Hazardous Waste* (proposed)].

39. Standards Applicable to Transporters of Hazardous Waste, 40 C.F.R. pt. 263 (1986); see also *Hazardous Waste* (proposed), *supra* note 38.

40. Standards, *supra* note 38; see also *Hazardous Waste* (proposed), *supra* note 38.

41. Standards, *supra* note 38; see also *Hazardous Waste* (proposed), *supra* note 38.

42. Standards, *supra* note 38; see also *Hazardous Waste* (proposed), *supra* note 38.

43. Note, *Any Place but Here: A Critique of United States Hazardous Export Policy*, 7 BROOKLYN J. INT'L L. 329, 343 & n.92 (1981) (citing *Export of Hazardous Products: Hear-*

EPA acquired the authority to control hazardous waste exports and coordinate notification with the State Department after congressional concern over possible loopholes in the control of U.S. hazardous wastes and the potential for foreign policy and environmental problems⁴⁴ led to the passage of the Hazardous and Solid Waste Amendments of 1984 (HSWA).⁴⁵ HSWA prohibits any export of hazardous waste unless: (1) the exporter has notified the EPA; (2) the government of the receiving country has consented to receive the waste; (3) a copy of the written consent accompanies the waste shipment; and (4) the shipment conforms to the terms of consent.⁴⁶ An international agreement between the United States and the government of the receiving country may provide specific alternative requirements.⁴⁷ In addition, exporters of hazardous waste must file an annual report with EPA summarizing the types, quantities, frequency, and destination of all hazardous waste exported that year.⁴⁸ HSWA provides criminal penalties for the knowing export of hazardous waste in violation of its requirements.⁴⁹

In August 1986 EPA published the final rulemaking on the HSWA exports⁵⁰ with minimal legislative history for guidance.⁵¹ Two decisions⁵²

ings before the Subcomm. on International Economic Policy and Trade of the Comm. on Foreign Affairs, 96th Cong., 2d Sess. (1980)).

44. *Hazardous Waste* (proposed), *supra* note 38, at 8745 (citing S. REP. No. 98-284, 98th Cong., 1st Sess. 47 (1983); 129 CONG. REC. H8163-64 (daily ed. Oct. 6, 1983)).

45. Pub. L. No. 98-616, 98 Stat. 3224 (codified as amended in scattered sections of 42 U.S.C.) [hereinafter HSWA]. *Id.* § 3017, 42 U.S.C. § 6938 (Supp. II 1984) specifies export controls.

46. *Id.* § 3017(a), 42 U.S.C. § 6938(a) (Supp. II 1984).

47. *Id.* § 3017(f), 42 U.S.C. § 6938(f) (Supp. II 1984). At the time no such international agreements existed. 51 Fed. Reg. 28,664, 28,665 (1986). Since that time, the United States has signed an agreement with Mexico, Agreement on the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, United States-Mexico, Nov. 12, 1986, 26 I.L.M. 25 (1987) [hereinafter Mexican Agreement], and with Canada, Agreement Concerning Transboundary Movement of Hazardous Waste, United States-Canada, Oct. 28, 1986, referenced in 26 I.L.M. 593 (1987) (notification reproduced from 86 DEP'T ST. BULL. 90-92 (January, 1987)) (copy on file at THE INTERNATIONAL LAWYER) [hereinafter Canadian Agreement].

48. HSWA, *supra* note 45, § 3017(g), 42 U.S.C. § 6938(g) (Supp. II 1984).

49. *Id.* § 3008, 42 U.S.C. § 6928(d), (e) (Supp. II 1984).

50. *Hazardous Waste, supra* note 36.

51. Legislative history is primarily limited to text of amendment and general supporting statements on how export controls will avoid past problems. 129 CONG. REC. H8163 (daily ed. Oct. 6, 1983); 130 CONG. REC. S9152 (daily ed. July 25, 1984); S. REP. No. 284, 98th Cong., 1st Sess. 47 (1983); 1984 U.S. CODE & ADMIN. NEWS 5576, 5686.

52. Decisions of the OECD, unlike recommendations, are binding on all members unless otherwise provided. Convention on the Organization for Economic Cooperation and Development, Dec. 14, 1960, arts. 5a, b, 12 U.S.T. 1728, 1734, T.I.A.S. No. 4891, 888 U.N.T.S. 179, 185. A decision is not applicable to a member who abstains from approval, *id.* art. 6(2), and even after approval, no decision is binding on a member until it has complied with its own constitutional procedures, *id.* art. 6(3). See also 14 M. WHITEMAN, DIGEST OF INTERNATIONAL LAW 1102 (1970).

on the transboundary movement of hazardous waste⁵³ by the Organization for Economic Cooperation and Development (OECD),⁵⁴ of which the United States is a member, provided additional reference. The EPA regulations, effective November 8, 1986, define the scope of application to certain wastes as well as to certain actors, discuss the notification and consent procedures, and determine the time period and degree of flexibility of notification and consent.

EPA definition of hazardous waste includes all solid wastes specifically listed as such⁵⁵ as well as those that exhibit certain harmful characteristics (e.g. ignitability, corrosivity, reactivity, or toxicity).⁵⁶ EPA specifically exempts some small amounts of hazardous waste materials from regulation⁵⁷ and minimally regulates others.⁵⁸ HSWA export controls, with one narrow exception,⁵⁹ apply only to the extent that the hazardous waste is regulated by EPA.⁶⁰

Those entities that initiate the shipment of hazardous waste,⁶¹ as well as transporters⁶² and intermediaries that arrange for export,⁶³ are subject to differing responsibilities and liabilities under the HSWA export regu-

53. *Hazardous Waste*, *supra* note 36, at 28,667 (citing Draft Council Decision and Recommendation of Exports of Hazardous Waste from OECD Area, March 1986; *cf.* final OECD Council Decision-Recommendation on Exports of Hazardous Wastes, June 5, 1986, 25 I.L.M. 1010 (1986) [hereinafter OECD Export Decision]); *Hazardous Waste*, *supra* note 36, at 28,671 (citing Decision and Recommendation of the Council on Transfrontier Movement of Hazardous Waste, Feb. 1, 1984, 23 I.L.M. 214 (1984) [hereinafter OECD Transfrontier Decision]).

54. Originating as the group of countries cooperating in the Marshall Plan reconstruction of Europe after World War II, OECD now includes as members Australia, Austria, Belgium, Canada, Denmark, Finland, France, Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States as members. L. CALDWELL, INTERNATIONAL ENVIRONMENTAL POLICY 85 (1984); Arup, *Chemical Notification Laws in the OECD Member Countries*, 21 J. WORLD TRADE L. 47, 49 n.6 (1987).

55. 40 C.F.R. pts. 261.3, .11, .30-.33 (1987).

56. *Id.* pts. 261.3, .10, .20-.24.

57. *Id.* pts. 261.6, .7 (residues); *see also Hazardous Waste*, *supra* note 36, at 28,669 (citing 50 Fed. Reg. 614,619 (codified at 40 C.F.R. pt. 261.2)) (commercial chemical products recycled in a particular manner).

58. 40 C.F.R. pts. 261.4(d), .5 (1987) (samples for testing, small quantity generators).

59. *Hazardous Waste*, *supra* note 36, at 28,671 (codified at 40 C.F.R. pt. 261.6(a)(3)(i) (1987)) (spent industrial ethyl alcohol is exempt from EPA domestic regulation, because that is handled by the Bureau of Alcohol, Tobacco and Firearms with notice and tracking requirements similar to EPA's manifest requirements, but will be subject to HSWA export requirements administered by EPA when the spent alcohol is exported for reclamation).

60. *Id.* at 28,670, 28,682-83 (codified at 40 C.F.R. pts. 262.50, .51 (1987)) (export controls only apply to those wastes that require an EPA manifest domestically).

61. *Id.* at 28,667-69, 28,682-83 (codified at 40 C.F.R. pts. 262.50, 262.51 (1987)).

62. *Id.* at 28,667-68, 28,677, 28,685 (codified at 40 C.F.R. pt. 263.20 (1987)).

63. *Id.* at 28,667-69, 28,682-83 (codified at 40 C.F.R. pts. 262.50, 262.51 (1987)).

lations. "Primary exporters,"⁶⁴ which initiate the foreign shipments of hazardous waste, jointly bear⁶⁵ the greatest responsibility and liability. They are directly responsible for timely, complete and accurate notification⁶⁶ to EPA about the proposed export of hazardous waste, and for compliance with the written consent⁶⁷ of any "receiving country(ies)" to which the waste is sent for disposal, treatment (including recycling), or storage (except for temporary storage incidental to transportation).⁶⁸ Although the primary exporter must name, and the EPA will notify, any "transit country(ies)" through which the hazardous waste will travel, consent of transit countries is not required prior to export.⁶⁹ The primary exporter must also make specific efforts to verify that the waste went where it was intended.⁷⁰

Transporters that only arrange for transportation⁷¹ must ensure that an EPA manifest and consent accompany the waste; must deliver a copy of the manifest to the U.S. Customs when the waste leaves the country; and must refuse to export the hazardous waste if they know⁷² that it does not conform to the consent.⁷³ Primary exporters, including their employees,⁷⁴ are subject to criminal penalties for knowing violation of the export regulations (e.g. exporting without the consent of the receiving country).⁷⁵

Consent of the receiving country and notification of transit countries is achieved through EPA acting in concert with the Department of State:⁷⁶ EPA forwards a completed notification to the Department of State for

64. Primary exporter refers only to those who initially decide to export the hazardous waste or brokers who arrange for the foreign management of hazardous waste, not to those who only provide transportation between facilities. *Id.* at 28,667, 28,683 (codified at 40 C.F.R. pt. 262.51 (1987)).

65. Brokers that arrange for waste management are jointly liable with those that decide to export the waste. *Id.*

66. *Id.* at 28,667-68, 28,683 (codified at 40 C.F.R. pts. 262.53(a), 262.54 (1987)).

67. *Id.* at 28,667-68, 28,683 (codified at 40 C.F.R. pts. 262.52(d), 262.53(d),(f) (1987)).

68. *Id.* at 28,666-69, 28,683 (codified at 40 C.F.R. pts. 262.51 (1987)).

69. *Id.* at 28,667, 28,683 (codified at 40 C.F.R. pts. 262.52(b), 262.52(a)(2)(iv),(viii), 262.53(e),(f) (1987)).

70. *See id.* at 28,684 (codified at 40 C.F.R. pts. 262.54(f), 262.55 (1987)).

71. Transporters that are also export brokers are primary exporters. *See supra* note 64.

72. Liability for knowing nonconformance does not include an affirmative duty to ensure conformance of the shipment with the consent, but the transporter may not escape liability by being "willfully blind" to the nonconformance. *Hazardous Waste, supra* note 36, at 28,668; *cf.* *United States v. Hayes Int'l Corp.*, 786 F.2d 1499 (11th Cir. 1986) (cited in *Hazardous Waste, supra* note 36, at 28,670).

73. *Hazardous Waste, supra* note 36, at 28,677, 28,685 (codified at 40 C.F.R. pt. 263.20 (1987)).

74. *United States v. Johnson & Towers, Inc.*, 741 F.2d 662, 667 (3d Cir. 1984), *cert. denied*, 1169 U.S. 1208 (1985) (cited in *Hazardous Waste, supra* note 36, at 28,669).

75. *Hazardous Waste, supra* note 36, at 28,668-69, *see also id.* at 28,684 (codified at 40 C.F.R. pt. 262.56(a)(6)).

76. *Id.* at 28,675, 28,683 (codified at 40 C.F.R. pts. 262.53(b),(d),(e),(f) (1987)).

transmission to the U.S. Embassy in the receiving or transit countries; after any necessary translation, the U.S. Embassy forwards the information to the appropriate authorities; the U.S. Embassy translates and then cables the terms of consent (or other response) to the Department of State for transmission to EPA and thence to the exporter.⁷⁷ A copy of the cable containing the terms of consent accompanies the hazardous waste shipment attached to the manifest.⁷⁸ The consent of the receiving country is an absolute prerequisite (regardless of how long it takes), so EPA's requested sixty-day notification in advance of export is only an estimate of EPA's expected response time.⁷⁹

The exporter's notification to EPA covers the intended shipments of a particular hazardous waste for the next twelve months, including information about where the waste is going, how often and how much, and what will happen when the waste reaches its intended destination.⁸⁰ Any changes in the original notification, except for changes in the exporter's telephone number, the mode of transportation, the type of container, and decreases in quantity of waste,⁸¹ mandate renotification and renewed consent from the receiving country. Renotification, but no new consent is required for changes that are to take place in transit countries.⁸²

HSWA export controls focus only on hazardous waste as defined by EPA—i.e. discarded⁸³ industrial byproducts with certain characteristics.⁸⁴ To export substances that are hazardous but that may not meet EPA's definition of waste (e.g. certain recyclable materials), the Federal Hazardous Substances Act and the Toxic Substances Control Act (also administered by EPA) require that exporters file an informational report with the EPA, which is passed on to the foreign country.⁸⁵ Under the Toxic Substances Control Act, EPA has the authority to restrict the manufacture and trade of such substances, an authority it has used to ban the export of certain concentrations of the highly toxic PCBs.⁸⁶ The Export

77. *Id.*

78. *Id.* at 28,675, 28,684 (codified at 40 C.F.R. pt. 262.54(h) (1987)).

79. *Id.* at 28,672-73, 28,683 (codified at 40 C.F.R. pt. 262.53(a) (1987)).

80. *Id.*

81. *Id.* at 28,674-75, 28,683 (codified at 40 C.F.R. pt. 262.53(c) (1987)).

82. *Id.*

83. The issue of whether a substance is in fact "discarded" and therefore waste has been one of the most difficult questions under RCRA. Gaba, *Recovering Hazardous Waste Cleanup Costs: The Private Cause of Action Under CERCLA*, 13 *ECOLOGICAL L.Q.* 181, 186 n.12 (1986).

84. See *supra* note 60 and accompanying text.

85. FHSA, *supra* note 31, § 1273(d); TSCA, *supra* note 33, § 2611. It is unlikely that the FHSA would apply very often since it primarily controls the export of products intended for household use or use by a child. FHSA, *supra* note 31, §§ 1261, 1273(d).

86. *Hazardous Waste*, *supra* note 36, at 28,665 (citing Toxic Substances Control Act § 6(e), 15 U.S.C. § 2605 (to be codified at 40 C.F.R. pt. 761.10) (ban on export of PCBs greater than 50 ppm)).

Administration Amendments Act of 1985 contains congressional findings and declarations that such export controls on banned or restricted substances are consistent with U.S. policy,⁸⁷ but provides no additional measures for controlling the exports of such substances.

C. INTERNATIONAL AGREEMENTS

The United States is party to a number of international agreements that cover environmental protection in general or hazardous waste in particular. Much of the original "soft law," or nonbinding principles, has served as the basis for the hard law of international conventions and agreements.

The United Nations Environment Programme (UNEP) was established to deal with worldwide environmental problems following the recommendation of the United Nations Conference on the Human Environment at Stockholm in 1972.⁸⁸ UNEP started with development of an international environmental information gathering infrastructure and progressed to the development of guidelines for dealing with particular problems as they were illuminated.⁸⁹ The International Register of Potentially Toxic Chemicals (IRPTC) and the International Programme on Chemical Safety are UNEP sources of information on hazardous substances.⁹⁰ In 1984 UNEP adopted a "Provisional Notification Scheme for Banned and Severely Restricted Chemicals,"⁹¹ suggesting notification of the importing country. In 1985 UNEP issued the draft Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes,⁹² which includes import consent as well as export notification requirements. The U.N. Draft Code of Conduct on Transnational Corporations contains provisions for disclosure of information on hazardous effects and regulatory measures from the source country and for protection of the environment with suitable technology.⁹³ The U.N. Draft Code on the Transfer of Technology⁹⁴ recommends that developed countries facilitate access of developing countries to technology that will help solve indigenous

87. 50 U.S.C. §§ 2401(10), 2402(13) (Supp. III 1985).

88. L. CALDWELL, *supra* note 54, at 63.

89. *Id.*, at 64-68.

90. *Id.* at 219.

91. Halter, *Regulating Information Exchange and International Trade in Pesticides and Other Toxic Substances to Meet the Needs of Developing Countries*, 12 COLUM. J. ENVTL. L. 1, 16 (1987) (citing U.N. Doc. No. EP/WG.112/2, Annex I (Nov. 23, 1984)).

92. U.N. Environment Programme at 12, 13, U.N. Doc. No. EP/WG.122/L.1/Add.3/Rev.1 (1985) (cited in Halter, *supra* note 91, at 17 n.75).

93. Rhodes, *Regulation of Multinational Enterprises: International Codes of Conduct*, in 1A THE LAW OF TRANSNATIONAL BUSINESS TRANSACTIONS § 16.06[5], app. 16E (V. Nanda ed. 1986); Comment, *Hazardous Exports to the Third World: The Need to Abolish the Double Standard*, 12 COLUM. J. ENVTL. L. 71, 80 (1987).

94. Rhodes, *supra* note 93, § 16.06[3], app. 16E; Comment, *supra* note 93, at 80.

problems. It also recommends assistance in establishing laws to avoid the environmental risks that accompany technology.

OECD has also developed a code of conduct for multinational enterprises⁹⁵ (MNE Guidelines)⁹⁶ as well as a specific framework for handling hazardous wastes exports (OECD Transfrontier Decision⁹⁷ and OECD Export Decision⁹⁸ (OECD Decisions)). Although most of the MNE Guidelines and the administrative measures of the OECD Decisions are couched as recommendations, the OECD Decisions also mandate general procedures for member countries.⁹⁹ The single requirement of the 1984 OECD Transfrontier Decision that member countries "shall ensure that the competent authorities of the countries concerned are provided with adequate and timely information"¹⁰⁰ has expanded to a quadripartite decision. The 1986 OECD Export Decision now requires that member countries:

- (i) . . . ensure that their . . . authorities are empowered to prohibit [hazardous waste] exports in appropriate instances;
- (ii) [a]pply no less strict controls on . . . non-Member countries than they would on . . . Member countries;
- (iii) [p]rohibit movements of hazardous wastes to a . . . non-Member country without the consent of that country and the prior notification to any transit countries . . . ;
- (iv) [p]rohibit movements of hazardous wastes to a non-Member country unless the wastes are directed to an adequate disposal facility in that country.¹⁰¹

OECD's definition of hazardous waste includes wastes "considered . . . or legally defined as hazardous in the country . . . through or to which it is conveyed."¹⁰² The recommended administrative measures for implementing the OECD Export Decision may apply in the absence of an international agreement between exporting and importing countries, or serve as the basis for negotiating such an agreement.¹⁰³

95. The most common term in the United States is multinational corporation; the United Nations calls them transnational corporations. Regardless of its name, each refers to a set of common characteristics: commercial entities that do business in two or more countries, that formulate common strategies or policies through one or more headquarters, and that significantly influence the activities of each other through various linkages. Rhodes, *supra* note 93, §§ 16.01 n.2, 16.02.

96. OECD Guidelines for Multinational Enterprises, 15 I.L.M. 969 (1976); Rhodes, *supra* note 93, § 16.06[4], app. 16E; *see also* Clarification of Environmental Concerns in OECD Guidelines for Multinational Enterprises, 25 I.L.M. 494 (1986).

97. OECD Transfrontier Decision, *supra* note 53; *see also* Comment, *supra* note 93, at 81.

98. OECD Export Decision, *supra* note 53; *see also* Comment, *supra* note 93, at 81.

99. *See supra* notes 52-54.

100. OECD Transfrontier Decision, *supra* note 53, § 1, at 215.

101. OECD Transfrontier Decision, *supra* note 53, § 1, at 215.

102. OECD Export Decision, *supra* note 53, § 1, at 1011.

103. *Id.* at 1013; OECD Transfrontier Decision, *supra* note 53, § 1, at 217.

104. OECD Export Decision, *supra* note 53, § 1, at 1011.

It is unclear to what extent, if any, the final OECD Export Decision served as the basis for negotiations in the U.S. bilateral agreements with Mexico and with Canada, which were signed a few months later.¹⁰⁴ The agreement with Mexico (not a member of OECD) clearly requires notification of the importing country as both HSWA export controls and the OECD Export Decision mandate.¹⁰⁵ The requirement for consent of the importing country is less clear: the agreement does not explain what happens if the importing country fails to respond to notification within the forty-five days allotted.¹⁰⁶ By contrast, the agreement with Canada (an OECD member country) specifically states that no response within the thirty-day notification period shall be deemed to mean no objection and the export may take place.¹⁰⁷

Both the Canadian and the Mexican bilateral agreements provide for the readmission of hazardous wastes that are returned by the country of import,¹⁰⁸ but the agreement with Mexico also provides for the readmission of hazardous waste generated from temporarily admitted raw materials, and of illegally imported hazardous substances.¹⁰⁹ The agreement with Mexico also requires notification for export of hazardous substances,¹¹⁰ which differs from the notification requirements for hazardous waste, and the agreement alludes to the goal of "bring[ing] uniformity in those relating to both hazardous waste and hazardous substances regarding compulsory notification to and consent by the importing country."¹¹¹ The standard for requiring notification is set by the country of export in the case of hazardous waste,¹¹² but it is unclear which country's standard applies for hazardous substances. Hazardous substances are defined by "national policies, laws or regulations,"¹¹³ and each side notifies the other when such a determination is made.¹¹⁴ Which determination of hazardous substances triggers the requirement for notification of the export of "a hazardous substance"?¹¹⁵

104. See *supra* note 47.

105. Compare Mexican Agreement, *supra* note 47, art. III, with HSWA, *supra* note 45; 40 C.F.R. pts. 262.53(a), .54 (1987); and OECD Export Decision, *supra* note 53, § I, at 1011.

106. Mexican Agreement, *supra* note 47, art. III (1), (2), (4).

107. Canadian Agreement, *supra* note 47, art. 3 (c), (d).

108. Mexican Agreement, *supra* note 47, art. IV; Canadian Agreement, *supra* note 47, art. 6.

109. Mexican Agreement, *supra* note 47, arts. IX, XI.

110. *Id.* art. VI.

111. *Id.* art. X.

112. *Id.* art. III (1).

113. *Id.* art. I (3).

114. *Id.* art. V (1).

115. *Id.* art. VI (1).

The same ambiguity is present in the agreement with Canada. The agreement simply says that the exporting country will notify the importing country of proposed shipments of hazardous waste,¹¹⁶ which has different meanings with respect to the two countries.¹¹⁷ The agreement with Canada refers to the OECD Transfrontier Decision which, like the OECD Export Decision, does not resolve the ambiguity: hazardous waste is that waste defined as such in the exporting, importing *or* transit country.¹¹⁸

D. MINIMIZATION

Although the recent movement towards waste minimization¹¹⁹ is not really a means of controlling the disposition of hazardous waste, ultimately any minimization efforts will have an impact on hazardous waste disposal. HSWA export regulations, like other U.S. environmental protection regulations, require some reporting of minimization efforts undertaken and results achieved.¹²⁰ No international agreements deal specifically with the minimization of solid hazardous wastes, but recent multilateral agreements¹²¹ to reduce the use of aerosol chemicals that are destroying the earth's protective ozone layer are a form of international "hazardous" waste minimization.

III. Alternative Solutions

Hazardous substances are not like other products. As the tragedy in Bhopal has shown, the avoidance of liability (which may take years to resolve in any event) is not sufficient incentive even to begin to assure adequate safeguards.¹²² Some kind of regulation is needed, whether by the exporting or importing countries, or some combination thereof.

116. Canadian Agreement, *supra* note 47, art. 3(a).

117. Hazardous waste "means with respect to Canada, waste dangerous goods," which may be more or less inclusive than the meaning "with respect to the United States, waste which requires an EPA manifest." Canadian Agreement, *supra* note 47, art. 1(b).

118. *See supra* note 103 and accompanying text.

119. *See supra* note 7 and accompanying text.

120. *Hazardous Waste*, *supra* note 36, at 28,684 (codified at 40 C.F.R. pt. 262. 56(a)(5)(i), (ii) (1987)).

121. Protocol on Chlorofluorocarbons, *done* Sept. 16, 1987, 26 I.L.M. 1541 (1987); Vienna Convention for the Protection of the Ozone Layer, *done* March 22, 1985, 26 I.L.M. 1516 (1987); *see also Accord Is Reached to Protect Ozone*, N.Y. Times, Sept. 16, 1987, at A11, col. 1 (late ed.); *Dozens of Nations Reach Agreement to Protect Ozone*, N.Y. Times, Sept. 17, 1987, at A1, col. 3 (late ed.) twenty-four nations plus the EC signed the protocol; an additional twenty, without the authority to sign, approved the agreement).

122. *See generally The Bhopal Tragedy: Social and Legal Issues: A Symposium*, 20 TEX. INT'L L.J. 267 (1985).

If the United States were to impose a total ban on the export of hazardous waste, as the Federal Republic of Germany is preparing to do,¹²³ the burden for regulating hazardous waste would remain in the United States where the present network of laws and regulations would promote a high level of environmental protection. Yet a total ban would restrict the opportunities for developing countries, which might otherwise benefit from the associated jobs, money, commercial activity, technological education, or source of recycled chemicals.¹²⁴

If the United States were to allow unrestricted export of hazardous waste, it would shift the entire burden of regulation to governments that may not even be aware that the wastes are in their country, much less be prepared to cope with the potential problems. Hazardous waste contamination can exhaust the most well-organized bureaucracy with sophisticated clean-up technology. What disaster would result in a country with limited environmental protection infrastructure and nonexistent clean-up technology?

There are more selfish reasons for concern as well. Unlike the dangerous consumer products and pesticides that first led to the imposition of export controls, hazardous wastes improperly or incompletely disposed of may contaminate not only the disposal site of the host country, but can spread through the air or water to other countries.¹²⁵ The damage may not become apparent until long after the disposal is completed, when cleanup is much more difficult.¹²⁶ Such insidious pollution of the global environment makes the disposal of hazardous waste a "commons" problem¹²⁷—not because the problem is outside the jurisdiction of any one state, but because the solution is beyond the ability of any one state acting unilaterally.¹²⁸

The bilateral agreements with Mexico and with Canada¹²⁹ are too recent for us to judge if they are adequate to control illegal transboundary disposal (apparently their primary purpose). It will be interesting to see if the administrative efficiency of Canada's presumed consent¹³⁰ is accom-

123. See Hunter, *supra* note 7.

124. Cf. *supra* note 3 and accompanying text.

125. See Teclaff & Teclaff, *International Control of Cross-Media Pollution—An Ecosystem Approach*, 27 NAT. RES. J. 21 (1987).

126. Cleanup of a contaminated dumpsite solves one hazardous waste problem, but generates another: disposal of the contaminated soil. See Cook, *Risky Business*, FORBES, Dec. 2, 1985, at 106.

127. See *supra* note 18.

128. See Bilder, *The Role of Unilateral State Action in Preventing International Environmental Injury*, 14 VAND. J. TRANSNAT'L L. 51 (1981).

129. See *supra* note 104 and accompanying text.

130. See *supra* note 107 and accompanying text.

panied by administrative effectiveness. The high level of environmental supervision in Canada may justify a presumption of consent where a bilateral agreement has arranged for specific alternative procedures. Nevertheless, notification and consent should remain the rule, not the exception. A 1985 study of EPA notification programs found that "developing countries have trouble obtaining adequate information for decision making; information still does not reach the appropriate people in most instances, and obtaining additional information can be cumbersome."¹³¹

Both bilateral agreements, as well as HSWA export controls fail to address the issue of receiving-facility standards. The OECD Export Decision¹³² requires its members to prohibit the export of hazardous wastes to a nonmember-country unless they are directed to an "adequate disposal facility."¹³³ Varying levels of environmental supervision within foreign countries do not justify this differentiation between member and nonmember countries; both should provide assurances that the receiving facilities are adequate. The adequacy of the disposal facility should be no less than the exporting country's standards, including operations, management, and the appropriate worker protections.¹³⁴ The United States should answer Mexico's¹³⁵ and others'¹³⁶ appeal for uniformity and should require notification, consent, and verification of adequate handling for the export of all hazardous substances, at least where the quantity and quality of the hazard is sufficient to cause widespread problems. The verification procedure could be as simple as having the importing country certify its facilities and attach the certification to the manifest, or it might require more active inspections. Environmental evaluations in foreign countries already take place for projects with less devastating potential,¹³⁷ but they need not be accomplished by government officials. Such environmental protection requirements are consistent with the general conduct guidelines for transnational businesses,¹³⁸ although the exporters of hazardous waste are not necessarily multinationals.

Using the strict standards of the exporting countries will serve a twofold purpose: (1) the export laws will support the domestic environmental

131. Halter, *supra* note 91, at 26.

132. OECD Export Decision, *supra* note 53.

133. *Id.*, § I(iv), at 1011.

134. For a discussion of occupational health problems in developing nations, see Brennan & Lucas, *A Legal Strategy for Controlling the Export of Hazardous Industries to Developing Countries: The Case of Asbestos*, 9 YALE J. WORLD PUB. ORDER 275 (1983).

135. See *supra* note 111 and accompanying text.

136. See Halter, *supra* note 91, at 25 (foreign officials "were confused about the distinctions among the . . . notification programs, and suggested harmonizing the programs").

137. See Order 12,114, *supra* note 17.

138. See *supra* notes 93-95 and accompanying text.

regulations and provide "equally firm"¹³⁹ environmental protection internationally, and (2) by assuring that the true costs of safe disposal are recognized and paid in advance, there will be no need later to decide who is liable for the clean-up costs. Adherence to the OECD Export Decision requirement for adequate disposal facilities will provide minimal competitive disadvantage to U.S. businesses since most of their major competitors come from OECD countries that are equally bound by such requirements.¹⁴⁰ In addition, recognition of all the costs of hazardous waste disposal will provide additional impetus to hazardous waste minimization efforts, domestically and internationally. Minimization of hazardous waste cannot be accomplished unilaterally or even bilaterally. The multilateral effort to protect the Earth's ozone layer¹⁴¹ has shown, however, that it can be accomplished, that developing and developed nations can find a workable compromise.

IV. Conclusion

The United States should prohibit the export of hazardous substances unless satisfied that the importing country has the information *and technology* to handle them. Even if the primary export incentive of evading expensive regulatory procedures is no longer available, the export of hazardous waste will continue. Some commentators suggest that it is almost impossible, regardless of the safeguards, to find a community in the U.S. that will accept hazardous waste.¹⁴² Remote areas in other lands, with adequate controls, may still be more profitable because of the reduced political costs.

Another compelling reason to provide environmental protection for waste leaving the country is to ensure that the responsibility for hazardous waste is borne by the generators of hazardous waste and the consumers of their products. This country long ago decided that it would not accept the sale of human lives offered at auction; nor should it allow the savings from inadequate environmental safeguards to buy human futures. Marketplace incentives for waste minimization, resulting from the increased costs of disposal and handling, will be more powerful than regulatory measures by themselves. Finding ways to eliminate rather than just dispose of hazardous waste will mean less trash and more to treasure for us all.

139. See *Hazardous Waste*, *supra* note 36, at 28,670 (quoting Statement of Rep. Mikulski, sponsor of HSWA § 3017 export controls, 129 CONG. REC. H8163 (daily ed. Oct. 6, 1983)).

140. Of the "developed countries," only Australia, which abstained in the decision, is exempt. See *supra* notes 52-54.

141. See *supra* note 121.

142. See, e.g., Marbach, *supra* note 2.