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Jack Isaacs

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NOTES AND COMMENTS

U.S. HAZARDOUS WASTE EXPORTS: REGULATIONS AND PROPOSALS

I. INTRODUCTION

The United States produces between 250 and 500 million tons of toxic waste each year.¹ Of that amount less than one tenth of one percent is exported.² Of all the hazardous waste exported, between 80% and 90% is shipped to Canada.³ Canada has adequate resources and

1. U.S. ENVIRONMENTAL PROTECTION AGENCY, *EPA'S PROGRAM TO CONTROL EXPORTS OF HAZARDOUS WASTE*, Audit Report Number E1D83-05-0456-80855, at 8 (Mar. 31, 1988) [hereinafter EPA Audit] ("One estimate is that more than 260 million metric tons of hazardous waste are generated annually or a quantity equal to more than 170 billion gallons."); Porterfield & Weir, *The Export of U.S. Toxic Wastes*, 245 THE NATION 325, 341 (Oct. 3, 1987) ("According to the General Accounting Office, the amount rose from about 9 million metric tons in 1970 to at least 247 million in 1984. Other experts place the current figure close to 400 million . . ."); CENTER FOR INVESTIGATIVE REPORTING & B. MOYERS, *GLOBAL DUMPING GROUND 6* (1990) [hereinafter CENTER FOR INVESTIGATIVE REPORTING] ("[O]fficially estimated at 500 million tons."); *U.S. Waste Exports: Hearing Before the Subcomm. on Human Rights and International Organizations and the Subcomm. on International Economic Policy and Trade of the Comm. on Foreign Affairs*, 101st Cong., 1st Sess. 139 (1988) [hereinafter *Hearing on U.S. Waste Exports*] (statement of Hon. Mike Synar (D-OK), "We generate 250 million tons of hazardous waste a year, and even larger amounts of nonhazardous wastes.").

2. CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 11 ("The United States shipped 100,000 tons of hazardous waste abroad in 1987, according to official figures, but over the next two years, that figure rose by 40 percent."); Handley, *Exports of Waste From the United States to Canada: The How and Why*, [News & Analysis] 20 ENVTL. L. REP. (Envtl. L. Inst.) 10,061, 10,061 n.1 (Feb. 1990) [hereinafter Handley, *Canada*] ("According to estimates compiled by the United States Environmental Protection Agency (EPA) National Enforcement Investigations Center (NEIC) . . . waste exports for 1988 totaled 140,000 tons."); *Waste Export Control: Hearing on H.R. 2525 Before the Subcomm. on Environment, Energy, and Natural Resources of the Comm. on Government Operations*, 101st Cong., 1st Sess. 32 (1988) [hereinafter *Hearing on Waste Export Control*] (statement of Hon. Howard Wolpe (D-MI), "Current EPA estimates tell us that about 160,000 tons of our hazardous waste crossed our borders last year."). *But see, infra* note 6.

3. Handley, *Canada*, *supra* note 2, at 10,061 ("[A]pproximately 85 percent [is] destined for [our] northern neighbor, Canada."); Parker, *The Path of Least Resistance*, 6 ENVTL. F. 4, 4 (Mar./Apr. 1989) ("About 90 percent of all our hazardous waste exports go to a few facilities located in our neighbor to the north."); *Hearing on*

technology to handle the waste in an environmentally sound manner.⁴ However, problems arise with the remaining hazardous waste that is exported elsewhere. While this amount may seem negligible, it constitutes tens of thousands⁵ (possibly hundreds of thousands)⁶ of tons of hazardous waste each year. These toxins can cause crippling illnesses, birth defects and death⁷ not only for a nation's current inhabitants, but for generations to come. In addition, hazardous waste has a long life span, thus increasing the chances of human exposure.⁸ Its effect on humans may not appear until years after exposure.⁹

The most troubling aspect of this situation is that hazardous wastes from industrialized countries are often being uncovered in developing nations,¹⁰ most of which lack the technical expertise and regulatory infrastructure to properly handle the hazardous waste.¹¹ Often,

U.S. Waste Exports, *supra* note 1, at 2 (statement of Hon. Howard Wolpe (D-MI), "Some 80 to 90 percent of hazardous wastes exported by the United States goes to Canada for treatment and disposal."). *But see, infra* note 6.

4. *See generally* Handley, *Canada*, *supra* note 2. *But cf. Hearing on U.S. Waste Exports*, *supra* note 1, at 195 (PACIFIC BASIN CONSORTIUM FOR HAZARDOUS WASTE RESEARCH, HAZARDOUS WASTE IN THE PACIFIC BASIN (May 1988)) ("The CCREM [Canadian Council of Resource and Environment Ministers] recently concluded that, 'In Canada, hazardous wastes are being managed in a manner that could pose a significant danger to public health and the environment. This has occurred as a result of inadequate and inconsistent application of legislation across the country and the lack of disposal facilities.'")

5. *See supra* note 3.

6. EPA Audit, *supra* note 1, at 12 ("In our review we found hundreds of tons of exported hazardous waste which were not handled in accordance with the Agency's regulations. . . . [T]he Agency did not know the amount of hazardous waste actually exported to other countries."); Parker, *supra* note 3, at 4 ("EPA estimates that maybe eight times as much waste is exported as is actually reported."); Porterfield & Weir, *supra* note 1, at 341 ("[A]ccording to a recent study by the G.A.O. [General Accounting Office], the 'E.P.A. does not know whether it is controlling 90 percent of the existing waste or 10 percent. Likewise it does not know if it is controlling the wastes that are most hazardous.'").

7. *See infra* notes 24-26 and accompanying text (discussing the definition of hazardous waste under the Resource Conservation and Recovery Act and EPA regulations). Although the dangers of improper disposal can be similar with regard to both hazardous wastes and radioactive materials, radioactive wastes are covered by a separate set of domestic and international regulations, and are not discussed in this Comment.

8. *Issues and Policy Considerations Regarding Hazardous Waste Exports*, 11 Hous. J. INT'L L. 373, 373 (1989) [hereinafter *Issues and Policy*].

9. *Id.*

10. *See infra* notes 165-72 and accompanying text.

11. *See* Porterfield, *Developing States Become Developing Dump for Toxics*, WORLD PAPER 6 (Dec. 1988); *Issues and Policy*, *supra* note 8, at 374.

these dangerous substances are mislabeled or are combined with non-hazardous exports.¹² Sometimes they are dumped in the country without notice,¹³ or corrupt officials accept bribes to look the other way.¹⁴ Frequently, countries are so troubled by their dismal financial situation that they willingly accept hazardous waste for cash, unaware of the serious long-term consequences.¹⁵

Consequently, America must recognize the need for imposing restrictive regulations on hazardous waste exports. This is necessary not only for the obvious moral and ethical reasons,¹⁶ but also to avoid possible foreign relation repercussions.¹⁷ If improperly disposed, exported hazardous waste may return to the United States either directly, through the air, rivers and oceans,¹⁸ or indirectly, through, for example, contaminated produce grown in hazardous "fertilizer,"¹⁹ or other poisonous byproducts.²⁰ Moreover, shipping hazardous waste over long distances increases safety and environmental risks.²¹ "These transactions may be handled by a labyrinth of middle men between the generator

12. See *infra* notes 151-54 and accompanying text.

13. See *infra* notes 126-33 and accompanying text.

14. French, *A Most Deadly Trade*, *WORLD WATCH*, 11, 15 (July/Aug. 1990).

15. See Koch, *Environment: South Africa Willing to Harbor Global Garbage*, Inter Press Serv., July 17, 1989 (South Africa has been considering importing toxic waste as a means of solving the country's serious balance of payments problem. However, a prior "recycling" project has led to traces of mercury more than two times the legal limit 12 miles down river from the recycling firm.); Islam, *Bangladesh: Re-Opens Question of Foreign Industrial Waste*, Inter Press Serv., Mar. 16, 1989 (Bangladesh is considering importing hazardous waste for recycling, even though scientists warn that a waste recycling plant would kill the fish in Chittagong bay and thus upset the entire economy.); Millman, *Exporting Hazardous Waste: From Developed to Third World Nations*, 92 *TECH. REV.* 6 (Apr. 1989) (Peru is considering building the Third World's first industrial waste incinerator, despite the inevitable air pollution and massive problems that could result if the incinerator were to break down in this less technically advanced country.). See also, *infra* notes 31-32 and accompanying text (discussing Marshall Islands' import of municipal garbage to create a landfill).

16. See CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 112 (quoting Jim Vallette of Greenpeace, "'You don't dump your garbage on your neighbor's lawn for moral reasons. It's that simple.'")

17. See *infra* note 171 and accompanying text (Nigeria recalled its ambassador from Rome after an Italian waste broker dumped 3,800 tons of hazardous waste in a residential area of Koko, Nigeria).

18. Helfenstein, *U.S. Controls on International Disposal of Hazardous Waste*, 22 *INT'L LAW.* 775, 788 (1988); French, *supra* note 14, at 17.

19. Porterfield & Weir, *supra* note 1, at 344.

20. *Id.* at 343 (discussing the death of an animal due to wastes containing antibiotics and fish oil imported for use as cattle feed and fertilizer); French, *supra* note 14, at 15, 17 (referring to this phenomenon as a "circle of poison").

21. Parker, *supra* note 3, at 4.

and the party actually accepting the waste in the import country, which increases the risks of mishandling and subterfuge."²²

II. DEFINITIONAL QUESTION

A. U.S. Definition of Hazardous Waste

The first issue that must be addressed concerns the meaning of "hazardous waste". The United States' Resource Conservation and Recovery Act (RCRA)²³ defines "hazardous waste" as:

waste, which because of its quantity, concentration, or physical, chemical or infectious characteristics may cause . . . an increase in mortality[;] . . . serious . . . illness; or pose a substantial . . . hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.²⁴

Using this legislation as a guideline, the EPA defined hazardous waste to include a list of nearly 350 chemicals²⁵ and any solid waste that exhibits the characteristics of ignitability, corrosivity, reactivity or toxicity.²⁶

B. "Non-Hazardous" Waste

The United States has no regulations or any means of tracking²⁷ exported waste that is not deemed to be "hazardous."²⁸ This "non-hazardous" waste includes common garbage, untreated sewage and incinerator ash.²⁹ The primary problem with this distinction is that waste

22. *Issues and Policy*, *supra* note 8, at 375.

23. *See infra* notes 43-44, 49-56 and accompanying text.

24. 42 U.S.C. § 6903(5)(A)-(B)(1983).

25. 40 C.F.R. §§ 261.3, 261.11, 261.30-33 (1987); Rotman, *Hazardous Waste: Tightening Rules — and Options — Up the Ante*, CHEMICAL WEEK, Aug. 22, 1990, at 34.

26. 40 C.F.R. §§ 261.3, 261.10, 261.20-24 (1987).

27. Handley, *Canada*, *supra* note 2, at 10,061 & nn. 4-5 (Feb. 1990) (citing RCRA § 3001, 42 U.S.C. § 6938, ELR STAT. RCRA 025; 40 C.F.R. § 262.54 (1988) (hazardous waste manifest documents), RCRA § 3017(g)) (U.S. export regulation only applies "to exports of 'hazardous waste' and does not require tracking documents for exports of nonhazardous waste. Consequently, little or no accurate data are available about the quantities of nonhazardous waste shipments.").

28. *Hearing on U.S. Waste Exports*, *supra* note 1, at 16 (statement of Hon. John Conyers (D-MI)).

29. Millman, *supra* note 15, at 6.

considered to be "non-hazardous" in the United States may indeed become "hazardous" in the context of the receiving country's inferior treatment, storage or disposal capabilities.³⁰ For example, the Marshall Islands recently agreed to accept tens of millions of tons of "non-hazardous" municipal trash to create a land mass.³¹ As Representative John Conyers, Jr. (D-MI) noted, "[T]he result [will] be almost certain contamination of the ocean and food sources. . . [and] would never be allowed today in the United States . . ."³²

Failure to regulate non-hazardous exports increases the potential for abuses involving tainted or "laundered" hazardous waste shipments.³³ In addition, failure to require prior notification or tracking documentation enables U.S. exporters to escape liability for spills and improper disposal.³⁴

Despite the lack of U.S. regulation, non-hazardous waste disposal scams are occasionally detected. In one extreme example of greed and dishonesty, a Philadelphia contractor created an international scandal that generated worldwide outrage and condemnation of U.S. export regulations. In September 1986, a freighter ship known as the *Khian Sea* left Philadelphia port loaded with 28 million pounds of municipal and industrial incinerator ash.³⁵ Incinerator ash, while considered non-

30. Gilmore, *The Export of Nonhazardous Waste*, 19 ENVTL. L. 879, 890 (1989) ("Large quantities of nonhazardous waste become hazardous when technology does not permit treatment and disposal that meets United States standards.").

31. Johnson, *Marshall Islands Consider Importing Non-Toxic U.S. Waste*, Reuter Library Rep., Mar. 23, 1989 (BC cycle) (LEXIS, NEXIS); Johnson, *Marshall Islands Hope to Profit on Imported Garbage; U.S. Trash May Be Their Treasure*, L.A. Times, May 7, 1989, § 1, at 2, col. 4 (bulldog ed.); Drogin, *Paradise Lost: Now It's a Dump; No Longer Idyllic, The Marshall Islands May Take U.S. Garbage for a Fee. Squalor, Disease and Birth Defects are Rife*, L.A. Times, Jan. 11, 1990, § A, at 1, col. 1 (home ed.).

32. *Hearing on U.S. Waste Exports*, *supra* note 1, at 16 (statement of Hon. John Conyers (D-MI)).

33. *Handley Canada*, *supra* note 2, at 10,062. *See infra* notes 50-53 and accompanying text.

34. *Handley Canada*, *supra* note 2, at 10,062.

35. *Philadelphia Ash Gone After 2-Year Odyssey*, N.Y. Times, Nov. 27, 1988, § 1, part-1, at 30, col. 1 (late city final ed.). *See also West Africa in Toxic Waste Dumping Furor; Foreign Deals Protested*, FACTS ON FILE WORLD NEWS DIG., § G2, at 584 [hereinafter *West Africa*]; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 17-32; *Hearing on Waste Export Control*, *supra* note 2, at 163-66 (J. VALLETTE, THE INTERNATIONAL TRADE IN WASTES: A GREENPEACE INVENTORY, (4th ed. 1989)); French, *supra* note 14, at 11-12. In addition to the incinerator ash on the *Khian Sea*, between May and July of 1988, a Norwegian shipping company dumped 15,000 tons of Philadelphia ash, labelled raw material for bricks, near a resort island near Guinea. After the island's vegetation began dying, the Guinean government began an investiga-

hazardous in the U.S., is often loaded with lead, mercury, and deadly dioxins.³⁶ These poisons can destroy wildlife and kill humans.³⁷ Originally intended for the Bahamas, the shipment was rejected, falsely re-labeled as bulk construction material, and sent back out to sea.³⁸ After 18 months of wandering the Caribbean, the *Khian Sea* docked in Haiti and began unloading the ash, which was re-labeled as fertilizer.³⁹ Upon discovery of the true nature of the cargo, the Haitian government ordered the vessel to leave, but not before the ship dumped and deserted between 2,000 to 3,000 tons of ash on the island.⁴⁰ Over the next 22 months, the barge changed its name twice and touched five continents. At least 13 other countries rejected its cargo.⁴¹ In early November, 1988, two years after its initial departure, the ship's holds were reported empty. A lawyer for the Philadelphia contractor expressed concern that the ash may have been dumped at sea.⁴²

tion of the waste. At least ten Guinean officials were arrested, as well as Sigmund Stromme, a Norwegian honorary consul. In return for the consul's release, the Norwegian government agreed to remove the ash and to ship it back to the United States. West, *supra* note 35, at 584; Harden, *Outcry Grows in Africa Over West's Waste-Dumping*, Wash. Post, June 22, 1988, § 1, at A15 (final ed.). See also French, *supra* note 14, at 11-12; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 26-27.

36. Lief, Barnes & Zulueta, *Dirty Job, Sweet Profits*, U.S. News & World Rep., Nov. 21, 1988, at 54.

37. *Id.* Children played on a mountain of Philadelphia incinerator ash dumped in Kassa, an island off the coast of the West African nation of Guinea, before to the Guinean government demanded that the ash be removed. Helmore, *Dumping on Africa: West Exports its Industrial Wastes*, Christian Sci. Monitor, July 1, 1988, at 1.

38. *International Export of U.S. Waste: Hearing Before the Subcomm. on Environment, Energy, and Natural Resources of the Comm. on Government Operations*, 101st Cong., 2d Sess. (1988).

39. *Philadelphia Ash*, *supra* note 35, at 30; French, *supra* note 14, at 11-12.

40. *Philadelphia Ash*, *supra* note 35, at 30; *West Africa*, *supra* note 35, at 584; French, *supra* note 14, at 11-12.

41. GREENPEACE INVENTORY, *supra* note 35, at 163-66; *Philadelphia Ash*, *supra* note 35, at 30; French, *supra* note 14, at 11-12.

42. *Philadelphia Ash*, *supra* note 35, at 30. See also GREENPEACE INVENTORY, *supra* note 35, at 163-66; *Khian Sea Under U.S. Justice Department Investigation — U.S. Wastes May have been Dumped in Indian Ocean*, 2 GREENPEACE WASTE TRADE UPDATE, 4, 12 (Dec. 1989) [hereinafter *Khian Sea*]. While there are no U.S. restrictions on exporting incinerator ash, the U.S., as a signatory of the London Dumping Convention, is prohibited from dumping incinerator ash and a number of other waste products into the ocean. *Khian Sea*, *supra*; London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 11 I.L.M. 1291 (Nov. 13, 1982). See also *Greenpeace USA v. Stone*, No. 90-00588 (D. Haw. Sept. 28, 1990) (LEXIS, Genfed library, Dist File) ("The London Dumping Convention . . . has been ratified and there is implementing legislation, the Marine Protection, Research, and Sanctuaries Act ('MPSA'), 33 U.S.C. §§ 1401 et seq. . . . Article III(1)(a)(i) of the

III. U.S. REGULATIONS

A. *Resource Conservation and Recovery Act*

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA) to provide "cradle to grave" regulation of hazardous waste.⁴³ The purpose of this statute was to create: (1) minimum standards for the storage, treatment and disposal of hazardous waste at U.S. facilities; and (2) a system to track hazardous wastes to those facilities.⁴⁴ Although RCRA did not expressly address hazardous waste exports, in February 1980, the Environmental Protection Agency (EPA) enacted regulations to govern such exports.⁴⁵ Exporters, in effect, were required to comply with regulations applicable to domestic shippers of waste, including: (1) initiating a manifest; (2) using proper labels and containers; and (3) complying with the record keeping and reporting requirements of the RCRA.⁴⁶ In addition, exporters were required to submit annual reports and to notify EPA four weeks prior to the initial shipment of hazardous waste to each foreign country in a calendar year.⁴⁷ Regulations were so limited that they left the EPA both ignorant of how much waste was being exported and impotent to stop shipments proscribed by foreign nations.

A generator must only identify the waste and consignee. Notification of the quantities of waste, frequency of shipment, or the manner in which such waste will be transported to, treated, stored or disposed in the receiving country is not required. Current regulations also do not require prior written consent of the receiving country prior to shipment. Accordingly, under current regulations, EPA has no authority to prohibit the export of hazardous waste if the foreign country objects to its receipt; any action to stop the shipment must be taken by the receiving

Convention prohibits 'any disposal at sea of ashes or other matter from vessels, aircrafts, platforms or other man-made structures at sea.'"). Despite these regulations, in the summer of 1988 thousands of dead North Sea seals appeared off the coast of Europe, their immune systems weakened by pollutants; at the same time, bloody test tubes and syringes washed up on U.S. shores. Lief, Barnes & Zulueta, *supra* note 36.

43. 42 U.S.C. §§ 6901-91i (1982 & Supp. III 1985). See R. FORTUNA & D. LENNETT, HAZARDOUS WASTE REGULATION: THE NEW ERA 9 (1987).

44. EPA Audit, *supra* note 1, at 8.

45. 45 Fed. Reg. 12,732, 12,743-44 (codified at 40 C.F.R. §§ 262 and 263). These provisions were promulgated primarily under sections in the RCRA dealing with generators and transporters of hazardous waste — §§ 3002 and 3003.

46. *Id.*; EPA Audit, *supra* note 1, at 9.

47. *Supra*, note 45; EPA Audit, *supra* note 1, at 9.

country.⁴⁸

B. Hazardous and Solid Waste Amendment

In response to concerns that exports of hazardous waste may create foreign policy problems⁴⁹ and provide a loophole to circumvent U.S. law,⁵⁰ Congress passed the Hazardous and Solid Waste Amendment of 1984 (HSWA). This comprehensive set of amendments "significantly changed the way that [the U.S.] managed hazardous waste including the export of such waste."⁵¹ Section 3017 was one of the most important additions to RCRA concerning hazardous waste exports.⁵² It provides that "the export of hazardous waste is prohibited unless the person exporting the waste:

- (1) Provides notification to the [EPA];
- (2) the government of the receiving country has consented to accept the waste;
- (3) a copy of the . . . written consent . . . accompanies each waste shipment; and
- (4) the shipment conforms to the terms of the consent."⁵³

Section 3017(f) allows for alternative requirements where there exists an international agreement between the United States and the government of the receiving country.⁵⁴ Section 3017(g) requires exporters of hazardous waste to file with the EPA a report summarizing the types, quantities, frequency, and ultimate destination of all such waste exported during the previous year.⁵⁵ In addition, criminal penalties were added to RCRA to punish those who knowingly violate these amendments.⁵⁶

C. EPA Rules

Although President Reagan signed HSWA into law on November

48. 51 Fed. Reg. 8,744 (1986).

49. *Id.* (citing S. Rep. No. 98-284, 98th Cong., 1st Sess. 47 (1983)).

50. *Id.* (citing 129 Cong. Rec. H8163-H8164 (daily ed. Oct. 6, 1983) (statements of Rep. Mikulski (D-MD) and Rep. Florio (D-NJ))).

51. EPA Audit, *supra* note 1, at 9.

52. 51 Fed. Reg. 8,745 (1986).

53. *Id.* See 42 U.S.C. § 6938(a)(1982 & Supp. III 1985).

54. 51 Fed. Reg. 8,745 (1986); 42 U.S.C. § 6938(f).

55. 51 Fed. Reg. 8,745 (1986); 42 U.S.C. § 6938(g).

56. 51 Fed. Reg. 8,745 (March 13, 1986); 42 U.S.C. § 6928(d), (e).

8, 1984, it was not until August 8, 1986 that EPA promulgated final rules and regulations to implement the statute.⁵⁷ In adopting these rules, EPA relied on minimal legislative history⁵⁸ and two decisions by the Organization for Economic Cooperation and Development (OECD)⁵⁹ for guidance.

According to the EPA regulations, generators, transporters, and export brokers are each subject to different liabilities and responsibilities.⁶⁰ "Primary exporters" bear the greatest burden — they are responsible for submitting notification, keeping required records, and filing annual reports and other documentation.⁶¹ Primary exporters are defined as: (1) persons required to originate a manifest, the document that specifies the receiving country's treatment, storage or disposal⁶² facility to which the hazardous waste will be sent; and (2) any intermediary arranging for the export.⁶³ An "intermediary" is a party who arranges hazardous waste export by acting as a broker between the party

57. 51 Fed. Reg. 28,664-86 (1986) (Final Rule). Section 3017 provided that enforcement was not to begin until 24 months after enactment of HSWA. 42 U.S.C. § 6938(a). In fact, according to Inspector General John C. Marin, the EPA did not have proper channels of enforcement set up until 1988. Gilmore, *supra* note 30, at 895 n.73 (citing *International Export of U.S. Waste: Hearing Before the Subcomm. on Environment, Energy, and Natural Resources of the Comm. on Government Operations*, 100th Cong., 2d Sess., at 1627 (1988)). See also EPA Audit, *supra* note 1, at 12 (finding that from October 1, 1986 through September 30, 1987 hundreds of tons of hazardous waste were not handled in accordance with EPA regulations).

58. Helfenstein, *supra* note 18, at 280 n.51 ("Legislative history is primarily limited to text of amendment and general supporting statements on how export controls will avoid past problems.") (citing 129 CONG. REC. H8163 (daily ed. Oct. 6, 1983); 130 CONG. REC. 89152 (daily ed. July 25, 1984); S. REP. NO. 284, 98th Cong., 1st Sess. 47 (1983); 1984 U.S. CODE & ADMIN. NEWS 5576, 5686).

59. 51 Fed. Reg. 28,667 (1986) (Final Rule) (citing Draft Council Decision and Recommendation of Exports of Hazardous Waste from OECD Area, March 1986; *cf.* final OECD Council Decision-Recommendation of Exports of Hazardous Waste, June 5, 1986, 25 I.L.M. 1010 (1986)); 51 Fed. Reg. 28,671 (1986) (Final Rule) and 51 Fed. Reg. 8,750 (1986) (Proposed Rule) (citing Decision and Recommendation of the Council on Transfrontier Movement of Hazardous Waste, Feb. 1, 1984, 23 I.L.M. 214 (1984)).

60. For a detailed analysis of EPA notification and consent requirements, and other general information for hazardous waste exporters, see Semenoff, *Foreign Trade in Trash? Exporting Hazardous Waste*, 4 NATURAL RESOURCES & ENV'T 14 (Summer 1989).

61. 51 Fed. Reg. 28,667-69, 28,682-84 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 262 Subpart E).

62. Hazardous wastes exported for use, reuse, reclamation or other recycling activities are within the statutory meaning of the terms "treatment, storage and disposal." *Id.* at 28,669.

63. *Id.* at 28,667-69, 28,683 (codified at 40 C.F.R. § 262.51).

originating the manifest and the party exporting the waste (such as the transporter⁶⁴).⁶⁵ By definition there may be more than one primary exporter per transaction. However, only one party is to submit notification and comply with the paperwork requirements.⁶⁶ EPA retains the right to take enforcement action against all primary exporters in an illegal transaction.⁶⁷ In addition, if the primary exporter is a corporation, partnership or sole proprietor, the business' owners, officers and employees may be held liable if they knew or should have known of the violation.⁶⁸

Transporters are required to: (1) ensure that a manifest and an EPA Acknowledgment of Consent accompanies the hazardous waste;⁶⁹ (2) return signed copy of the manifest back to the generator; (3) give a copy of the manifest to a U.S. Customs official at the point of departure from the United States; and (4) deliver the entire quantity of hazardous waste to the place outside the United States designated by the primary exporter.⁷⁰ Furthermore, transporters may not accept hazardous waste from a primary exporter if they know that the shipment does not conform to the EPA Acknowledgment of Consent.⁷¹

1. Notification and Consent

The EPA's export regulations impose several notification and con-

64. A transporter may also be considered an intermediary (and thus a primary exporter) "if the transporter were also taking on intermediary responsibilities such as arranging for the management of the waste with the foreign [treatment, storage or disposal facility]." *Id.* at 28,668.

65. 51 Fed. Reg. 28,668 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 262).

66. *Id.*

67. *Id.*

68. *Id.* at 28,668-69 (citing *United States v. Johnson & Towers, Inc.*, 741 F.2d 662, 667 (3rd Cir. 1984) *cert. denied*, 105 S. Ct. 1171 (1985)).

69. There is a special exception for rail transportation "due to the special nature of the railroad industry in recognition that railroads have sophisticated computerized tracking information systems." 51 Fed. Reg. 28,677 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 172.205). Instead of the manifest traveling with the waste shipment, a shipping paper is required to accompany the waste and the manifest must be sent to the next non-rail transporter. The EPA Acknowledgment of Consent, on the other hand, will remain with the hazardous waste. *Id.*

70. 51 Fed. Reg. 8,752 (March 13, 1986) (Proposed Rule); 51 Fed. Reg. 28,668, 28,685 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 263.2).

71. 51 Fed. Reg. 28,668, 28,685 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 263.20). Transporters have no affirmative duty to verify that the waste matches the description in the consent. On the other hand, the transporter may not be "willfully blind" to the fact that the waste is not in conformity. *Id.*

sent requirements on primary exporters of hazardous waste. Before exporting hazardous wastes primary exporters must notify EPA. In addition, the receiving country must consent to accept the shipment.⁷² Notification is sent to both the receiving country and any transit countries, although no consent is required from transit countries.⁷³ The EPA recommends submitting a complete notification⁷⁴ sixty days before the intended date of the initial shipment.⁷⁵ Each notification covers export activities up to 12 months.⁷⁶

If a primary exporter claims confidentiality as to any notification information, the EPA will withhold this information from private parties. EPA may also withhold the information from transit countries, if the EPA determines that the information is important for a transit country to know.⁷⁷ Confidential notification information will not be

72. *Id.* at 28,672-73, 28,683 (codified at 40 C.F.R. §§ 262.52(a),(b), and 262.53(a)).

73. Notification should contain: (1) the name, mailing address, telephone number and EPA ID number of the primary exporter; (2) a description of the hazardous waste and the EPA hazardous waste number; (3) the estimated period of time and frequency in which the waste is to be exported; (4) the estimated total quantity; (5) all points of entry to and departure from each foreign country through which the hazardous waste will pass; (6) a description of the form(s) of transportation and type(s) of containers to be used; (7) a description of the manner in which the hazardous waste will be treated, stored or disposed of in the receiving country; (8) the name and site address of the cosignee and any alternate cosignee; and (9) the name of any transit countries through which the hazardous waste will be sent and a description of the approximate time the waste will remain in that country and the nature of its handling while there. 40 C.F.R. § 262.53(a).

74. 51 Fed. Reg. 28,675-76, 28,683 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 262.53(e)).

75. The EPA's 60 day time frame is merely an estimate of how long the notification and consent procedure will take. It should be emphasized that hazardous waste cannot be exported without prior consent from the receiving country. If for some reason the receiving country takes longer to respond than expected, the primary exporter must delay shipment. Exporters are free to submit notification before the recommended 60 days advanced notice, as they so desire. *Id.* at 28,672-73, 28,683 (codified at 40 C.F.R. § 263.53(a)).

76. *Id.* (codified at 40 C.F.R. § 262.53(a)). Any changes in the original notification (except for changes in: (1) the primary exporter's telephone number; (2) the method(s) of transportation and type(s) of containers to be used; and (3) a decrease in the estimated total quantity) require renotification to the EPA and renewed consent from the receiving country. Shipments cannot take place until the receiving country consents to the changes. Transit countries will be notified of the changes, but no consent is required. 40 C.F.R. § 262.53(c). *See* 51 Fed. Reg. 28,674-75, 28,683 (August 8, 1986) (Final Rule).

77. 51 Fed. Reg. 28,679 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. §§ 262.2 and 262.53).

withheld from the receiving country as this information is necessary for the receiving country to make an informed decision whether to accept the hazardous waste, and, if accepted, how to deal with it.⁷⁸

EPA acts in concert with the U.S. Department of State to send notification to receiving and transit countries and to relay the receiving country's consent or objection to primary exporters.⁷⁹ After EPA has received a completed notification from primary exporters, it sends the notification to the Department of State⁸⁰ for telegraphic transmission⁸¹ to the U.S. Embassy in the receiving country.⁸² The U.S. Embassy translates the information⁸³ and forwards the information to the appropriate authorities in the receiving country.⁸⁴ Along with a request for an expedited written response, the U.S. Embassy notifies the receiving country that U.S. law prohibits the export of hazardous waste unless the receiving country consents to accept the waste.⁸⁵ The U.S. Embassy also provides a description of the federal regulations which apply to the treatment, storage and disposal of the hazardous waste in the United States.⁸⁶ Upon receipt of the receiving country's written response, the U.S. Embassy translates and cables it to the Department of State.⁸⁷ The

78. *Id.*; 51 Fed. Reg. 8,748 (March 13, 1986) (Proposed Rule) (citing S. REP. No. 98-284, 98th Cong., 1st Sess. 47 (1983)).

79. 51 Fed. Reg. 28,675-76, 28,683 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 262.53(e), (f)); 51 Fed. Reg. 8,749 (March 13, 1986) (Proposed Rule).

80. 40 C.F.R. § 262.53. The EPA estimates that it will notify the Department of State within five days of receipt of the completed notification. 51 Federal Register 8,749 (March 13, 1986) (Proposed Rule).

81. "Telegraphic transmission of information between the United States and receiving countries is necessary to expeditiously transmit notification and consent information. Mailing actual reproductions of such documents would take considerably longer, making it difficult to meet statutory deadlines for transmission of such information and necessitating earlier notification by the exporter than that proposed." *Id.* at 8,749-50.

82. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule). The State Department estimates it will notify the receiving country within ten days of receipt of the information from the EPA. 51 Fed. Reg. 8,749 (March 13, 1986) (Proposed Rule).

83. The EPA will not take enforcement action against an exporter who relied in good faith on an erroneous translation by a U.S. Embassy. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule).

84. *Id.*; 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule).

85. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule).

86. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule).

87. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule). The original written communication from the re-

cable is forwarded to the EPA.⁸⁸ If the receiving country consents fully or with specified modification, the cable will constitute the EPA Acknowledgment of Consent and will be forwarded to the primary exporter for attachment to the manifest.⁸⁹ Where the receiving country rejects the shipment, the EPA will notify the primary exporter in writing.⁹⁰

2. Annual Disclosure

In addition to notification and consent requirements, the EPA codified an annual reporting requirement for exporters of hazardous waste.⁹¹ Exporters must file an annual report summarizing the types, quantities, frequency and ultimate destination of all hazardous waste exported during the previous year.⁹² On even numbered years, the report must include a description of the efforts made, and the degree of

ceiving country will be sent to the Department of State in the diplomatic pouch. This document will then be forwarded to EPA, and a copy sent to the primary exporter. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule).

88. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule). The State Department estimates that it will notify EPA within ten days of receipt of the receiving country's response. 51 Fed. Reg. 8,749 (March 13, 1986) (Proposed Rule).

89. *But see supra* note 69 (railroad exception). 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule) (codified at 40 C.F.R. § 262.54). Although no consent is required from transit countries, EPA will notify the primary exporter of any responses made by transit countries. Comments made by these countries are not binding upon the primary exporter. However, if the exporter does not act accordingly, a transit country may prohibit entry of the waste. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,750-51 (March 13, 1986) (Proposed Rule).

90. 51 Fed. Reg. 28,675-76 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,749-50 (March 13, 1986) (Proposed Rule) (codified at 40 C.F.R. § 262.54). EPA estimates it will notify the primary exporter within five days of receipt of the receiving countries response. The total amounts to 30 days transmission time for notification and consent — thus, the receiving country has 30 days to respond. Again, it should be emphasized that these are only estimates. Unforeseen circumstances may lengthen shorten the process. 51 Fed. Reg. 8,749 (March 13, 1986) (Proposed Rule).

91. 50 Fed. Reg. 28,733, 28,746 (July 15, 1985) (Final Rule) (codified at 40 C.F.R. § 262.50(d)); 51 Fed. Reg. 28,676, 28,684 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. § 262.56). *See generally* Handley, *A Leak in the System of International Legal Controls*, [News & Analysis] 19 ENVTL. L. REP. 10,171, 10,173 (Apr. 1989) [hereinafter Handley, *International Legal Controls*].

92. 50 Fed. Reg. 28,733, 28,746 (July 15, 1985) (Final Rule) (codified at 40 C.F.R. § 262.50(d)).

success, in reducing the volume and toxicity of waste generated.⁹³ Furthermore, each annual report must include a certification signed by the primary exporter indicating that the submitted information is true, accurate and complete.⁹⁴

D. Enforcement

The EPA relies on section 3008 of RCRA⁹⁵ to enforce compliance through civil and criminal penalties.⁹⁶ The strongest penalty provides that any person who knowingly exports hazardous waste without a receiving country's proper consent or in violation of a bilateral agreement may be subject to fines of up to \$50,000 per day and/or imprisonment of up to two years.⁹⁷ Second offenders may be fined \$100,000 per day and/or be sentenced to four years in prison.⁹⁸ EPA has made it clear that they intend to prosecute violators to the fullest extent of the law.⁹⁹

Exporters of hazardous waste may also be required to comply with export control laws of other agencies. For example, the U.S. Customs Service has authority to stop, search, and seize hazardous waste shipments which they suspect of being exported illegally.¹⁰⁰ The Bureau of the Census, under the Department of Commerce, requires exporters to file a Shipper's Export Declaration for shipments valued at over \$1500,

93. 51 Fed. Reg. 28,682, 28,684 (August 8, 1986) (Final Rule) (codified at 40 C.F.R. §§ 262.41, 262.56(5)).

94. *Id.* at 28,684 (codified at 40 C.F.R. § 262.56(6)).

95. RCRA expired on September 30, 1988. While Congress has tried to agree on reauthorization, funding has been provided in the interim through EPA appropriations. *Baucus Introduces RCRA Bill Focusing on Waste Reduction*, [Analysis & Perspective] 3 Toxic L. Rep. (BNA) No. 17, at 537 (Sept. 21, 1988); *Overview*, [News & Analysis] 20 ENVTL. L. REP. 10039 (Jan. 1990).

96. 51 Fed. Reg. 28,680 (August 8, 1986) (Final Rule) (codified at 42 U.S.C. § 6928(d)); 51 Fed. Reg. 8,755-56 (March 13, 1986) (Proposed Rule).

97. 51 Fed. Reg. 28,680 (August 8, 1986) (Final Rule) (codified at 42 U.S.C. 6928(d)); 51 Fed. Reg. 8,755-56 (March 13, 1986) (Proposed Rule). Knowing exportation without proper consent includes incidents of hazardous waste exported: (1) without notification; (2) after notification but without consent; or (3) with consent based on false representations in the notification. 51 Fed. Reg. 28,680 (August 8, 1986) (Final Rule).

98. 51 Fed. Reg. 28,680 (August 8, 1986) (Final Rule) (codified at 42 U.S.C. § 6928); 51 Fed. Reg. 8,755-56 (March 13, 1986) (Proposed Rule).

99. 51 Fed. Reg. 28,680 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,755-56 (March 13, 1986) (Proposed Rule).

100. 51 Fed. Reg. 28,680 (August 8, 1986) (Final Rule); 51 Fed. Reg. 8,756 (March 13, 1986) (Proposed Rule) (citing Export Administration Act, 50 U.S.C. App. 2411, as amended by the Export Administration Amendments Act of 1985, Pub. L. No. 99-64, 99 Stat. 120 (1985), and 19 C.F.R. § 162).

a likely possibility when hazardous waste is being exported for recycling.¹⁰¹ Civil and criminal penalties also exist for failing to file or for knowingly making false representations on the Shipper's Export Declaration.¹⁰²

In addition to the export control laws, RCRA provides for civil and criminal penalties against any citizen who contributes to imminent and substantial endangerment.¹⁰³ The Comprehensive Environmental Response, Compensation, and Recovery Act (CERCLA) allows the government and private parties to seek response costs and natural resource damages.¹⁰⁴ Foreign individuals have more limited remedies. If a hazardous exporter complies with the U.S. export regulations, a foreign individual or government only has recourse to the U.S. courts with an action in tort to redress injuries created by an American exporter's hazardous waste disposal activities outside the United States.¹⁰⁵

1. Enforcement Problems

Despite extensive regulations, in March 1988, an EPA audit report found that hundreds of tons of hazardous waste had been exported without meeting proper EPA requirements.¹⁰⁶ One reason for this lack of compliance is ignorance and misunderstanding of the export regulations by hazardous waste producers and transporters.¹⁰⁷ In addition, some exporters are involved in sham recycling¹⁰⁸ and deliberate avoidance of export regulations.¹⁰⁹

101. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *ENFORCEMENT STRATEGY: HAZARDOUS WASTE EXPORTS*, at 12 (National Enforcement Investigation Center, Mar. 1988); 51 Fed. Reg. 28,680 (1986) (Final Rule); 51 Fed. Reg. 8,756 (1986) (Proposed Rule) (citing 15 C.F.R. § 30).

102. 51 Fed. Reg. 28,680 (1986) (Final Rule); 51 Fed. Reg. 8,756 (1986) (Proposed Rule) (citing 13 U.S.C. § 6305, and 18 U.S.C. § 1001).

103. Handley, *International Legal Controls*, *supra* note 91, at 10,174 (referring specifically to RCRA §§ 7002 and 7003, 42 U.S.C. §§ 6972 and 6973).

104. *Id.* (referring specifically to CERCLA § 107, 42 U.S.C. § 9607).

105. *Id.*

106. EPA Audit, *supra* note 1, at 2. *Cf.* CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 11-12 ("[A] follow-up inspector general's report . . . [in 1990] found that the EPA had corrected many of those deficiencies.") (referring to, although not citing, Office of the Inspector General, *Follow-up on EPA's Program to Control Exports of Hazardous Waste*, Audit Report Number E1DSGO-05-5003-0400011 (1988)).

107. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 13-14.

108. *Id.*; *see infra* notes 125-33 and accompanying text.

109. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 13-14; *see infra* notes 149-50 and accompanying text. Some of the solutions

According to the audit report, there are deficiencies in the EPA's export control program that cause and encourage exporter noncompliance. For example, the report noted the following problems: (1) The lack of effective coordination between EPA and the U.S. Customs Service, thus, hazardous waste exporters can disregard EPA regulations with little fear of detection;¹¹⁰ (2) EPA does not know the amount of hazardous waste exported to other countries, and does not know the extent of noncompliance with notification of intent and annual reporting requirements;¹¹¹ (3) due to vague EPA guidelines on how much information is required, exporters do not provide adequate descriptions on their notification documents on the manner of treatment, storage, or disposal that the hazardous waste is to receive in the foreign country;¹¹² (4) the hazardous waste export program lacks accountability;¹¹³ and (5) it is possible that EPA has occasionally failed to inform exporters of objections made by receiving countries.¹¹⁴

E. Statutory and Regulatory Problems

Even if EPA's method of enforcement were perfected in accordance with RCRA, HSWA, and the regulations promulgated by EPA, problems in exporting hazardous wastes would still exist due to gaps and inconsistencies in U.S. laws. In promulgating final rules as required under HSWA, EPA concluded that, "Congress could not have intended to regulate for export those 'hazardous wastes' which EPA does not regulate domestically."¹¹⁵ Consequently, there is a small group of hazardous waste exports which, because they are fully or partially exempt from domestic regulation, have no notification, consent or annual reporting requirements. Such hazardous wastes include samples, residues in empty containers, wastes generated in product transportation vehicles, scrap metal when recycled, and waste generated by small

suggested by the National Enforcement Investigation Center, a subdivision within the EPA's Office of Enforcement and Compliance Monitoring, include: (1) targeting generators and treatment, storage and disposal facilities for evaluation of compliance with export requirements; (2) creating a waste exporter profile to assist Customs inspectors in identifying suspicious shipments of hazardous waste; and (3) periodic border spot checks. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 21-22.

110. EPA Audit *supra* note 1, at 4.

111. *Id.* at 3.

112. *Id.* at 5.

113. *Id.* at 6.

114. *Id.* Whether or not this allegation is true, the EPA's current record keeping system provides no means for proving otherwise. *Id.* But see *supra* note 106.

115. 51 Fed. Reg. 28,664, 28,670 (1986) (Final Rule).

quantity generators generating less than 100kg/mo of hazardous waste.¹¹⁶

EPA's lack of authority to stop hazardous (or non-hazardous) waste shipments is another problem with current U.S. regulations. These wastes are shipped, even if EPA believes that the receiving country does not have adequate technology and resources to handle the waste.¹¹⁷ In addition, incinerator ash, untreated sewage, municipal garbage and other wastes not classified as hazardous have no notification requirements.¹¹⁸

IV. BILATERAL AGREEMENTS

A. Mexico

The United States has two bilateral agreements that supercede EPA notice, export and enforcement procedures.¹¹⁹ The agreement between the United States and Mexico, signed on November 12, 1986,¹²⁰

116. *Id.* at 28,669-71. For example, millions of used car batteries are exported each year for recycling. Despite their lead and acid content, they are exempt from all notification and annual reporting requirements. Lead from batteries can cause permanent damage to the brain, nerves, kidneys and reproductive system. In 1987, EPA designated an Italian owned Pennsylvania battery recycling plant as a "Superfund" site. To avoid EPA regulations that reduced the number of U.S. lead smelters by one-half between 1980 and 1986, the same Italian company maintains a Brazilian battery recycling plant. Because there are no strict regulations in Brazil, there is clear evidence that the plant is poisoning its employees and surrounding area. CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 65-70. *But c.f. Hearing on U.S. Waste Exports, supra* note 1, at 59 (statement of Scott A. Hajost, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency, "[W]e are exporting batteries for recycling to Brazil in an effective way. So there are legitimate reasons why you would not necessarily want to close those doors.").

117. *See Issues and Policy, supra* note 8, at 383; *Hearing on U.S. Waste Exports, supra* note 1, at 82 (statement of Richard C. Fortuna, Executive Director, Hazardous Waste Treatment Council).

118. *See, e.g., Hearing on U.S. Waste Exports, supra* note 1, at 16 (statement of John Conyers, Jr. (D-MI)); at 27-28 (statement of Frederick M. Bernthal, Assistant Secretary for Oceans, International Environmental and Scientific Affairs, U.S. Department of State); at 42 (statement of Scott Hajost, Acting Associate Administrator for International Affairs, U.S. Environmental Protection Agency); and *Issues and Policy, supra* note 8, at 383.

119. 42 U.S.C. § 6938(f) provides that where an international agreement exists between the United States and a receiving country the notification and consent procedures of the international agreement shall supersede U.S.C. regulations. Annual reporting requirements, however, are still mandated.

120. *Agreement of Cooperation between the United States of America and the United Mexican States Regarding the Transboundary Shipments of Hazardous*

requires both notification at least 45 days prior to the planned date of export and consent. Consent must be express; it will not be implied from a failure to respond.¹²¹ However, much of this 1986 agreement has been rendered moot because a Mexican presidential decree prohibits the disposal of hazardous waste within Mexico.¹²² Only hazardous waste destined for qualified recycling facilities may be exported to Mexico.¹²³ Non-hazardous waste, on the other hand, is not covered by either the U.S.-Mexican agreement or the presidential decree.¹²⁴

While hazardous waste cannot legally be disposed in Mexico, illegal dumping and sham recycling schemes occur frequently.¹²⁵ For example, on May 9, 1990, Raymond Franco and David Torres were indicted for illegal transportation and dumping of hazardous waste in Mexico.¹²⁶ According to the indictment, Franco contracted to transport the hazardous waste from California businesses to legal landfills or recycling facilities.¹²⁷ Instead of going to the designated sites, the indictment charges that Franco and Torres loaded drums of the dangerous material onto trucks and concealed their contents by surrounding them with empty containers and covering them with wood and cardboard.¹²⁸ The drums were then driven across the Mexican boarder to a Tijuana

Wastes and Hazardous Substances, 26 I.L.M. 25 (1987); EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 1011.

121. *Agreement of Cooperation between the United States of America and the United Mexican States Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances*, 26 I.L.M. 25 (Jan. 1987); EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 1011.

122. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 11; *EPA Adopts New Strategy on Curbing Illegal Exports of Hazardous Waste*, [Export Policy] 5 Int'l Trade Rep. (BNA) No. 17, at 624 (Apr. 27, 1988).

123. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 11; *EPA Adopts New Strategy on Curbing Illegal Exports of Hazardous Waste*, [Export Policy] 5 Int'l Trade Rep. (BNA) No. 17, at 624 (Apr. 27, 1988).

124. *See* Gilmore, *supra* note 30, at 893 n.66.

125. *See* *Federal, California Task Force Formed*, [Current Developments] 21 Env't Rep. (BNA) 279 (May 25, 1990). U.S. Attorney Robert L. Brosio suggested that illegal dumping will be aggravated due to the escalating cost of properly disposing of hazardous waste and the closing of California's Kettleman City waste site. In response, on May 10, 1990, the Federal Government announced the creation of a Task Force on Environmental Prosecution for the central district of California. *Id.*

126. *2 Indicted in Hauling of Toxic Waste to Mexico*, L.A. Times, May 11, 1990, § A, at 1, col. 2; *Federal Grand Jury Returns Indictments for Dumping of Hazardous Wastes in Mexico*, [Hazardous Waste Law] 4 Toxic Law Rep. (BNA) No. 50, at 1457 (May 23, 1990); CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 51-56.

127. *See supra* note 126.

128. *Id.*

warehouse owned by Torres, where much of the hazardous waste was dumped.¹²⁹ After more than a year of investigation and surveillance, law enforcement officials witnessed the attempted smuggling.¹³⁰ Torres and Franco were charged with illegal transportation and disposal of hazardous waste, conspiracy, and illegal export of hazardous waste into Mexico.¹³¹ This indictment marks the first time that transporters of hazardous waste have been charged for illegal smuggling under the Resource Conservation and Recovery Act.¹³² If convicted, Torres and Franco face severe prison sentences and a maximum of \$250,000 for each count filed against them.¹³³

In addition to illegal dumping activities, sham recycling programs have also plagued enforcement efforts. Under an agreement between the United States and Mexico,¹³⁴ manufacturers known as maquiladoras, or "twin plants," produce goods in Mexico just beyond the Mexican border.¹³⁵ These manufacturers use raw materials shipped from the U.S. and inexpensive Mexican labor to produce finished goods that are then exported back to the United States.¹³⁶ Hazardous waste generated from the manufacturing process is considered U.S. property. It is to be exported with the manufactured products.¹³⁷ However, due to the high cost of disposing hazardous waste in the United States, occasionally the remaining toxins do not get shipped back to the United States.¹³⁸

Aside from outright dumping, Mexican law permitted maqui-

129. *Id.*

130. CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 55.

131. *2 Indicted in Hauling of Toxic Waste to Mexico*, L.A. Times, May 11, 1990, § A, at 1, col. 2.

132. *See supra* note 126; In 1986, three Americans were indicted under federal mail fraud statutes for falsifying shipping documents. *2 Indicted in Hauling of Toxic Waste to Mexico*, L.A. Times, May 11, 1990, § A, at 1, col. 2.

133. *See supra* note 126.

134. *Agreement of Cooperation between the United States of America and the United Mexican States Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances*, 26 I.L.M. 25 (Jan. 1987); EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at 1011.

135. Darling, *Firms Cash in on Mexican Bid to Halt Pollution*, L.A. Times, May 13, 1990, § D, at 1, col. 6; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 58-62; and Handley, *International Legal Controls*, *supra* note 91, at 10173 n.36 (citing EPA Office of Enforcement and Compliance Monitoring, *Enforcement Strategy: Hazardous Waste Exports*, 10-11 (National Enforcement Investigation Center, Mar. 1988)).

136. *See supra* note 135.

137. *See supra* note 134.

138. *See supra* note 135.

ladoras to avoid the hazardous waste export requirements by donating them to Mexican charities.¹³⁹ This provision was intended to benefit legitimate charities that could use industrial scraps. However, phony charities were soon created and dangerous manufacturing byproducts were being improperly disposed.¹⁴⁰ While this law was repealed last year and Mexican authorities are more vigorously enforcing environmental regulations,¹⁴¹ much of the land and water surrounding the maquiladoras are severely polluted.¹⁴²

B. Canada

An agreement between the United States and Canada was signed on October 28, 1986.¹⁴³ Article 3(d) of the agreement states that if the country of import does not respond within 30 days after receipt of notification of a hazardous waste shipment, it has, in effect, consented to the import of the hazardous waste.¹⁴⁴ This "implied consent" provision has raised a great deal of criticism,¹⁴⁵ and will probably be altered¹⁴⁶ in November, 1991 when the agreement comes up for renewal.¹⁴⁷ Non-hazardous waste is not covered by this U.S.-Canadian agreement.¹⁴⁸

139. *Id.*

140. *Id.*

141. *Id.* Between November 1988 and May 1990, enforcement officials shut down seven maquiladoras until the factories were properly cleaned up. *Id.*

142. CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 58-62. Maquiladoras have made the New River one of the most polluted waterways in the world. Soil and well water samples reveal high levels of heavy metals, including cadmium (linked to liver and kidney disease) and lead (known to cause damage to the central nervous system). *Id.*

143. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at appendix B (*Canada-USA Agreement on the Transboundary Movement of Hazardous Waste*).

144. *Id.* at art. 3(d). *But see Hearing on Waste Export Control, supra* note 2, at 23, (material submitted by the Canadian Embassy stating that under the Canada-USA agreement "the exporting country must notify the importing country and obtain consent prior to shipment . . ." (emphasis added)).

145. In contrast, RCRA prohibits the export of hazardous waste unless the receiving country expressly consents to accept it. 42 U.S.C. § 6938(a)(1)(C). *But see supra* note 119 (international agreements that establish notification and consent requirements between the U.S. and a receiving country supersede existing U.S.C. regulations. 42 U.S.C. § 6938(f)).

146. *See* 96 CHEMICAL ENGINEERING 27 (July 31, 1989).

147. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at appendix B (*Canada-USA Agreement on the Transboundary Movement of Hazardous Waste*, art. 13).

148. EPA OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING, *supra* note 101, at appendix B (*Canada-USA Agreement on the Transboundary Movement of*

Canada has also experienced problems with illegal hazardous waste imports. For example, on April 5, 1990, the EPA announced proposed fines of \$254,728 against Textron Lycoming for violating federal waste disposal and export regulations.¹⁴⁹ Textron Lycoming allegedly shipped at least 834 truck loads of metal hydroxide sludge from the U.S. to a Canadian hazardous waste treatment facility without permission from the EPA.¹⁵⁰ From 1987 through 1989, in a similar incident, New York tanker trucks secretly filled the bottom of their tanks with burnable chemical waste.¹⁵¹ The drivers would then fill the rest of the tank with diesel or heavy heating oil and sell the mixture at bargain prices across the Canadian border.¹⁵² When burned, the tainted fuel produced toxic emissions.¹⁵³ In response, Canada closed 125 of 175 entry points for fuel tankers. After a lengthy investigation twelve people were charged with eighty-eight criminal charges of conspiracy, fraud and theft.¹⁵⁴

V. INTERNATIONAL REGULATIONS AND PROPOSALS

A. *Agreements in Which the U.S. is Not a Participant*

1. European Community

In 1984, the Council of the European Community (EC) adopted a directive that organized the supervision and control of transfrontier shipments of hazardous waste within the EC.¹⁵⁵ Under this directive,

Hazardous Waste); Gilmore, *supra* note 30, at 893 n.66; Handley, *Canada supra* note 2, at 10,064 n.44 ("Exports of nonhazardous waste to Canada do occur, but EPA currently has no official means of tracking nonhazardous waste exports.").

149. *Fines Totaling More than \$282,000 Proposed for Export, Medical Waste Tracking Violations*, [Current Developments] 20 Env't Rep. (BNA) No. 50, at 1970 (Apr. 13, 1990).

150. *Id.* See also Handley, *Canada, supra* note 2, at 10065 nn.49-51 and accompanying text.

151. CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 94-96 (citing Ferguson & Portfield, *Globe & Mail*, series of reports from Toronto on toxic fuel exports from the U.S. to Canada, May 8-10, 1989).

152. *Id.*

153. *Id.*

154. *Id.* See also Handley, *Canada, supra* note 2, at 10064-65 nn.45-48 and accompanying text.

155. 631 O.J. EUR. COMM. (No. L 326) 31 (1984). The EC is currently comprised of Belgium, Denmark, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom. EUROPA WORLD YEAR BOOK 1990, vol. 1, at 136. With the entry of Spain and Portugal in the EC, the 1984 directive was amended to include entries in Spanish and Portuguese. 121

exporters of hazardous waste¹⁵⁶ are to notify the recipient and transit countries of: (1) the content of the shipment; (2) the route of the shipment; (3) measures to be taken to ensure its safe transportation; and (4) the contract agreement with the importer, who must have adequate technical capacity for the disposal of the waste.¹⁵⁷ No hazardous waste can be shipped to an EC member state until the receiving country has acknowledged receipt of the notification.¹⁵⁸ In addition to these notification and acknowledgement requirements, the 1984 directive imposed reporting, packaging and labeling requirements.¹⁵⁹

One major weakness of the 1984 directive was its failure to fully consider non-EC member states. Although hazardous waste exporters were required to send prior notification to non-EC member states, no provisions existed for non-member states to refuse authorization.¹⁶⁰ On June 12, 1986, the Council amended the 1984 directive to remedy this situation.¹⁶¹ The 1986 amendment contained procedures that are to be applied more strictly to hazardous waste exports shipped to non-member states than to similar exports shipped to EC countries. Article 3(4) of the 1986 amendment requires a hazardous waste exporter who intends to ship to a non-member state to obtain an agreement with that non-member state before beginning the notification procedures.¹⁶²

Despite these Council directives, recent events have shown that the provisions are neither sufficiently detailed¹⁶³ nor adequately enforced.¹⁶⁴

O.J. EUR. COMM. (No. L 100) 20 (1986).

156. Hazardous waste is vaguely defined to include a list of 27 chemical (such as arsenic, mercury and cadmium) "in such quantities or in such concentrations as to constitute a risk to health or the environment." No uniform standards are set specifying these quantities or concentrations. 319 O.J. EUR. COMM. (No. L 84) 43, 44, 48 (1978).

157. 631 O.J. EUR. COMM. (No. L 326) 31, 33 (1984).

158. *Id.*

159. *Id.* at 35.

160. *See* 631 O.J. EUR. COMM. (No. L 326) 31, 33 (1984).

161. 279 O.J. EUR. COMM. (No. L 181) 13 (1986).

162. *Id.* at 14. *See also* Greenhouse, *Europe's Failing Efforts to Exile Toxic Trash*, N.Y. Times, Oct. 16, 1988, § 4, at 6, col. 1 (late city final ed.) ("The European Community has adopted a directive that calls on the 12 member nations to allow toxic waste to be exported from their countries only after determining that the receiving country has agreed to accept the waste and has adequate means of disposing of it. The directive also calls on members to allow waste into their countries only after assuring that it will be disposed of properly.").

163. *See, e.g., supra* note 156; Handley, *International Legal Controls, supra* note 91, at 10,175-78.

164. By October 1988, only three countries have enacted the Council of European Community's directive into law. Greenhouse, *supra* note 162; Millman, *supra* note 15;

For example, between September 1987 and May 1988, an Italian waste broker¹⁶⁵ directed five shiploads of waste, totalling 3,800 tons, to Koko, Nigeria, where they were dumped in a dirt lot in a residential area.¹⁶⁶ Later, it was discovered that some of the drums contained polychlorinated biphenyls (PCBs), one of the world's most toxic industrial wastes, and there was some suggestion that other containers held biological waste¹⁶⁷ and radioactive materials.¹⁶⁸ Leaking containers reportedly seeped into Koko's water supply and contaminated the village's rice, which led to numerous illnesses, premature births and 19 deaths.¹⁶⁹ While attempting to clean up the waste site, three Nigerian workers were rushed to the hospital with chemical burns. One man was partially paralyzed and others vomited blood.¹⁷⁰

Political Briefs from Europe, 3 GREENPEACE WASTE TRADE UPDATE 4 (Apr. 1, 1990) (citing INT'L ENV'T. LAW., Dec. 1989). On July 13, 1988, the Commission of the European Communities published a communication noting that the:

directives have certainly not been met in connection with contracts for the importation of very large quantities of waste into a number of African countries which do not possess the necessary technical capacity to deal safely with the type of waste concerned.

Commission of the European Communities, *Communication from the Commission: Export of Toxic Waste*, COM(88) 365, at 2 (July 13, 1988) (final). The Commission stated that it would take steps to have the prior directives quickly implemented by member states and would adopt new directives to establish "a more precise and uniform definition of hazardous waste as well as more precise rules for the transport and elimination of waste and fuller information requirements." *Id.* By April 1989, two of the twelve EC countries had not yet implemented the directives, and another four had just enacted them within the last few months. Johnson, *Keeping Tabs on the World's Wastes*, 96 CHEMICAL ENGINEERING 48 (Apr. 1989).

165. Italian businessman Gianfranco Raffaele planned to make \$4.3 million from the arrangement. Raffaele fled Nigeria, thus narrowly escaping arrest. Lief, Barnes & Zulueta, *supra* note 36.

166. A retired Nigerian timber worker, Sunday Nana, was persuaded to store the waste containers in his back yard for \$100 per month, a small fortune in his village. Two years after the drums were dumped, Nana died of respiratory failure, although authorities claimed there was no connection. Harden, *supra* note 35; *West Africa in Toxic Waste Dumping Furor; Foreign Deals Protested*, Facts on File World News Dig., Aug. 12, 1988, § G2, at 584; Lief, Barnes & Zulueta, *supra* note 36; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 1-2.

167. Marshall, *Public Spurs Cleanup; West Europe has Its Fill of Toxic Waste*, L.A. Times, Feb. 28, 1989, § 1, at 1, col. 1 (home ed.).

168. Harden, *supra* note 35; *West Africa in Toxic Waste Dumping Furor; Foreign Deals Protested*, Facts on File World News Dig., Aug. 12, 1988, § G2, at 584.

169. Lief, Barnes & Zulueta, *supra* note 36; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 1-2.

170. Lief, Barnes & Zulueta, *supra* note 36; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 1-2. The Nigerian workers lacked protective masks, boots

In response to this disaster, Nigeria arrested between 15 and 54 people involved in the dumping scheme. Nigeria seized Italian and Dutch cargo ships unrelated to the toxic waste, and it recalled its ambassador from Rome.¹⁷¹ Shamed by the international community, in June 1989, Italy imposed the strictest export regulations in Europe, including a ban on all exports of municipal and hazardous waste to all non-EC countries.¹⁷²

For years, Eastern Europe has been one of the favorite dumping sites of Western Europe.¹⁷³ East Germany, for example, had reportedly been accepting between 1 and 5.5 million tons of waste a year in exchange for hard currency.¹⁷⁴ Only with the recent independence of Eastern Europe and unification of Germany has the extent of these hazardous waste shipments and their reckless disposal come to light.¹⁷⁵ In one East German town 10 miles from the West German border, there is serious concern that toxic waste from a local dump site may have seeped into the ground water and may contaminate the water supply.¹⁷⁶ With the reunification of Germany, West Germany will have to address the enormous hazardous waste disposal problem that it

and other basic equipment to handle the waste. *Toxic Waste; Trade-Offs in Poison and Poverty*, Fin. Times, Aug. 31, 1988, at 6.

171. Lief, Barnes & Zulueta, *supra* note 36; Harden, *supra* note 35; *West Africa in Toxic Waste Dumping Furor; Foreign Deals Protested*, Facts on File World News Dig., Aug. 12, 1988, § G2, at 584. The Dutch ship was not held long, but the Italian vessel was not released until Italy agreed to remove the waste. *West Africa in Toxic Waste Dumping Furor; Foreign Deals Protested*, Facts on File World News Dig., Aug. 12, 1988, § G2, at 584. On the return of the waste to the Italian port of Manfredonia, mobs went on a three-day rampage, barricading entrance to the city and setting fire to the town hall, to protest an order of the central government to allow the toxic waste carrier to dock there. Marshall, *supra* note 167; Lief, Barnes & Zulueta, *supra* note 36.

172. *Waste Trade Opposition Grows Within European Government*, 2 GREENPEACE WASTE TRADE UPDATE 3 (Dec. 1989); Greenhouse, *supra* note 162.

173. Marshall, *supra* note 167; French, *supra* note 14, at 11; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 96-100; Atkinson, *Control of Hazardous Waste Exports*, 16 BARRISTER 46, 46 (Fall 1989); Millman, *supra* note 15.

174. *Europe: Skeletons in the Closet of East German Waste Management — Government Bans Industrial Waste Imports*, 3 GREENPEACE WASTE TRADE UPDATE 3 (Apr. 1, 1990).

175. French, *supra* note 14, at 11; CENTER FOR INVESTIGATIVE REPORTING, *supra* note 1, at 96-100; *Europe: Skeletons in the Closet of East German Waste Management — Government Bans Industrial Waste Imports*, 3 GREENPEACE WASTE TRADE UPDATE 3 (Apr. 1, 1990).

176. Marshall, *supra* note 167; *Europe: Skeletons in the Closet of East German Waste Management — Government Bans Industrial Waste Imports*, 3 GREENPEACE WASTE TRADE UPDATE 3 (Apr. 1, 1990).

helped to create.¹⁷⁷

2. Africa and the Caribbean

On March 22, 1990, the EC agreed, under the Lome IV Treaty, to ban toxic waste exports to 68 former European colonies in Africa, the Caribbean,¹⁷⁸ and the Pacific.¹⁷⁹ According to Greenpeace, this agreement is the world's most comprehensive prohibition on international waste trade.¹⁸⁰ It is worth noting, however, that at least 50 developing countries are not covered by this agreement.¹⁸¹

3. Other Countries

Although Japan reportedly exports almost no toxic waste,¹⁸² Japanese officials stated that it will have to transport hazardous waste abroad when domestic waste disposal facilities operate at full capacity.¹⁸³ Under an agreement with United Nations Environment Programme (UNEP), Japan will begin monitoring the transboundary movement of industrial waste in Asia.¹⁸⁴ The Japanese Health and Welfare Ministry will investigate the responsible governmental agencies, disposal firms and related facilities to monitor the production and

177. On January 26, 1990, East Germany banned all further industrial waste imports. *Europe: Skeletons in the Closet of East German Waste Management — Government Bans Industrial Waste Imports*, 3 GREENPEACE WASTE TRADE UPDATE 3 (Apr. 1, 1990); French, *supra* note 14, at 14.

178. Rotman, *Hazardous Waste: Tightening Rules — and Options Up the Ante*, CHEMICAL WEEK 34 (Aug. 22, 1990).

179. *Waste Shipments to 68 African, Caribbean and Pacific Countries will be Prohibited*, 2 GREENPEACE WASTE TRADE UPDATE 2 (Dec. 1989); *Political Briefs from Europe*, 3 GREENPEACE WASTE TRADE UPDATE 3 (Apr. 1, 1990). For a listing of ACP member states, see 1990 EUR. Y.B. 136; or *Waste Shipments to 68 African, Caribbean and Pacific Countries will be Prohibited*, 2 GREENPEACE WASTE TRADE UPDATE 2 (Dec. 1989).

180. *Waste Shipments to 68 African, Caribbean and Pacific Countries will be Prohibited*, 2 GREENPEACE WASTE TRADE UPDATE 2 (Dec. 1989). Before this agreement, the tiny African nation of Guinea-Bissau had agreed to accept hazardous waste through private U.S. and European companies in exchange for \$600 million — three times the country's gross national product. Marshall, *supra* note 167.

181. French, *supra* note 14, at 13.

182. In 1979, Japan dumped low-level nuclear waste in the South Pacific off the Mariana Islands. However, due to an outcry from the Pacific island countries, Japan ended this practice. Peng, *Third World: Receptacle for World's Toxic Waste*, Inter Press Service, Sept. 21, 1988 (LEXIS, NEXIS).

183. *Japan to Start Research on Transboundary Movement of Waste*, Kyodo News Service, Oct. 6, 1989 (LEXIS, NEXIS).

184. *Id.*

treatment of industrial wastes in Thailand, Malaysia, China, Indonesia and South Korea.¹⁸⁵

B. Agreements in Which the U.S. is a Participant

1. Organization for Economic Cooperation and Development

The Organization for Economic Cooperation and Development (OECD)¹⁸⁶ adopted the first international legal instrument with regard to the transfrontier movement of hazardous waste on February 1, 1984.¹⁸⁷ This agreement requires that signatory countries¹⁸⁸ "shall control the transfrontier movements of hazardous waste and, for this purpose, shall ensure that the competent authorities of the countries concerned are provided with adequate and timely information concerning such movements."¹⁸⁹ The Council agreed to additional nonbinding recommendations, including notification and consent procedures which are similar to legislation that has since been adopted by the United States and the EC.¹⁹⁰ Like the EC,¹⁹¹ in 1986, the OECD Council decided to

185. *Id.*

186. The OECD is comprised of Australia, Austria, Belgium, Canada, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States and West Germany. In addition, limited forms of cooperation have been established with Yugoslavia. 1990 EUR. Y.B. 185; G. SCHWARZENBERGER & E. BROWN, A MANUAL OF INTERNATIONAL LAW 285 (1976).

187. *OECD: Council Decision and Recommendation on the Transfrontier Movements of Hazardous Waste*, 23 I.L.M. 214, (Jan. 1984) (reproduced from OECD Document C(83)180 (final)) [hereinafter *OECD Transfrontier Decision*]; Rublack, *Controlling Transboundary Movements of Hazardous Waste: The Evolution of a Global Convention*, 13 FLETCHER F. WORLD AFFAIRS 113, 120 (Winter 1989) (citing Smets, *Transfrontier Movement of Hazardous Wastes*, 14 ENVTL. POL'Y & L. 14, 17 (1985)).

188. Australia and Greece abstained, and therefore are not bound by the decision. In addition, decisions are not binding on signatory countries until they have incorporated the agreement into their own legislative system. G. SCHWARZENBERGER & E. BROWN, A MANUAL OF INTERNATIONAL LAW 286 (1976). Council recommendations are not binding. Handley, *International Legal Controls*, *supra* note 91, at 10178 & n.134. *See also* Gilmore, *supra* note 30, at 901 n.108 (1989) ("OECD documents have traditionally been standards of achievement, rather than mandatory law, in order to attract greater compliance.").

189. *OECD Transfrontier Decision*, *supra* note 187, at 215.

190. *Id.* at 215-17; *See supra* notes 49-90, 155-59 and accompanying text.

191. *See supra* notes 160-62 and accompanying text. *See also* Nanda & Bailey, *Export of Hazardous Waste and Hazardous Technology: Challenge for International Environmental Law*, 17 DEN. J. INT'L. L. & POL'Y 155 (Fall 1988) (discussing the Seveso, Italy accident in 1976, the disaster in Bhopal, India in 1984, and the Chernobyl catastrophe in 1986, and their effects on international environmental law).

emphasize the care to be taken when exporting hazardous waste to non-OECD countries.¹⁹² This decision requires member states to: (1) ensure that their authorities are empowered to prohibit exports; (2) apply no less strict controls on hazardous waste exports to non-member states than to member states; (3) prohibit export of hazardous waste prior to notification to transit countries and consent from non-member destination countries; and (4) prohibit export of hazardous waste to a non-member country, unless it is directed to an adequate disposal facility within the country.¹⁹³

Until 1988, the OECD defined hazardous waste as:

any waste other than radioactive waste considered as hazardous or legally defined as hazardous in the country where it is situated or through or to which it is conveyed, because of the potential risk to man or the environment likely to result from an accident or from improper transport or disposal.¹⁹⁴

This definition was not only vague, but it also presented an obstacle to further agreements.¹⁹⁵ On May 27, 1988, the OECD repealed its old definition of hazardous waste, and, like the U.S.¹⁹⁶ and EC systems,¹⁹⁷ adopted a core list of substances that are defined as hazardous wastes.¹⁹⁸ Hazardous wastes which are now to be controlled include: (1) all wastes on the core list, unless they do not possess any defined hazardous characteristics;¹⁹⁹ and (2) all other wastes which are legally

192. *OECD: Council Decision-Recommendation on Exports of Hazardous Wastes*, 25 I.L.M. 1010 (July 1986) (reproduced from OECD Document C(86)64 (final)).

193. *Id.* at 1011. The agreement does not define what constitutes an "adequate disposal facility". See also Greenhouse, *supra* note 162 ("[A] rule adopted by the Organization for Economic Cooperation [and Development], an association of 24 industrial nations, . . . holds the originating nation responsible for waste that is disposed of improperly.").

194. *OECD: Council Decision-Recommendation on Exports of Hazardous Wastes*, 25 I.L.M. 1011 (July 1986) (reproduced from OECD Document C(86)64 (final)); Greenhouse, *supra* note 162; *OECD Transfrontier Decision*, *supra* note 187.

195. Handley, *International Legal Controls*, *supra* note 91, at 10178. See *infra* notes 201-202 and accompanying text.

196. See *supra* note 25 and accompanying text.

197. See *supra* note 156.

198. *OECD: Council Decision on Transfrontier Movement of Hazardous Wastes*, 28 I.L.M. 257 (1989) (reproduced from OECD Document C(88)90 (final)).

199. The decision notes that objective tests to define these hazards quantitatively do not exist. *Id.* at 271-72. How then is it to be objectively determined whether a waste on the core list does or does not possess any hazardous characteristic? To what degree

defined as hazardous waste in the importing country.²⁰⁰ Part (2) of the new OECD definition is substantially similar to the old definition. Consequently, some of the problems associated with the old definition still remain. Hazardous or toxic waste is defined in confusingly different ways by different countries.²⁰¹ Some member countries, including the United States, do not consider the definitions used by other countries to determine whether notification and consent provisions should apply.²⁰² The inherent contradiction between the U.S. and OECD systems decreases the likelihood of complete and universal implementation of the OECD decision.²⁰³

2. United Nations Environment Programme

The United Nations General Assembly established the United Nations Environment Programme (UNEP) in 1972. UNEP followed the recommendations set forth in the U.N. Conference on the Human Environment held at Stockholm, Sweden, June 16, 1972.²⁰⁴ Principle 21 of the Stockholm conference declared that "[s]tates have . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States."²⁰⁵

UNEP has undertaken two major projects.²⁰⁶ The first project established and continuously updates the International Register of Potentially Toxic Chemicals (IRPTC). The IRPTC collects and stores data on hundreds²⁰⁷ of toxic pesticides, pharmaceuticals and hazardous in-

must a substance be non-toxic, non-corrosive, non-explosive, and non-reactive to be to be considered non-hazardous?

200. *Id.* at 260.

201. *Hazardous Waste; Passing the Muck*, ECONOMIST 41 (Aug. 19, 1989).

202. In addition, Spain and Australia abstained from the decision and therefore are not bound by it. *Id.* at 257.

203. Handley, *International Legal Controls*, *supra* note 91, at 10178.

204. 1990 EUR. Y.B. 40. *But see* Rublack, *supra* note 187, at 117 (stating that UNEP was established on December 15, 1962).

205. *United Nations Conference on the Human Environment: Final Documents*, 11 I.L.M. 1416 (1972) (reproduced from U.N. Document A/CONF. 48/14 and Corr. 1).

206. Traylor, *Dangerous Chemicals in International Perspective: The Developing United Nations Role*, [News & Analysis] 15 *Envtl. L. Rep.* (Envtl. L. Inst.) 10156, 10156 (June 1985).

207. In 1979, 250 chemicals were identified in the first Working List of Selected Chemical Substances. Today, the list contains over 600 chemicals. *Id.* at 10158 (citing IRPTC Legal file 1983, IRPTC Data Profile Series, No. 4, UN Publication, Sales No. E. 83-0-1). Sankey, *Domestically Prohibited Goods and Hazardous Substances — A New GATT Working Group is Established*, 23 J. WORLD TRADE 99, 103 (1989).

dustrial wastes, and makes that data available world wide through a global information-sharing network.²⁰⁸

Second, UNEP developed guidelines for the international exchange of hazardous waste.²⁰⁹ This goal was advanced by the "Environmentally Sound Management of Hazardous Waste" agreement, adopted in Cairo, Egypt on June 17, 1987.²¹⁰ Although this agreement covered the management of hazardous waste from cradle to grave, it is nonbinding.²¹¹ To develop a legally binding treaty, UNEP coordinated the Basel Convention.²¹²

a. *Basel Convention*

After five years of negotiations, representatives from 117 countries met in Basel, Switzerland in March, 1989 to establish a framework to regulate international shipments of hazardous waste.²¹³ As of 1990, 53

208. Traylor, *supra* note 206, at 10156-57. See also Nanda & Bailey, *Exports of Hazardous Waste and Hazardous Technology: Challenge for International Environmental Law*, 17 DEN. J. INT'L L. & POL'Y 155, 188 (Fall 1988) (Now that a list compilation is complete, "the next phase is to start a program monitoring banned chemicals around the world and their effects on human health.") (citing *UNEP Group Moves From List Compilation to Monitoring Banned Chemicals Worldwide*, 9 Int'l Env't Rep. (BNA) 357 (Oct. 8, 1986)). See also Sankey, *Domestically Prohibited Goods and Hazardous Substances — A New GATT Working Group is Established*, 23 J. WORLD TRADE 99, 103 (1989) (discussing the London Guidelines for the Exchange of Information on Chemicals in International Trade coordinated under UNEP in 1987. This agreement requires signatory countries to notify each other whenever they ban or restrict a chemical, so that other nations can similarly assess the chemical's potential risks.)

209. Traylor, *supra* note 206, at 10156, 10158.

210. Rublack, *supra* note 187, at 118; *Issues and Policy*, *supra* note 8, at 384 (1989) (citing U.N. Doc. UNEP/GC.14/17, Annex II (1987)).

211. *Issues and Policy*, *supra* note 8, at 384 (1989) (citing U.N. Doc. UNEP/GC.14/17, Annex II (1987); *Third World Sees Threats from Industrialized Country Hazardous Wastes*, UNEP Press Release (June 3, 1988)).

212. *Issues and Policy*, *supra* note 8, at 384 (1989) (citing U.N. Doc. UNEP/GC.14/17, Annex II (1987); *Third World Sees Threats from Industrialized Country Hazardous Wastes*, UNEP Press Release (June 3, 1988)); Rublack, *supra* note 187, at 119 (citing UNEP/WG.182/3, 2).

213. *The Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal*, 28 I.L.M. 649 (1989) (reproduced from UNEP Documents IG.80/L.12, IG.80/3, March 22, 1989) [hereinafter *Basel Convention*]; Johnson, *Keeping Tabs on the World's Wastes*, 96 CHEMICAL ENGINEERING 48 (Apr. 1989). The OECD was also working on an international agreement, but has decided instead to adopt the Basel convention unless and until the UNEP treaty is unsuccessful. *Issue and Policy*, *supra* note 8, at 385-86 & n.119 (1989) (citing an interview with Mathew Brosius, OECD employee, on February 15, 1989).

nations, including the United States,²¹⁴ have signed the Basel Convention, but only 4 countries have ratified it.²¹⁵ The Convention does not become effective until it has been ratified by at least 20 nations.²¹⁶

The Basel Convention was modeled after EPA, EC and OECD regulations.²¹⁷ It contains similar notification and consent provisions,²¹⁸ comparable annual reporting requirements,²¹⁹ and allows for multilateral or bilateral agreements in lieu of the UNEP standards, as long as the provisions "are no less environmentally sound than those provided by [the] Convention."²²⁰ Some provisions in UNEP and the U.S. systems are substantially different. For instance, Article 4, sec. 2(e) of the Basel Convention prohibits exports even with an importing country's consent "if [the exporting country] has reason to believe that the waste in question will not be managed in an environmentally sound manner."²²¹ In contrast, EPA does have not the authority to stop an export once the a receiving country has given its consent.²²² In addition, EPA has no ability to assess the environmental soundness of disposal facilities in foreign nations.

U.S. regulations and the Basel Convention differ in their definitions of hazardous waste. The Basel Convention defines hazardous waste as any waste defined as hazardous by the party of import, export

214. *Bush Endorses Waste Pact*, Wash. Times, Mar. 22, 1990, at A2; *Basel Convention Update*, 3 GREENPEACE WASTE TRADE UPDATE 7 (Apr. 1, 1990).

215. French, *supra* note 14, at 13.

216. *Basel Convention*, *supra* note 213, art. 25, at 676.

217. See Johnson, *Keeping Tabs on the World's Wastes*, 96 CHEMICAL ENGINEERING 48 (Apr. 1989).

218. *Basel Convention*, *supra* note 213, art. 6, at 664-65.

219. *Id.* art. 14, at 669-70.

220. *Id.* art. 11, at 668.

221. *Id.* art. 4, § 2(e), at 662. See Rublack, *supra* note 187, at 119 (citing UNEP/WG.182/2, 21) ("Originally, the draft had taken the wording from Cairo guideline 26 (f), which requires the state of export to be 'satisfied with' the environmental soundness of the ultimate disposal. . . . The changed version is more flexible, but allows for a restrictive interpretation under which the exporting country may make its judgment solely on the basis of information provided by the exporter of the country of import.").

222. See *supra* note 117 and accompanying notes. See Handley, *International Legal Controls*, *supra* note 91, at 10,181 (suggesting that a possible source of authority is the Export Administration Act, which allows the State Department to halt shipments of waste "to the extent necessary to further significantly foreign policy [interests] of the United States or to fulfill its declared international obligations." 50 U.S.C. App. § 2405(a). However, the Export Administration Act is cumbersome because it requires the President to consult with Congress before imposing controls on exports. 50 U.S.C. App. § 2405(e)).

or transit.²²³ In addition, UNEP includes a core list of chemicals to be treated as hazardous.²²⁴ This list includes infectious waste, municipal garbage and incinerator ash, all of which are considered to be nonhazardous under U.S. regulations and are not regulated under U.S. law.²²⁵

The two systems also differ with regard to re-importing hazardous waste. The Basel Convention contains a duty to re-import. The disposal cannot be completed as contracted, despite the consent of all the parties, if the exporting country must take back the waste or arrange an environmentally sound alternative.²²⁶ While this does not directly contradict EPA rules, there is no parallel U.S. requirement.

Other sections of the UNEP agreement also deviate from EPA regulations, but often the international treaty leaves ample room for working around these differences. For instance, unlike U.S. law, the Basel Convention requires not only the consent of the import country, but also the consent of all transit countries.²²⁷ However, Article 6, sec. 4 of the Basel Convention allows the parties to agree expressly not to require consent from transit countries.²²⁸ The issue of capacity is another example.²²⁹ Article 9(a), of the Basel Convention states that exports will only be allowed if the exporting country "does not have the technical capacity and the necessary facilities, capacity, or suitable dis-

223. *Basel Convention*, *supra* note 177, art. 1, § 1(b), at 659. This raises some of the same problems mentioned earlier with regard to OECD regulations. *See supra* notes 201-202 and accompanying text.

224. *Basel Convention*, *supra* note 177, art. 1, § 1(a), at 659.

225. *Id.* Annex 1 at 678-79. *See* Atkinson, *Control of Hazardous Waste Exports*, 16 BARRISTER 46, 47 (Fall 1989); *Hearing on U.S. Waste Exports*, *supra* note 1, at 27 (statement of Frederick M. Bernthal, Assistant Secretary of Oceans, International Environmental and Scientific Affairs, U.S. Department of State); *Hearing on Waste Export Control*, *supra* note 2, at 67 (statement of Scott A. Hajost, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency). *See also*, *Solid Waste*, [Current Developments] 20 Env't Rep. (BNA) No. 38, at 1637 (Jan. 19, 1990) (noting that two federal court decisions in November 1989 held that incinerator ash need not be handled as a hazardous waste; *Environmental Defense Fund v. Wheelabrator Technologies, Inc.*, DC SNY, 30 ERC 1609, 11/22/89, 20 ER 1347; *EDF v. Chicago*, DC NIll, 30 ERC 1624, 11/29/89, 20 ER 1375).

226. *Basel Convention*, *supra* note 177, art. 8, at 666. *See* Atkinson, *Control of Hazardous Waste Exports*, 16 BARRISTER 46, 46 (Fall 1989).

227. *Basel Convention*, *supra* note 177, art. 6, § 4, at 664-65.

228. *Id.* at art. 6, § 4, at 665. "In this latter case, if no response is received by the State of export within 60 days of the receipt of a given notification by the State of transit, the State of export may allow the export to proceed through the State of transit." *Id.*

229. *See Hearing on U.S. Waste Exports*, *supra* note 1, at 123-24 (statement of Dr. William Y. Brown, Director of Environmental Affairs, Waste Management Incorporated).

posal sites."²³⁰ Yet, section (c) allows transboundary movements if they are "in accordance with other criteria decided by the Parties, provided these criteria do not differ from the objectives of this Convention."²³¹ While Article 9(c) is ambiguous, the Basel Convention will probably permit U.S. export of hazardous waste to continue despite its adequate domestic capacity.²³²

The Basel Convention is only a framework. As such, it still contains at least two major unresolved issues: Questions of liability and compensation, and the transfer of technology.²³³ Developing nations insist that exporters retain responsibility from "cradle to grave," while the industrialized nations refuse to take responsibility for mishandling at foreign disposal facilities.²³⁴ Moreover, developing nations have called for the establishment of a research center to promote the environmentally sound management of hazardous waste.²³⁵ Industrialized nations, anxious to avoid the additional expense, insist that the technology is already available, and that the Secretariat of UNEP should simply act as a clearing house for information.²³⁶

VI. LEGISLATIVE PROPOSALS

From 1988 to the present, Congress has introduced a number of bills to impose new restrictions on the export of hazardous waste. Yet not one of these bills has come to a vote.²³⁷ The 101st Congress was no exception. Congress was too busy working on the budget and the new Clean Air Act to direct its full attention to redefining hazardous waste export regulations.²³⁸ Nevertheless, it is useful to review recent bills to

230. *Basel Convention*, *supra* note 177, art. 4, § 9(a), at 663.

231. *Id.* at art. 4, § 9(c), at 663.

232. *See Hearing on U.S. Waste Exports*, *supra* note 1, at 123-24 (statement of Dr. William Y. Brown, Director of Environmental Affairs, Waste Management Incorporated, referring to, but not citing, EPA hazardous waste treatment requirements).

233. *Basel Convention*, *supra* note 177, art. 12, at 668. *See Johnson, Keeping Tabs on the World's Wastes*, 96 *CHEMICAL ENGINEERING* 48 (Apr. 1989).

234. Johnson, *Keeping Tabs on the World's Wastes*, 96 *CHEMICAL ENGINEERING* 48 (Apr. 1989).

235. *Id.*

236. *Id.*

237. *Bush Administration, U.S. Congress Stall on Waste Trade*, 3 *GREENPEACE WASTE TRADE UPDATE* 5, 5-6 (Apr. 1, 1990).

238. Rotman, *Tightening Rules — and Options — Up the Ante*, *CHEMICAL WEEK*, Aug. 22, 1990, at 34. RCRA expired on September 30, 1988, but additional funding was provided as part of an EPA appropriation. *Baucus Introduces RCRA Bill Focusing on Waste Reduction*, [Analysis & Perspective] 3 *Toxic L. Rep. (BNA) No. 17*, at 537 (Sept. 21, 1988); Sarasohn & Kaplan, *Derailing Limits on Toxic Exports*,

predict what Congress is likely to propose in the future.

On June 1, 1989, Senator Max Baucus (D-Mont.) introduced legislation to amend the Solid Waste Disposal Act.²³⁹ S. 1112²⁴⁰ and S. 1113²⁴¹ would prohibit the export of solid waste to any foreign nation except Canada.²⁴² This ban would also exempt solid waste destined for recycling, provided that the United States has entered into a bilateral agreement with the destination country.²⁴³

Representative Mike Synar (D-OK) sponsored a bill (H.R. 2525) that would ban the export of solid waste, except where an international agreement has been signed between the United States and the importing country.²⁴⁴ Under these compulsory, international agreements, the importing country must meet standards no less strict than that which would be required if the waste were managed in the United States.²⁴⁵

Legal Times, Nov. 13, 1989, at 5.

239. Handley, *Canada*, *supra* note 2, at 10,065 (Feb. 1990) (citing S. 1113, 101st Cong., 1st Sess., 135 CONG. REC. S5989 (daily ed. June 1, 1989); *U.S. Waste Trade Legislation Stagnates*, 2 GREENPEACE WASTE TRADE UPDATE 4, 5 (Dec. 1989). *See also*, *Bills Introduced*, [News & Analysis] 19 *Envtl. L. Rep.* (Envtl. L. Inst.) 10368 (Aug. 1989); *Overview*, [News & Analysis] 20 *Envtl. L. Rep.* (Envtl. L. Inst.) 10039 (Jan. 1990).

240. *Hearing before the Subcomm. on Environmental Protection of the Comm. on Environment and Public Works*, 101st Cong., 1st Sess. 113 (1989) (S.1112 Municipal Solid Waste Source Reduction and Recycling Act of 1989).

241. *Id.* at 158 (S.1113 Waste Minimization and Control Act of 1989).

242. Handley, *Canada*, *supra* note 2, at 10,065 n.53 (citing S. 1113, 101st Cong., 1st Sess., 135 CONG. REC. S5989 (daily ed. June 1, 1989); *U.S. Waste Trade Legislation Stagnates*, 2 GREENPEACE WASTE TRADE UPDATE 4, 5 (Dec. 1989). *See also* *Bills Introduced*, [News & Analysis] 19 *Envtl. L. Rep.* (Envtl. L. Inst.) 10368 (Aug. 1989); *Overview*, [News & Analysis] 20 *Envtl. L. Rep.* (Envtl. L. Inst.) 10039 (Jan. 1990).

243. Handley, *Canada*, *supra* note 2, at 10,065. Thus, the United States bilateral agreement with Mexico would be unaffected. *Id.* at 10,065 n.55.

These legislative proposals recognize both the potential for international trade in recyclable materials, and that Canada may have a special trade relationship with the United States because of its contiguous borders and Canada's technical sophistication about waste management practices. Moreover, because waste crosses the border in both directions, leaving the U.S. border open to waste trade may be advantageous to both countries. *Id.* at 10065.

244. The bill is sponsored by Congressmen Michael Synar, John Porter, John Conyers and Howard Wolpe. *Hearing on Waste Export Control*, *supra* note 2, at 3-22 (copy of the proposed bill); *Hearing on U.S. Waste Exports*, *supra* note 1, at 4 (statement of the Honorable Howard Wolpe (D-MI)); *House Bill Would Require Foreign Countries to Meet U.S. Standards for Exported Waste*, [Export Policy] 6 *Int'l Trade Rep.* (BNA) No. 23, at 732 (June 7, 1989); *U.S. Waste Trade Legislation Stagnates*, 2 GREENPEACE WASTE TRADE UPDATE 4, 4 (Dec. 1989).

245. *Hearing on Waste Export Control*, *supra* note 2, at 7-8 (H.R. 2525, § 12002); *See also* *Hearing on U.S. Waste Exports*, *supra* note 1, at 4 (statement of the

In addition, the United States must be allowed access to treatment, storage or disposal facilities in the receiving countries, as well as any other information necessary to ensure that the waste is properly treated and disposed.²⁴⁶ H.R. 2525 does not apply to certain solid waste exported for recycling.²⁴⁷

In November 1989, Representative Thomas Luken (D-Ohio) introduced H.R. 3735, to reauthorize the Resource Conservation and Recovery Act (RCRA), and H.R. 3736 to regulate the export of hazardous waste.²⁴⁸ This legislation is substantially similar to H.R. 2525, but H.R. 3736 does not include a liability provision.²⁴⁹ Under Luken's bill, U.S. waste generators could not be held liable for future damages caused by the hazardous waste exported abroad.²⁵⁰ In effect, this would greatly encourage waste generators, seeking to avoid future liability, to export their waste.

VII. RECOMENDATIONS AND CONCLUSION

A. Ban on Hazardous Waste Exports

Unregulated trade in hazardous wastes could create an environmental disaster on a global scale. If the United States were to unilaterally deregulate the hazardous waste export industry, it would almost

Honorable Howard Wolpe (D-MI)).

246. *Hearing on Waste Export Control*, *supra* note 2, at 7-8 (H.R. 2525, § 12002); *House Bill Would Require Foreign Countries to Meet U.S. Standards for Exported Waste*, [Export Policy] 6 Int'l Trade Rep. (BNA) No. 23, at 732 (June 7, 1989).

247. *Hearing on Waste Export Control*, *supra* note 2, at 6 (H.R. 2525, § 12001(a)).

248. *Definition of Solid, Hazardous Waste Dominate Discussion of RCRA Reauthorization*, [Current Developments] 20 Env't Rep. (BNA) No. 40, at 1703 (Feb. 2, 1990); *Solid Waste*, [Current Developments] 20 Env't Rep. (BNA) No. 38, at 1637 (Jan. 19, 1990). When a draft of the legislation was first released, chemical industry representatives were confused by the vague language of the bill. Environmentalists objected to the classification of incinerator ash as a nonhazardous waste. *Draft Proposal Draws Fire from Industry, Environmental Groups*, [Analysis & Perspective] 4 Toxic L. Rep. (BNA) No. 24, at 720 (Nov. 15, 1989); *Solid Waste*, [Current Developments] 20 Env't Rep. (BNA) No. 38, at 1637 (Jan. 19, 1990). Nevertheless, after several days of hearings and all summer to work on the bills, some observers suggested that, as it is Luken's last year in the House, he might try to push the revised versions through a lame duck congressional session. Rotman, *Hazardous Waste: Tightening Rules — and Options — Up the Ante*, CHEMICAL WEEK 34 (Aug. 22, 1990).

249. See *Bush Administration, U.S. Congress Stall on Waste Trade*, 3 GREEN-PEACE WASTE TRADE UPDATE 5, 6 (Apr. 1, 1990).

250. See, e.g., *supra* notes 125-33, 165-72 and accompanying text.

certainly create an international uproar. What restrictions should be imposed on the hazardous waste export industry to maximize profits and output, while minimizing waste and harm to international relations and the environment?

Several organizations have called for a ban on all hazardous waste exports.²⁵¹ Jim Vallette, International Waste Trade Project Coordinator for Greenpeace, argues that:

[E]ven if foreign facilities operate at U.S. standards, they will still pollute the surrounding environment. One merely needs to survey the existing industrial landscape in the United States to realize the failure of U.S. waste disposal regulations to prevent incinerators and landfills from poisoning our air, soil and water. These facilities may be even less satisfactory in less industrialized countries which lack the vital infrastructure such as hospitals, emergency response equipment, evacuation roads, reliable communication technologies, and well-funded environmental protection agencies.²⁵²

Opponents of a ban argue that it is paternalistic to deny an importing country the opportunity to do its own risk/benefit analysis. This denial infringes on the importing country's sovereignty.²⁵³ States often have different needs,²⁵⁴ with varying risk sensitivities and health priorities.²⁵⁵ Yet these disparities may be quite reasonable.²⁵⁶ For instance,

a developing country might have such clean air that it could support several heavy industries without significant degradation to its air quality. It might view its clean air as a revenue-gener-

251. Porterfield, *Developing States Become Developing Dump for Toxics*, WORLD PAPER 6 (Dec. 1988) (LEXIS, NEXIS) ("The South Pacific Environment Program has called for an export ban."); *Notes on Other International Fora*, 2 GREENPEACE WASTE TRADE UPDATE 2-3 (Dec. 1989) (The Organization of African Unity, representing every nation in Africa except Morocco and South Africa, and the nations of the Non-Aligned Movement, representing 102 member states, are both working on resolutions to ban the export of toxic wastes to the territories of other countries.).

252. *Hearing on U.S. Waste Exports*, *supra* note 1, at 163.

253. French, *supra* note 14, at 15; *Prior Informed Consent: an Emerging Compromise for Hazardous Waste*, 21 CORNELL INT'L L.J. 365, 386 (1988) [hereinafter *PIC*].

254. *PIC*, *supra* note 253, at 386.

255. Handel & Lutz, *An International Policy Perspective on the Trade of Hazardous Materials and Technology*, 30 HARV. INT'L L.J. 351, 355 (1989).

256. *Hazardous Exports To The Third World: The Need to Abolish The Double Standard*, 12 COLUM. J. ENVTL. L. 71, 78 (1987) [hereinafter *The Double Standard*].

ating asset by selling to hazardous industries the right to de-grade it.²⁵⁷

Supporters of a hazardous trade ban respond that importing countries often lack the technical expertise and regulatory framework to make a truly informed decision.²⁵⁸ In addition, bans can protect developing nations from corrupt officials that accept bribes in exchange for hazardous waste.²⁵⁹

Nevertheless, a world-wide ban on hazardous waste is not necessarily in the best interests of developing countries. If technology,²⁶⁰ as well as hazardous waste is exported, developing countries can benefit from the educational enhancement, increased employment, inflow of cash, and valuable by-products from recycled waste.²⁶¹

A global ban would be particularly detrimental to countries that generate too little hazardous waste to dispose of effectively,²⁶² or nations with constraining geographical characteristics²⁶³ or population distributions.²⁶⁴ Mostafa Tolba, the executive director of UNEP, notes that economies of scale and technical expertise needed make it impossible for every country to have their own disposal plants.²⁶⁵

The United States also derives some important benefits from hazardous waste trade. For example, some U.S. waste is exported to recycling facilities in countries like Germany and the United Kingdom, that use technologies America does not have.²⁶⁶ In addition, a large

257. *Id.*

258. See *PIC*, *supra* note 253, at 386; See also, Handley, *Canada*, *supra* note 2, at 10,182.

259. *PIC*, *supra* note 253, at 386.

260. See, e.g., *Chemfix will Export Technology*, *CHEMICAL WEEK* 64 (Apr. 19, 1989); *Chemfix Technology Inc. Exports Technology to Taiwan and Far East*, *PR Newswire*, Apr. 11, 1989 (LEXIS, NEXIS).

261. Helfenstein, *supra* note 18, at 788.

262. *Hazardous Waste; Passing the Muck*, *ECONOMIST*, Aug. 19, 1989, at 41 (U.K. ed. at 21) (LEXIS, NEXIS).

263. According to Jan Huisman, director of the International Register of Potentially Toxic Chemicals, "In the Netherlands, you virtually can't put anything anywhere because it's hard to dispose of waste without bringing it in contact with the water table." *Third World: Receptacle for World's Toxic Wastes*, *Inter Press Service*, Sept. 21, 1988 (LEXIS, NEXIS).

264. See, Gilmore, *supra* note 30, at 904.

265. *Environment: Toxic Waste Exports Need Controls, Not Ban*, *Inter Press Service*, Jan. 6, 1989 (LEXIS, NEXIS).

266. *Hearing on U.S. Waste Exports*, *supra* note 1, at 37 (statement of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs); at 55 (statement of Scott A. Hajost, Acting Associate Ad-

portion of U.S. waste exports are sent from Michigan, New York and New England to Canadian facilities that are closer and cheaper than equivalent U.S. disposal sites.²⁶⁷

Moreover, while the need to export hazardous waste may be less pressing for the United States than other countries, a unilateral ban by the United States is not politically feasible.²⁶⁸ Fear has already been voiced that stringent environmental legislation will have a negative impact on the competitiveness of domestic industry.²⁶⁹ Suggestions of a unilateral ban will surely raise concerns that whole manufacturing plants in the U.S. will relocate in "pollution havens" where environmental controls are unusually lax.²⁷⁰

B. *Prior Informed Consent*

The world seems to be moving toward a universal hazardous waste export system requiring prior informed consent.²⁷¹ Yet even with a relatively simple prior informed consent scheme,²⁷² varying approaches need to be resolved.²⁷³ During the negotiations that lead to the Basel Con-

ministrator for International Activities, U.S. Environmental Protection Agency); at 169 (statement of Frances Spivy-Weber, Director, International Program, and V. Ann Strickland, Deputy Counsel and Director, Toxic Program, National Audubon Society).

267. *Id.* at 37 (statement of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs); at 55 (statement of Scott A. Hajost, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency); at 169 (statement of Frances Spivy-Weber, Director, International Program, and of V. Ann Strickland, Deputy Counsel and Director, Toxic Program, National Audubon Society). *See generally* Handley, *Canada, supra* note 2.

268. Gilmore, *supra* note 30, at 904. *But see* notes 78-81 and accompanying text (on March 22, 1990, in accordance with the Lome Convention, the EC agreed to ban toxic waste exports to 68 former European colonies in the ACP.).

269. *Hearing on Waste Export Control, supra* note 2, at 26 (statement by Representative Alex McMillan (R-NC)).

270. French, *supra* note 14, at 15. *But see The Double Standard, supra* note 256, at 79 n.36 ("It is unclear how many businesses are compelled to move abroad by the costliness of compliance with U.S. laws. Several commentators indicate that relocation may be minimal.").

271. *See supra* notes 155-62 and accompanying text (EC regulations); notes 186-200 and accompanying text (OECD agreement); notes 204-20 and accompanying text (Basel Convention).

272. *Cf. PIC, supra* note 253, at 387 (arguing that prior informed consent systems are "impractical, bureaucratic, and burdensome" and would "interfere with the ability of Third World regulators to make quick decisions when needed."); French, *supra* note 14, at 15 ("Prior informed consent does not work").

273. *See, e.g., supra* notes 201-03 and accompanying text (problems with the OECD agreement and differences between that agreement and U.S. regulations); notes

vention, it was agreed that countries exporting hazardous waste (particularly industrialized nations) should be sure that the receiving country was capable of properly handling the waste.²⁷⁴ This requirement raises questions about the proper environmental standards and the extent of review of a receiving country's facilities.

An early version of the the Basel Convention addressed the issue of proper environmental standards by requiring exporting nations to ensure that their wastes were managed in a manner no less environmentally sound than that which would be required domestically.²⁷⁵ The "no less strict than" standard was criticized on several grounds. U.S. negotiators complained that since the United States has the strictest environmental standards in the world, this provision would be a *de facto* ban on all waste exports from the U.S.²⁷⁶

Questions have also been raised about the vagueness of the provision. For example,

If five Canadian provisions are broader in scope, but two are not, is the Canadian system more, or less stringent? . . . If an approach to a given procedure is simply different (*i.e.*, analytical methods) does the fact that it is different from U.S. protocols automatically make it less stringent?²⁷⁷

221-37 (unresolved issues within the Basel Convention and differences between that treaty and U.S. regulations).

274. See Rublack, *supra* note 187, at 118-19, 124; Handley, *International Legal Controls*, *supra* note 91, at 10,181; Gilmore, *supra* note 30, at 903. This approach could avoid some of the problems, including corrupt foreign officials and economically pressed foreign governments, that are so desperate for cash that they fail to appreciate long term dangers. See *supra* notes 10-15, 258-59 and accompanying text.

275. *Hearing on U.S. Waste Exports*, *supra* note 1, at 2 (statement of Hon. Howard Wolpe (D-MI)); at 28 (statement of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs); at 159 (statement of Jim Vallette, International Waste Trade, Project Coordinator, Greenpeace).

276. *Id.* at 159 (statement of Jim Vallette, International Waste Trade, Project Coordinator, Greenpeace).

277. *Id.* at 84 (statement of Richard C. Fortuna, Executive Director, Hazardous Waste Treatment Council). See also *id.* at 93 (statement of Barry Malter, Counsel, International Environmental Policy Coalition, "In summary, our major concern is that the 'no less strict' approach is virtually impossible to implement when comparing facilities under different standards required by different sovereign governments."); at 22 (letter to Hon. Sam Gejdenson from the Hon. D.H. Burney, Canadian Ambassador, on the Canadian position regarding U.S Waste Exports). It is worth noting that Stablax, the Canadian facility that receives the majority of exported U.S. hazardous waste, does not have a double liner and leachate collection that would be required under U.S. law in accordance with RCRA. Handley, *Canada*, *supra* note 2, at 10,062.

Finally, the United States argued that by approving waste exports to a foreign country under a "no less strict than" standard, EPA might, in effect, be certifying that foreign disposal facilities are environmentally safe.²⁷⁸ As such, the United States might be held liable for any mishandling of U.S. waste by foreign government entities or private companies.²⁷⁹ In addition to these problems, a question remains concerning the extent to which an exporting country is obliged to assess the technical capacity and disposal capabilities of a country of import. While some argue that a "no less strict than" provision would require an expensive, complex international inspection program, others state that information provided by an importing country could be sufficient to satisfy EPA that its facilities are no less strict than those in the United States.²⁸⁰

The Basel Convention adopted a standard to prohibit exports of hazardous waste with the importing countries consent "if [the exporting country] has reason to believe that the waste in question will not be managed in an environmentally sound manner."²⁸¹ To what extent is the exporting country required to review the importing country's facilities? Under a "reason to believe" standard, "the exporting country may make its judgment solely on the basis of information provided by the exporter or the country of import."²⁸² There is no need for an expensive and complex international inspection program by U.S. officials before a foreign waste disposal site could be deemed "environmentally

278. *Issues and Policy*, *supra* note 8, at 389.

279. *Id.*

280. *Compare Issues and Policy*, *supra* note 8, at 390 ("Another difficulty with this approach is its demand for a sophisticated international inspection program, feasibility studies conducted in developing countries, and possibly public hearings in the United States."); *Hearing on U.S. Waste Exports*, *supra* note 1, at 121 (statement of William Y. Brown, Director of Environmental Affairs, Waste Management, Inc.) *with Hearing on U.S. Waste Exports*, *supra* note 1, at 20 (question by the Hon. John Miller and response by the Hon. Howard Wolpe (D-MI)); at 72 (question by the Hon. Peter H. Kostmayer and response by Scott Hajost, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency, "Because in general we rely on the importing country to make decisions on whether the waste is being managed properly."). *See also Hearings on U.S. Waste Exports*, *supra* note 1, at 62-75.

281. *Basel Convention*, *supra* note 177, at art. 4, § 2(e). *See supra* note 222 and accompanying text (once a receiving country has given consent, EPA has no authority to stop a hazardous waste shipment).

282. Rublack, *supra* note 187, at 124. *See supra* note, at 221. *But see Hearing on U.S. Waste Exports*, *supra* note 1, at 73 (pointing out that under this level of review greater deference is given to foreign states than is given to U.S. corporations and State governments; suggesting that this delineation of trust should be reversed).

sound.”²⁸³

One major question still remains. What environmental standard should be met? The Convention never seemed to answer this question, using merely an indeterminate standard, “in an environmentally sound manner.” The inherent vagueness of this provision of the Basel Convention, as well as the numerous conflicts between the Basel Convention and current U.S. law,²⁸⁴ suggests that this international agreement may not be in the best interests of the United States.

C. *Bilateral Agreements*

The Bush Administration has suggested that it will introduce legislation requiring bilateral agreements, including prior informed consent provisions.²⁸⁵ Both the Basel Convention and the OECD treaty contain provisions that allow for multilateral or bilateral agreements in place of treaty standards, if the provisions “are no less environmentally sound than those provided by [the] Convention.”²⁸⁶ Thus, the United States can avoid some of the vague provisions and inherent conflicts between these treaties and U.S. law. At the same time, the United States could continue to have a voice in these global agreements without having to obstruct further progress. The Bush Administration’s suggestion is a creative and intelligent solution to a complicated international conflict which, if properly implemented, should satisfy all interested parties.

283. See generally *Issues and Policy*, *supra* note 8, at 390; *Hearing on U.S. Waste Exports*, *supra* note 1, at 62-75 (statement of Andrew Sens, Director, Office of Environmental Protection, U.S. Department of State).

284. See *supra* notes 221-26 and accompanying text.

285. Parker, *supra* note 3, at 5; *Export Policy: Export Controls*, [Export Policy] 5 Int’l Trade Rep. (BNA) No. 37, at 1269 (Sept. 21, 1988); Johnson, *Keeping Tabs on the World’s Wastes*, 96 CHEMICAL ENGINEERING 48 (Apr. 1989) (LEXIS, NEXIS).

286. See *supra* note 220 and accompanying text; *OECD: Council Decision-Recommendation on Exports of Hazardous Wastes*, 25 I.L.M. 1010-01 (July 1986) (reproduced from OECD Document C(86)64 (final) (“These measures should apply in the absence of a bilateral or multilateral agreement concerning the transfrontier movement of hazardous waste.”))

Finally, waste exports provide a cheap solution to waste disposal and thereby discourage waste reduction.²⁸⁷ Only through waste reduction, rather than waste redistribution, can the U.S. hope to keep the environment safe for future generations.²⁸⁸

Jack Isaacs

287. Handley, *International Legal Controls*, *supra* note 91, at 10,182; Parker, *supra* note 3, at 4.

288. Porterfield & Weir, *supra* note 1, at 344 ("Like water running downhill, hazardous wastes invariably will be disposed of along the path of least resistance and least expense." (citing Representative James Florio (D-NJ))); Parker, *supra* note 3, at 4.

