COMMENTS

UNITED STATES’ WASTE EXPORT CONTROL PROGRAM: BURYING OUR NEIGHBORS IN GARBAGE

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INTRODUCTION

The odyssey of Philadelphia’s garbage barge demonstrates the serious problem of waste disposal in the United States. In 1986, Philadelphia, like many other large cities, did not have sufficient space to dispose of its waste. Without any viable alternative, the city contracted with a private company to send the trash abroad. Consequently, over 14,000 tons of Philadelphia incinerator ash were loaded onto the Khian Sea, which wandered from 1986 to 1988 searching for a place to unload its cargo. During the eighteen

1. Porter, Outta Space! How EPA is Confronting the Nation’s Mounting Garbage Crisis, 5 ENVTL. F. 11, 11 (1988); see Beck, Buried in Garbage, NEWSWEEK, Nov. 27, 1989, at 67 (reporting nation’s garbage crisis).


Before shipping the ash abroad, Philadelphia searched unsuccessfully for a suitable disposal site in the United States. L. BLUMBERG & R. GOTTLIEB, supra note 2, at 4. The city felt pressure to export after it was sued to remove thousands of tons of ash residue dumped near one of the city’s incinerators. Id. Following attempts to transport the ash to New Jersey and Virginia, Philadelphia turned to Ohio, where residents near the landfill formed a human fence around the dump, effectively prohibiting disposal of the ash. Id.

4. 11 Int’l Env’t Rep. (BNA) 325, 325 (June 8, 1988). Two attempts were made to unload the garbage by relabeling it, first as bulk construction material and then as fertilizer. Gilmore, supra note 2, at 880 n.6.
month voyage, six nations rejected the ash,\(^5\) and an environmental group, which learned that the ash contained dangerous levels of carcinogens,\(^6\) thwarted several other disposal attempts.\(^7\) The saga ended when the cargo mysteriously disappeared.\(^8\) Currently, the United States Department of Justice is investigating the incident.\(^9\)

Unfortunately, the *Khian Sea* incident is only one of several similar incidents that exemplify the waste disposal crisis in the United States.\(^10\) The United States generates approximately 160 million

5. 11 Int'l Env't Rep. (BNA) 325, 326 (June 8, 1988). But see Beck, supra note 1, at 71 (stating that seven countries were involved in episode).

6. One attempted deal would have allowed the *Khian Sea* to unload some of its cargo in Haiti. J. Vallette, supra note 3, at 11. Haitian military leaders agreed to dump the ash on a beach and told dock workers that the cargo was fertilizer and posed no health threat. Id. Public outcry stopped the action once Greenpeace alerted the political opposition. Id.

7. L. Blumberg & R. Gottlieb, supra note 2, at 4. The heavy metals and dioxins present in incinerator ash qualify it as a dangerous substance. Id. at 110-13. The EPA, however, has not yet determined whether to define ash as a hazardous material. Porter, supra note 1, at 13. The dangers of toxicity and potential liability, however, are deterrents to landfill owners who are reluctant to accept the ash. L. Blumberg & R. Gottlieb, supra note 2, at 112.

8. L. Blumberg & R. Gottlieb, supra note 2, at 4. The *Khian Sea*’s last owner refused to reveal where the ash was dumped because of adverse media attention. Id. at 4-5. Court documents, however, suggest that the ship illegally dumped the ash at sea. Id. at 5; see 11 Int'l Env't Rep. (BNA) 325, 326 (June 8, 1988) (expressing authority’s concern regarding illegal dumping). In the hope of escaping attention, the barge changed its name twice. L. Blumberg & R. Gottlieb, supra note 2, at 4.

9. Gilmore, supra note 2, at 881 n.11.

10. Philadelphia has since received offers from other waste management corporations promoting disposal schemes such as the use of “ash as backfill and roadbed material in the Dominican Republic, dumping into strip mines in Chile, filling swamp lands in Honduras, and reclaiming flood plains in Costa Rica for housing developments. None of these countries has been alerted of the environmental concerns raised. . . .” Gilmore, supra note 2, at 882-83.

In 1987, the Long Island “Garbage Barge” embarked from New York, on a 162 day fiasco loaded with 3,186 tons of solid waste. J. Vallette, supra note 3, at 111. The barge originally planned to unload in North Carolina, but officials there rejected the cargo. Id. After further unsuccessful attempts to empty the waste in the United States, the barge turned to international waters and tried to dock at foreign ports. Id. Mexican and Belgian governments, as well as others, rejected the waste. Id. The garbage barge finally made its way back to New York, waste still aboard, 6,000 miles and one million dollars later. Id.

Another similar incident involved Lindaco, an American company that contracted with Guinea-Bissau to dispose annually of three million metric tons of toxic waste. Handle, *Hazardous Waste Exports: A Leak in the System of International Legal Controls*, 19 ENVTL. L. REP. (ENVT. L. Inst.) 10,171, 10,179 (Apr. 1989) [hereinafter *Hazardous Waste Exports*]. According to the contract, Guinea-Bissau was to receive $120 million annually, an amount exceeding its gross national product. Id. For further discussion of the international scope of this scheme, see infra note 50.

The waste disposal dilemma captured the attention of the present administration, and in March, 1989, President Bush announced his commitment to the control of hazardous waste exports. Los Angeles Times, Mar. 11, 1989, at 21, part I. His proposal included identifying elements to be contained in mandatory international agreements, providing the Environmental Protection Agency (EPA) with greater authority to prohibit imports and exports, limiting imports and exports to specific ports, and providing federal enforcement authority to respond to illegal imports or exports. *The Waste Export Control Act: Hearings on H.R. 2525 Before the Subcomm. on Human Rights and International Organizations and the Subcomm. on International Economic Policy and Trade of the Comm. on Foreign Relations*, 101st Cong., 1st Sess. 42 (1989) [hereinafter *Hearings J*] (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA). The Administration’s version of the waste export control bill fo-
tons of household garbage per year. Nationwide, a landfill space shortage has forced local governments to search for alternative waste disposal solutions. New landfills are not built quickly enough to meet the solid waste demand because they are expensive and unpopular. By the year 2000, waste generation is expected to increase by at least twenty percent.

Shipping waste abroad is an attractive solution to these mounting disposal difficulties. Depleted landfill space, coupled with the financial benefits of exporting to countries with less costly and stringent waste regulations than the United States, makes exporting waste a logical and lucrative alternative to domestic disposal. For-
mer United States Congressman and current New Jersey Governor James Florio warned that waste will flow toward "safe havens" where exporters find the least resistance and the least expense. 8 Although these may be safe havens for exporters, the current law governing waste exports does not ensure safe havens for the waste itself. Instead, the hazardous qualities of waste combined with the current disposal regulatory system has created a plethora of environmental, health, liability, and foreign policy problems.

The present United States’ waste export system under the Resource Conservation and Recovery Act (RCRA) inadequately addresses the demands and the issues associated with waste export.

21. Porterfield & Weir, supra note 18, at 341. Exported materials include heavy metal residues, chemical-contaminated wastes, pharmaceutical refuse, municipal sewage sludge, and incinerator ash. Id. The risks involved for countries that accept the waste range from contamination of groundwater and crops to birth defects and cancer. Id. Moreover, the health effects of waste exports are not confined to national boundaries. As in the case of other environmental problems, there is persuasive evidence that the waste we attempt to push away could come back to haunt us. Id. at 344; see Comment, U.S. Controls on International Disposal of Hazardous Waste, 22 INT’L LAW 775, 788 (1988) (discussing hazardous waste contamination through air and water resulting from improper waste disposal). For example, waste that is exported to Canada is dumped near the Great Lakes. 135 CONG. REC. E1945, E1946 (daily ed. May 31, 1989). Because the United States and Canada both border the lakes, if the Canadians do not dispose of the waste sent by American companies properly, it could leak into the lakes and contaminate the United States water supply. Id.; see also Wash. Post, Jan. 16, 1990, at A21, col. 1 (noting that little has been done since 1972 Great Lakes Water Quality Agreement to control runoff from hazardous waste dumps). Additionally, an EPA official has warned that the sludge sent to Caribbean nations may be used as fertilizer on vegetables, which the United States then imports. Porterfield & Weir, supra note 18, at 344. Since the Food and Drug Administration (FDA) only examines a small portion of foods that come into the United States, it is not a remote possibility that our exported wastes could show up on our dinner tables. Id.

Another example of the health problems presented by indiscriminate waste export is that on Kassa Island in Guinea, West Africa, where children play on and scavenge through mounds of Philadelphia’s incinerator ash. Hearings 1, supra note 10, at 15 (testimony of Rep. John Conyers, Jr.). The ash contains heavy metals and dioxins that can cause learning disabilities, cancer, and congenital defects. Such contamination is easily transmitted to humans through groundwater or through the atmosphere. Id.

22. See infra notes 94-111 and accompanying text (discussing liability provisions of RCRA and CERCLA).
23. Hearings 1, supra note 10, at 15 (testimony of Rep. John Conyers, Jr.). Congressman Conyers commented that the United States’ waste export practice is irresponsible as long as the developing countries are considered to be America’s garbage dump and that such irresponsible behavior will lead to political disaster. Id.; see 135 CONG. REC. E1949 (daily ed. May 31, 1989) (statement of Rep. John Conyers, Jr.) (noting irresponsibility of implementing NIMBY credo in foreign policy).
25. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF THE INSPECTOR GENERAL, EPA’S PROGRAM TO CONTROL EXPORTS OF HAZARDOUS WASTE, REPORT OF AUDIT, No. E1D37-05-
Although legislation covering waste export has increased in the past ten years, weaknesses in RCRA's waste export program continue to prevail. For example, the export of nonhazardous waste, which may be dangerous to human health and the environment if disposed improperly, goes unregulated. This practice allows municipal sewage and some types of incinerator ash, which are categorized as nonhazardous waste, to be transported freely across national boundaries without the consent, or sometimes even the knowledge, of the receiving country. Furthermore, only a limited consent system exists for the export of hazardous waste under RCRA. Although RCRA requires that the receiving country must consent to the import, the United States has no authority to nullify an agreement between an exporting company and an importing country even if the country does not have the facilities to treat, handle, and dispose of the waste adequately and safely. Moreover, RCRA does not have any mechanism to address liability once waste is beyond national borders.

Legislators have proposed several bills that address the waste export problem. This Comment critically examines one bill, the Waste Export Control Act (WECA), that purports to solve this problem. It also examines deficiencies in the current law and pro-

27. RCRA §§ 4004(a), 4005(a), 42 U.S.C. §§ 6944(a), 6945(a) (1982 & Supp. V 1987). Solid waste is regulated under Subtitle D of RCRA, which only gives the EPA authority to regulate disposal in the United States; it does not govern export. Hearings 2, supra note 17, at 47 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA).
28. Hearings 1, supra note 10, at 53-54 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA).
31. Hazardous Waste Exports, supra note 10, at 10,172 & n.20 (discussing United States' lack of controls to regulate dumping outside national borders).
32. Id. at 10,174 (noting concern present notice and consent program raises for some government officials because of prospect of international incident and liability ramifications).
33. H.R. 2525, 101st Cong., 1st Sess. (1989). H.R. 2525 was the only bill focusing on waste export introduced in the first session of 1989 in both the House and Senate. Congressmen Mike Synar, John Conyers, Jr., John Edward Porter and Howard Wolpe sponsored the Waste Export Control Act that addresses the gaps in present legislation covering waste export. Id. First, the bill assumes the responsibility of protecting human health and the environment. Id. The moral question which the Act addresses is whether the United States should be responsible for ensuring that its hazardous waste is properly disposed of regardless of where that disposal takes place. Hearings 1, supra note 10, at 17 (testimony of Rep. John Conyers, Jr.). Second, it recognizes the need for the United States to maintain a respectable reputation as a trading partner.
34. H.R. 2825, 101st Cong., 1st Sess. (1989). The Act addresses the holes in the present waste export legislation in several ways. First, it requires that all waste exporting be conducted pursuant to an international agreement with the recipient country. Id. § 12002(a). Second, strict domestic standards are imposed to ensure that waste is managed in a manner
poses amendments necessary to ensure the safe disposal of solid waste. Part I presents information on waste export as well as the current and proposed legislation which govern it. Part II analyzes the present legislation and WECA and concludes that the current system is ineffective. The ultimate goal should be to ban the export of nonhazardous waste and to limit by strict controls the export of hazardous waste. Part III proposes a monitoring system for nonhazardous and hazardous solid waste that would place liability for the consequences of unsafe export on the exporter. The exporter is in the best position to ensure that waste is properly disposed of in a manner safe to humans and the environment and to shoulder the financial burdens of any transport or disposal incidents abroad.

I. MANAGING WASTE EXPORT

A. The Problems of Solid Waste

Solid waste is classified as either nonhazardous or hazardous. The classification depends on whether the waste displays the hazardous characteristics defined by the Environmental Protection Agency (EPA).\(^{35}\) "Hazardous" and "nonhazardous" labels, however, are misleading because not all nonhazardous waste is hazard-free.\(^{36}\) Furthermore, under the controlling regulations, all hazardous waste generators producing less than a specified amount of hazardous waste in a calendar month are exempt from regulation despite the fact that the waste possesses hazardous characteristics.\(^{37}\)

The United States produces approximately 275 million tons of...
hazardous waste per year. In 1988, the United States generated about 160 million tons of nonhazardous waste. Although most hazardous and nonhazardous waste is disposed of in this country, significant amounts are exported abroad. It is difficult, however, to determine the amount of waste actually exported. With respect to hazardous waste, one figure, based on incomplete EPA records, indicates that less than one percent of recorded hazardous waste produced in the United States is exported. Determining the amount of nonhazardous waste exported is even more speculative because no regulations govern such movement. Media coverage, similar to that involved in the Philadelphia incident, and information provided by private groups such as Green Peace are the only means of tracking international solid waste movement. The problem, therefore, is likely to be significantly more profound than the data may indicate.

The export process begins when local governments and waste generators contract with private companies to send waste to foreign countries. Canada and Mexico receive the largest shares of waste exported from the United States. International waste export when generated in quantities of less than 100 kilograms per month. Id. Acutely hazardous materials, however, have a lower threshold per month. Id.

38. *Hearings 1, supra* note 10, at 46 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs). *But see id.* (statement of Rep. Gejdenson, Chairman, Subcomm. on International Policy and Trade) (placing figure at 250 million tons); 135 CONG. REC. E1940 (daily ed. May 31, 1989) (statement of Rep. Mike Synar) (supporting figure of over 250 million tons); Porterfield & Weir, supra note 18, at 341 (placing figure closer to 400 million metric tons).

39. 135 CONG. REC., E1949, E1950 (daily ed. May 31, 1989) (statement of Rep. Edward Porter). The average American generates three to four pounds of household waste every day. *Id.; see Beck, supra* note 1, at 67, 69, 75 (indicating amount of waste American households generate weekly (6.73 bags), monthly (29 bags), and yearly (350 bags)). In contrast, Western Europe and Japan do not produce nearly this much waste because of more efficient production processes and a greater awareness of the limits of landfill disposal space. Porterfield & Weir, supra note 18, at 341.


41. The incomplete EPA records are the result of an ineffective enforcement program. See *supra* note 25 and accompanying text and *infra* note 182 (discussing findings of Inspector General's audit of EPA).

42. *Hearings 1, supra* note 10, at 47 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA) (emphasizing that United States exports "much less than one percent of all hazardous waste generated ... ").

43. *Id.* (acknowledging that current law provides no control over exports of nonhazardous waste).

44. See *supra* note 7 and *infra* note 53 (discussing instances where Greenpeace alerted public to waste traffic and prevented environmentally unsound dumping). Greenpeace continuously publishes pamphlets that track international waste movement, as well as provide information on the waste policies of different countries.

agreements with these countries simplify the export disposal process, and their proximity to the United States makes these border countries logical waste recipients. Relaxed disposal regulations also make Great Britain another favored destination. Furthermore, developing countries are playing an increasingly significant role as recipients of United States' waste.

Waste import is a lucrative business to developing countries that are often swayed by waste traders' assertions of financial and technological benefits. For example, a United States company participated in a scheme that offered the Guinea-Bissau government more than its gross national product to permit dumping on one of its islands. Technological benefits offered to entice developing countries to import waste include the construction of incinerators to produce electric energy. These incinerators produce energy by burning waste, but because developing nations are unlikely to properly regulate for safe incineration and disposal, they also cause health and environmental problems.

Generators of waste send it to foreign nations for numerous rea-

47. L. Blumberg & R. Gottlieb, supra note 2, at 5 (noting that England has become "haven for garbage" due to "relatively lax standards").
48. Porterfield & Weir, supra note 18, at 341 (discussing "rising tide" of exports to developing countries). In 1986, the number of export notices to developing countries had increased from 4 to 19. Id. These figures may not sound dramatic; it must be remembered, however, that they do not reveal the whole story because shipments are frequently concealed. Id.
49. 135 Cong. Rec. E1949, E1949-50 (daily ed. May 31, 1989). Waste exporters offer developing countries the "opportunity" to recycle imported waste into salable by-products or energy. Id. at E1950. Often these are sham recycling schemes designed to reap huge profits that are available to those who dump waste outside the United States. Id. Toxic substances have been misrepresented as brick-making material, roadfill, or fertilizer. Id.; see Handley, supra note 45, at 10,064-65 (detailing illegal export schemes). Corrupt officials are targets for exporters trying to unload their toxic wares. 135 Cong. Rec. at E1949-50 (daily ed. May 31, 1989). Benefits, in addition to cash, include electricity and "land reclamation." Id. As a result, developing countries in desperate need of these commodities are persuaded to import waste. Id.
50. J. Vallette, supra note 3, at 27-29 (detailing scheme between Guinea-Bissau and United States and European waste brokers to unload 15 million metric tons of industrial waste in exchange for potential payment of $600 million, four times Guinea-Bissau's gross national product and two times its foreign debt). Guinea-Bissau postponed the waste import deal in response to a negative domestic reaction. Id. at 29. They reluctantly suspended negotiations because, according to the trade and tourism minister, "We need money." Id.
51. See, e.g., Greenpeace, Greenpeace Waste Trade Update, at 7 (July 15, 1989) (reporting proposal considered by Bangladesh government committee to import millions of tons of toxic waste from United States and Europe to fuel electricity producing incinerators), reprinted in Hearings 2, supra note 17, at 296 (statement of Jim Vallette, Greenpeace).
52. Hazardous Waste Exports, supra note 10, at 10,171.
53. 135 Cong. Rec. E1949, E1950 (daily ed. May 31, 1989). In addition to producing electricity, these incinerators also produce toxic emissions and toxic ash. Id. Furthermore, American exporting companies attempt to ship solid wastes such as sewage sludge, incinerator ash, or household garbage to Central America and the Caribbean to fill in ecologically vibrant, but unusable, wetlands. Hearings 1, supra note 10, at 153 (testimony of Greenpeace).
sons. First, weak or non-existent disposal standards in other countries are attractive, making disposal abroad economically favorable. Exporting waste is more cost effective to waste generators than complying with the stricter domestic standards imposed by RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Second, limited space in existing disposal sites pressures municipalities and states to seek foreign receptacles and to alleviate their garbage problems by contracting with private companies that export waste. Third, Canadian disposal plants are in close geographic proximity to many northeastern states, notably Michigan and New York, making them easier and safer locations for waste disposal. Short travelling distances provide less opportunity for accidents while transporting hazardous substances. The same relationship exists between southern border states and Mexico. Fourth, industries are reluctant to incur the short-term costs of implementing source reduction methods such as reusing plastics and recycling paper, glass, and metals. In sum, developing countries also offer American exporters cheaper and less restrictive methods of disposal. All of these factors contribute to a proliferation of waste export. Unless there is substantial improvement in the present regulatory system under

54. 135 CONG. REC. E1940, E1940 (daily ed. May 31, 1989); see Note, Hazardous Exports to the Third World: The Need to Abolish the Double Standard, 12 COLUM. J. ENVTL. L. 71, 72 (1987) (hereinafter Abolish the Double Standard) (noting that hazardous waste industry is financially motivated to relocate to Third World countries where its activities would be subjected to little or no regulation).

55. Hazardous Waste Exports, supra note 10, at 10,171 (estimating amount of savings at $75.00 per ton).


57. Audit, supra note 25, at 11. Additionally, the EPA must decide whether it is safe to continue land disposal of 450 hazardous wastes by 1990. Id. Should the EPA fail to meet this deadline, the so-called "hammer clauses" go into effect, unless the EPA can demonstrate that there is insufficient treatment capacity for handling the restricted waste. Under these circumstances, the EPA will have a two-year extension. Id. Since the 1970s, more than two-thirds of the nation's landfills have closed and one-third of those left are expected to close in the next five years. Beck, supra note 1, at 66-67.


59. J. VALLETTE, supra note 3, at 95-105 (listing export notices from American companies to Canadian disposal plants).

60. Hearings 1, supra note 10, at 23 (testimony of Canadian officials).

61. J. VALLETTE, supra note 3, at 106 (describing waste export policy with Mexico).

62. Hazardous Waste Exports, supra note 10, at 10,182 (noting that "industry reluctance to incur the short term cost of [minimizing hazardous waste] is the raison d'etre of the hazardous waste export boom").

63. Id. at 10,171 (explaining that developing countries have had "little or no" experience with industrial waste, and consequently have few disposal controls).

64. The dramatic increase in the number of Intent to Export notices received by the EPA's Office of International Activities (OIA) provides a clear illustration of this trend. All companies intending to export waste to another country must file an Intent to Export notice with the EPA. RCRA § 3017(c), 42 U.S.C. § 6938(c) (Supp. V 1987). In 1988, the EPA received 638 notices of Intent to Export. By July of 1989, it had received an additional 588
RCRA, waste export as a method of waste disposal is expected to become the rule rather than the exception.65

B. Current Law Governing Waste Export

The Solid Waste Disposal Act (SWDA), as amended by RCRA, governs waste export.66 RCRA is aimed at protecting human health and the environment67 by a system that tracks waste from its "cradle" to its "grave."68 A manifest69 system traces the waste from the generator,70 through the transporters,71 to the disposers,72 imposing on each specific requirements for the treatment, disposal, and storage of waste.73 Hazardous waste is regulated under subtitle C of RCRA and is subject to stringent treatment, storage, and disposal requirements.74 Nonhazardous waste is regulated by subtitle D of RCRA, but it imposes little more than open dumping restrictions for nonhazardous waste disposal in this country.75 In 1984, comprehensive amendments to RCRA, entitled the Hazardous and Solid Waste Amendments of 1984 (HSWA),76 created a section entirely devoted to hazardous waste exports.77 In the 1980s, the EPA intro-
duced regulations under RCRA that placed special requirements on hazardous waste generators and transporters engaged in international shipments. In 1986, the EPA finalized regulations consistent with HSWA that address the logistical details of the waste export program.

The major thrust of RCRA's waste export regulations is to require consent by the importing country. Specifically, RCRA mandates that hazardous waste cannot be exported unless the EPA is properly notified and the receiving government consents in writing to accept the waste. The consent notice must be attached to the manifest accompanying the hazardous waste shipment. At that point, the United States forwards a description of regulations for hazardous waste treatment, storage, and disposal to the receiving country. Following the receipt of consent or objection, which is transmitted from the importing government to the EPA by the Department of State, the EPA has thirty days to notify the exporter of the receiving country's decision. Exporters must file an annual report cataloguing the types, quantities, frequency, and final destination of all hazardous waste exported during the previous calendar year.


81. RCRA § 3017(c), 42 U.S.C. § 6938(c) (Supp. V 1987). Notification must be provided to the EPA Office of International Activities (OIA) by the primary exporter before the waste leaves the United States and must contain "(1) the name, address, telephone number and EPA ID number of the primary exporter"; (2) for each hazardous waste type, a description of: (i) the waste and EPA hazardous waste number; (ii) the estimated frequency or rate and period of time over which the waste will be exported; (iii) the estimated total quantities of hazardous waste to be exported; (iv) all points of entry to and departure from each foreign country through which the waste will pass; (v) a description of the means of transportation; (vi) the manner of treatment, storage, or disposal in the receiving country; (vii) the name and site address of the ultimate treatment, storage or disposal facility; and (viii) the name of any transit countries through which the waste will be sent and a description of the approximate length of stay and nature of handling while there. 40 C.F.R. § 262.53(a) (1989). These provisions for notice are not the original provisions of the 1984 RCRA amendment, but are revisions of the EPA hazardous waste export regulations made in 1986 by the EPA to implement RCRA section 3017, the waste export requirements of HSWA. Background and Summary of Final Rule, 51 Fed. Reg. 28,664, 28,665 (1986).

82. RCRA § 3017(d), 42 U.S.C. § 6938(d) (Supp. V 1987). Within 30 days of receipt of the notice described above, the Secretary of State must: (1) forward a copy of the notification to the receiving country's government; (2) advise the government that it must consent for the waste to be sent; (3) request a written consent or objection; and (4) send a description of the federal regulations for the treatment, storage, and disposal of hazardous waste in the United States to the receiving government. Id.


In lieu of the normal notification procedures, RCRA also permits international agreements between the United States and receiving countries, as long as the agreement establishes notice, export, and enforcement procedures and sufficient transportation, treatment, storage, and disposal of hazardous waste. The United States has entered into international agreements with two countries, Canada and Mexico. These bilateral agreements incorporate a prior consent scheme similar to RCRA. Unlike RCRA, however, the exporter is free to ship the waste unless Canada objects to the import within thirty days. In contrast, the United States-Mexico agreement does not contain a provision to trigger waste export if Mexico does not object within thirty days. Furthermore, neither agreement imposes compliance with any United States standard for treatment, storage, and disposal, but permits Canadian or Mexican standards to govern the import, transportation, and treatment of waste. As a result of these agreements, Canada and Mexico receive approximately ninety-five percent of all recorded exported waste.

RCRA also prescribes several penalties to enforce waste export regulations. Under RCRA section 3008(d)(6)(A), criminal penalties are established for failure to comply with the notice and foreign nation consent procedures. Additionally, RCRA has a special

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86. RCRA § 3017(g), 42 U.S.C. § 6938(g) (Supp. V 1987).
87. RCRA § 3017(f), 42 U.S.C. § 6938(f) (Supp. V 1987). Where there exists a prior international agreement, the exporter must file an annual report summarizing the types, quantities, frequency, and ultimate destination of all hazardous waste exported during the previous calendar year. RCRA § 3017(f)-(g), 42 U.S.C. § 6938(f)-(g) (Supp. V 1987).
89. Compare RCRA § 3017(c)-(d), 42 U.S.C. § 6938(c)-(d) (Supp. V 1987) (requiring notice and consent of export) with United States-Canada Agreement, supra note 88, at art. 3 (mandating notice and consent) and United States-Mexico Agreement, supra note 88, at art. III (requiring notice and consent).
90. United States-Canada Agreement, supra note 88, at art. 3(d).
91. United States-Mexico Agreement, supra note 88.
92. United States-Canada Agreement, supra note 87, at art. 2; United States-Mexico Agreement, supra note 88, at art. II.
93. See supra note 45 and accompanying text (discussing distribution of waste exported to Canada and Mexico).
96. Id. Criminal penalties are also provided for exporting hazardous waste under an
criminal penalty provision for persons who knowingly export wastes covered by RCRA that present an imminent danger of death or bodily injury.97 Anyone who violates any portion of RCRA may incur civil penalties of up to $25,000 per day of violation.98 Furthermore, the EPA may bring an imminent hazard suit on behalf of the United States government if the handling, treatment, disposal, storage, or transportation of any hazardous or nonhazardous waste presents an "imminent and substantial endangerment to health or the environment."99 These civil and criminal provisions, however, have no effect once the waste is transported across national boundaries.100

While RCRA prescribes regulations for prospective conduct, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) provides for remedial action.101 CERCLA section 107102 is the federal response to the liability posed by environmental and health dangers at toxic waste sites across the country.103 The Act provides a renewable "Superfund" to finance the cleanup of hazardous waste sites.104 The liability provision is extensive, attaching to anyone who transports or arranges for the transportation, disposal, or treatment of hazardous wastes and to any past or present owner of a hazardous waste disposal site.105 Be-

98. RCRA § 3008(g), 42 U.S.C. § 6928(g) (1982).
100. See infra notes 145-52 and accompanying text (discussing reasons for current law's limitation to domestic infractions).
105. CERCLA § 107(a)(1)-(4), 42 U.S.C. § 9607(a) (1982 & Supp. V 1987). Any person to which the liability provision attaches shall be liable for all removal or remedial action costs incurred by the United States, any state, or any person as a result of a release of a hazardous substance. Id. § 107(a)(A)-(B), 42 U.S.C. § 9607 (a)(4)(A)-(B). Additionally, liability will be imposed to cover damages to natural resources and the costs of assessing natural resources damages. Id. § 107(a)(4)(C), 42 U.S.C. § 9607 (a)(4)(C). CERCLA's liability provision is trig-
cause the Act does not preclude the courts from applying joint and several liability, one party may bear the full cost of cleaning the site.\textsuperscript{106}

The limited defenses to CERCLA liability are consistent with CERCLA's stringent liability provisions. The only defenses are an act of God, war, or an intervening unforeseeable act of a third party.\textsuperscript{107} Like the penal provisions of RCRA, however, CERCLA's strong language has no effect once the waste is removed from the United States.\textsuperscript{108}

Both RCRA and CERCLA are government tools to regulate and provide remedial action for conduct effecting the environment. Each piece of legislation, however, contains citizen suit provisions\textsuperscript{109} that permit private citizens to institute civil actions on their own behalf against any eligible person or any United States government official or agency that violates a RCRA or CERCLA regulation.\textsuperscript{110} These provisions also have no effect outside of the United States.\textsuperscript{111}

\textbf{C. Proposed Legislation: The Waste Export Control Act}

The Waste Export Control Act (WECA)\textsuperscript{112} was introduced on May 31, 1989 in response to the burgeoning need for an effective, comprehensive waste export program.\textsuperscript{113} The substantive provisions of the Act reflect both a moral\textsuperscript{114} and a practical concern.\textsuperscript{115}

\begin{itemize}
  \item \textsuperscript{106} United States v. Chem-Dyne Corp., 572 F. Supp. 802, 808 (S.D. Ohio 1983) (interpreting congressional intent to hold that CERCLA does not expressly state that liability may be joint and several).
  \item \textsuperscript{107} CERCLA § 107(b), 42 U.S.C. § 9607(b) (1982).
  \item \textsuperscript{108} See infra notes 145-52 and accompanying text (discussing reasons for current law's limitation to domestic infractions).
  \item \textsuperscript{111} See infra notes 145-52 and accompanying text (discussing reasons for current law's limitation to domestic infractions).
  \item \textsuperscript{112} H.R. 2525, 101st Cong., 1st Sess. (1989).
  \item \textsuperscript{113} See Hearings 2, supra note 17, at 32 (statement of Rep. Howard Wolpe) (discussing need for new legislation).
  \item \textsuperscript{114} Congressman Wolpe, one of the bill's chief sponsors, stated "[o]ur bill is based on the principle that we have a moral responsibility for the waste we generated from the cradle to the grave. That responsibility does not end when our pollution goes beyond our natural borders." Id.
  \item \textsuperscript{115} In explaining why the United States should be responsible for its waste, Representative Wolpe said, "First, there is no better way to undermine the credibility of American foreign policy than by the cavalier exportation of our waste. Second, the majority of our waste trade is with our closest international neighbor, Canada. If waste we send to Canada
WECA acknowledges the responsibility of the United States for protecting human health and the environment. The bill also recognizes the need of the United States to maintain a respectable reputation as a trading partner.

The purpose of WECA is to amend RCRA by banning exports of solid waste, incinerator ash, and toxic waste except where bilateral treaties and export permits ensure that waste will be handled in a safe manner. The proposed amendments provide that any is not disposed of properly, then we risk the contamination of the Great Lakes and, thus, the health of American citizens in the entire Great Lakes region.

The sponsors of the bill drafted the Act based on the following findings: (1) increased exports to foreign countries; (2) the current avoidance of higher treatment and disposal expenses in the United States by exporters is associated with the high cost of complying with environmental regulations in this country; (3) the export of waste ultimately contributes to the trade deficit of the United States; (4) the present waste export control system has a negative effect on the domestic policy of source reduction; (5) the current system fails to provide any review of the effects on waste importing countries; and (6) the uncontrolled export of wastes threatens the environment globally.

Section 12002 of WECA provides:

No person may, directly or indirectly, export any solid waste to which this subtitle applies from the United States unless—(1) an international agreement is in effect to which the United States and any country receiving the solid waste are parties; and (2) the export is made pursuant to and in accordance with that international agreement.

The international agreement must provide for each of the following: (1) notification of export; (2) obtaining consent from the receiving country; (3) exchange of information on the manner of specific treatment, storage, and disposal facilities of the receiving country, including United States access to the facilities in the receiving country “to ensure that transporta-
exported waste must go only to facilities that meet disposal standards equivalent to those required by the United States. In addition, waste generators must make efforts to minimize waste generation before any exports will be permitted.

Permit requirements under WECA are more stringent than those under RCRA; for instance, WECA requires the exporter to complete a detailed permit application. The application requests information on the type, quantities, and concentrations of solid waste to be exported and a detailed description of the manner of transportation, treatment, storage, or disposal of the waste. The permit applicant must demonstrate that these processes will be completed in a way that is protective of human health and the environment and “which is no less strict than that which would be required by this Act if the solid waste were managed in the United States.” In addition, the application requires comprehensive information about the people involved in the import scheme, including their ability to pay for potential damages and information on all the people or institutions connected with the companies involved. The bill also requires descriptions of the experience and credentials of applicants, including any recorded violations of United States’ regulations relating to waste treatment during the ten years preceding the filing of the application. Additionally, information regarding the competency, reliability, or good character of

121. Id. § 12002(b)(1)(C). See supra note 120 for text of Act.
124. Id. § 12003(b)(2).
125. Id. § 12003(b)(7).
126. Id. § 12003(b)(8). “Each application for a permit ... shall contain ... [i]nformation demonstrating that the solid waste will be transported, treated, stored, and disposed of in a manner which is protective of human health ... .” Id.
127. Id. “Each application for a permit ... shall contain ... [i]nformation demonstrating that the solid waste will be transported, treated, stored, and disposed of in a manner ... which is no less strict than that which would be required by this Act if the solid waste were managed in the United States.” Id.
128. Id. § 12003(b)(9). This includes “public shareholders of five or more percent and debt and equity holders.” Id. § 12003(b)(10)-(11).
129. Id. § 12003(b)(13)-(14).
an applicant may be required.\textsuperscript{130} Finally, exporters must provide yearly reports addressing most of the terms in the permit.\textsuperscript{131}

Failure to comply with the permit procedure results in a denial or a revocation of the permit by the EPA.\textsuperscript{132} The EPA may also refuse permits if waste generators have failed to use all reasonable efforts to eliminate or minimize waste generation prior to export,\textsuperscript{133} or if the receiving facility does not have standards at least equivalent to those in the United States.\textsuperscript{134} To effectuate these requirements, the EPA administrator has the authority to inspect both the facilities of the permittee and the receiving country.\textsuperscript{135} Moreover, the administrator may review, modify, or revoke a permit at any time during its term.\textsuperscript{136} Permit application fees\textsuperscript{137} and waste export permit fees defray the cost of administering the Act.\textsuperscript{138} The fees are also expected to facilitate the enforcement of RCRA to make it a more effective waste export program.\textsuperscript{139}

The most significant provisions in the bill are those addressing liability. Importing countries that incur damages as a result of the exportation of hazardous waste from the United States may bring an action under CERCLA section 107\textsuperscript{140} "as if costs or damages were incurred in the United States."\textsuperscript{141} Furthermore, if natural resources within the foreign country are injured or destroyed as a result of hazardous waste exports, the foreign government may sue to collect compensation damages on behalf of its citizens.\textsuperscript{142} Additionally, the

\begin{itemize}
  \item \textsuperscript{130} Id. § 12003(b)(16).
  \item \textsuperscript{131} Id. § 12003(b).
  \item \textsuperscript{132} Id. § 12003(d). There is also a public comment period where an informal hearing may be held if there is opposition to the issuance of the permit. Id. § 12003(f).
  \item \textsuperscript{133} Id. § 12003(j)(1)(A).
  \item \textsuperscript{134} Id. § 12003(j)(1)(B). The permit may also be revoked due to "fraud, deceit, or misrepresentation in securing the permit, or in the conduct of the permitted activity" among other considerations. Id. § 12003(j)(3).
  \item \textsuperscript{135} Id. § 12003(k).
  \item \textsuperscript{136} Id. § 12003(g). The Administrator of the EPA shall revoke a permit in any case in which he determines that a waste generator has failed to make responsible efforts to eliminate or minimize waste generation prior to export. Id. § 12003(1).
  \item \textsuperscript{137} Id. § 12004(b)(1) (requiring fee charge to cover "all personnel, overhead and other expenses incurred by the Administrator in processing applications and in monitoring compliance with permit terms, including the cost of site inspections and any other measures necessary to verify that management of exported waste complies fully with the requirements of this section").
  \item \textsuperscript{138} Id. § 12004(b)(2).
  \item \textsuperscript{139} Id. § 12004(a).
  \item \textsuperscript{140} CERCLA § 107, 42 U.S.C. § 9607 (1982 & Supp. V 1987); see supra notes 102-11 and accompanying text (discussing CERCLA's remedial provisions).
  \item \textsuperscript{141} H.R. 2525, 101st Cong., 1st Sess. § 12005 (1989).
  \item \textsuperscript{142} Id. WECA provides that a "foreign government shall have the same authority and responsibility with respect to natural resources within the foreign country as the United States has with respect to natural resources within the United States." Id. § 12005. CERCLA provides that the United States authority and responsibility with respect to natural resources is that, "[t]he President . . . shall act on behalf of the public as trustee of such natural resources
bill seeks to amend section 3008(d) of RCRA by broadening criminal liability to include the knowing export of waste in the absence of an international agreement.143 These provisions strengthen the present system for regulating waste export from the United States and ensure safer treatment, storage, and disposal practices abroad.

II. ANALYSIS OF EXISTING AND PROPOSED LEGISLATION

A. Current Legislation

Although RCRA and CERCLA together provide an integrated regulatory and liability system for hazardous waste treatment, storage, and disposal in this country, neither act adequately addresses the serious ramifications attendant to sending waste abroad. The current legal system governing waste export is deficient in two major areas. First, RCRA does not offer liability recourse once the waste leaves the United States. Second, there is no monitoring system for nonhazardous waste, which, if improperly disposed, is potentially dangerous to humans and the environment.

1. Liability

The EPA's imminent hazard authority under RCRA section 7003,144 the principle provision forcing cleanup of illegally disposed nonhazardous waste, does not apply once the waste is exported from the United States.145 The reasons for this are two-fold. First, RCRA does not authorize extraterritorial application of its provisions.146 Second, it is well settled that absent a clear legislative intent, domestic legislation is presumably limited to domestic application.147 This principle results from the assumption that Congress is primarily concerned with domestic conditions rather than conditions outside the territorial jurisdiction of the United States.148 Similarly, CERCLA is not extraterritorially applicable; it explicitly

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143. H.R. 2525, 101st Cong., 1st Sess. § 12006(c) (1989). RCRA section 3008(d) only provides for criminal liability in the event that an international agreement is violated. 42 U.S.C. § 6928(d)(6) (1982 & Supp. V 1987). The maximum penalty for such a violation is to be the same as the maximum penalty provided in RCRA section 3008(d)(6), $50,000 per day of violation or two years imprisonment. Id.


146. Id.

147. Foley Bros. v. Filardo, 336 U.S. 281, 285 (1949) (holding that Eight Hour Law does not affect work done under private contract between United States and another country because nothing in Act indicates intent to extend coverage beyond United States).

148. Id.
states that it covers only releases into the navigable waters or territory under the jurisdiction of the United States.\textsuperscript{149} Consequently, neither statute manifests the requisite clear intent of Congress that permits domestic jurisdiction to reach across national boundaries.\textsuperscript{150} As a result of these limitations, foreign governments or citizens of foreign countries do not have standing to invoke RCRA or CERCLA remedies for hazardous waste disposal conducted abroad.\textsuperscript{151} Absent statutory protection, one of the means of redress available to foreign parties injured by the disposal of hazardous wastes exported from the United States is that traditionally provided by the common law tort system.\textsuperscript{152}

Plaintiffs utilize the four common law tort theories of strict liability, nuisance, trespass, and negligence in cases involving injuries resulting from improper disposal of hazardous and nonhazardous substances.\textsuperscript{153} They are not, however, viable remedial alternatives for injuries sustained in foreign countries by hazardous and nonhazardous waste exports.

In order for an injured person to sustain a cause of action based on strict liability, the plaintiff must show that harm resulted from hazardous activities on the defendant's property.\textsuperscript{154} The standard

\begin{itemize}
  \item[150.] Hazardous Waste Exports, supra note 10, at 10,174.
  \item[151.] Id.
  \item[152.] Id.; see Abolish the Double Standard, supra note 54, at 82 (noting Bhopal incident generated tremendous interest in liability issue, leading some commentators to consider whether holding United States liable as exporting country of Union Carbide is appropriate). But see Comment, United States Controls on International Disposal of Hazardous Waste, 22 Int'l L. W. 775, 777 (1988) [hereinafter United States Controls] (noting possible extraterritorial application of National Environmental Policy Act of 1964 (NEPA)). NEPA requires federal agencies to determine and prepare a statement considering environmental impact before commencing any major action. NEPA § 102(C), 42 U.S.C. § 4332(C) (1982). There is language in NEPA that alludes to extraterritorial application. NEPA § 102(F), 42 U.S.C. § 4332(F) (1982). Specifically, NEPA section 102(F) directs all agencies of the United States government to "recognize the worldwide . . . character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment." Id.
  \item[153.] Courts have taken varying positions on whether to extend NEPA jurisdiction beyond the United States. United States Controls, supra, at 777; see Sierra Club v. Coleman, 405 F. Supp. 53, 56 (D.D.C. 1975) (enjoining United States-funded highway construction in Panama and Colombia because substantive and procedural NEPA requirements were not applicable); Natural Resources Defense Council, Inc. v. Nuclear Regulatory Comm'n, 647 F.2d 1345, 1347-48 (D.C. Cir. 1981) (refusing to impose environmental impact statement requirement on nuclear export decisions when impact would fall exclusively on foreign jurisdiction).
  \item[154.] Burkhart, supra note 19, at 372-77 (discussing CERCLA's four common law forbearers). The common law criminal system may be an additional means of redress. Recently, recognizing deficiencies in the tort system, states have been prosecuting corporate polluters under the common law criminal system for environmental misconduct. See Comment, An Enemy of the People: Prosecuting the Corporate Polluter as a Common Law Criminal, 39 Am. U. L. Rev. 311, 311 (1990) [hereinafter Enemy of the People] (discussing emerging trend).
  \item[154.] See Rylands v. Fletcher, L.R. 3 H.L. 330 (1868) (finding non-culpable reservoir ow-
used by the Second Restatement of Torts for strict liability is "ab-
normally dangerous activity." Courts can also apply a nuisance
theory if the landowner uses his or her property in a manner that
"unreasonably interfere[s] with a right common to the general pub-
lic" (public nuisance) or with another property owner's use and
enjoyment of his or her land (private nuisance). Trespass actions
are rarely used because of problems of proof. An action for tres-
pass involves proving two elements: first, that pollutants have phys-
ically invaded the land; and second, that the defendant knowingly
or negligently caused the invasion. Finally, a negligence action
may be articulated if the defendant breaches a duty of reasonable
care owed to the plaintiff and, as a result, proximately causes a fore-
seeable injury to the plaintiff.

Each of the above theories of recovery may be applied to the neg-
ligent operation or maintenance of inherently dangerous domestic
waste sites. For disposal of nonhazardous and hazardous waste
on sites located in foreign countries, however, their use is limited.
Strict liability, nuisance, and trespass require that the defendant
own the land where the dangerous activity was conducted. This
is not an obstacle in situations where the waste site is owned by the
waste exporter.

ers liable for damage to plaintiff's property resulting from inadvertent release of reservoir
water); Cahill v. Eastman, 18 Minn. 324 (1871) (applying strict liability doctrine to release of
underground water); see Wallace v. A. H. Guion & Co., 237 S.C. 349, 117 S.E.2d 359 (1960)
(finding non-negligent excavator liable for damages resulting from explosives). The applica-
tion of the doctrine of strict liability, now recognized in the majority of American jurisdic-
tions, evolved in large part from the nineteenth century Rylands decision. W. Prosser & W.

155. Restatement (Second) of Torts § 519 (1979); see Department of Envtl. Protection
liable when toxic waste stored on his property seeped into plaintiffs' property). But see Bayley
v. Controlled Env't Corp., 127 N.H. 556, 560, 503 A.2d 823, 826 (1986) (refusing to apply
strict liability to waste dumping absent showing that requirement of proving legal fault is
practical bar to otherwise legitimate claim).

156. Restatement (Second) of Torts § 821B (1979).

157. Id. § 821D; see Burkhart, supra note 19, at 375; see also Biddix v. Henredon Furniture
Indus., 76 N.C. App. 30, 35, 331 S.E.2d 717, 721 (1985) (finding common law nuisance and
trespass when waste effluents and other hazardous substances were discharged into stream).

158. Burkhart, supra note 19, at 376 (noting plaintiffs' rare reliance on theory because of
problem proofs).

159. W. Prosser & W. Keeton, THE LAW OF TORTS § 13, at 71 (5th ed. 1984); see Martin v.
Reynolds Metals Co., 221 Or. 86, 89, 342 P.2d 790, 792 (1959) (holding projection of gases
and particulates onto another's land is trespass), cert. denied, 362 U.S. 918 (1960).

160. Hudson v. Peavey Oil Co., 229 Or. 3, 6-7, 556 P.2d 175, 177 (1977); Restatement
(Second) of Torts § 166 (1979).


162. Burkhart, supra note 19, at 372-76.

163. Id.

164. In re Union Carbide Corp. Gas Plant Disaster at Bhopal, 809 F.2d 195, 197 (2d Cir.)
(implying American company may be sued in tort in American court or foreign court for
injuries to foreign nationals resulting from accident in foreign country at company's gas
trespass, and strict liability actions, however, for injured parties if the waste is dumped on foreign territory by unknown United States companies that do not own the site.\textsuperscript{165} In hazardous waste cases, negligence actions are also difficult to prove and often allow defendants to escape liability.\textsuperscript{166} Commentators frequently refer to causation problems when tort actions are brought to redress environmentally hazardous conduct.\textsuperscript{167} In tort actions, a plaintiff must prove that it is more likely than not that the defendant caused the plaintiff’s injury; this burden is exacerbated when the results of the harm are delayed and only statistics indicate the link between the defendant’s actions and the harm to the plaintiff.\textsuperscript{168}

The tort system may not provide the necessary remedies for harms caused by inadequate disposal of nonhazardous and hazardous waste; therefore, plaintiffs may turn to the international legal system as an additional possible means of redress.\textsuperscript{169} Under this system, foreign governments may attempt to hold the United States government liable under international law for the activities of private parties over which it exercises control.\textsuperscript{170} According to international legal principles, the state’s control over a private person’s activities determines the international liability a state may incur for the acts of private parties.\textsuperscript{171}

Two international cases demonstrate that a state may be held re-

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165. See Burkhart, supra note 19, at 372-76.
166. Id. at 377; see Comment, The Inapplicability of Traditional Tort Analysis to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation, 35 Stan. L. Rev. 575, 576 (1983) [hereinafter Inapplicability of Traditional Tort Analysis] (noting that alleged victims of waste disposal have difficulty recovering in tort).
168. See Inapplicability of Traditional Tort Analyses, supra note 166, at 583-84 (detailing problems proving causation); Rabin, supra note 167, at 29-31 (describing time lag and source issues); see also Summers v. Tice, 33 Cal. 2d 80, 199 P.2d 1 (1948) (illustrating difficulty of identifying who caused injury when victim could not identify which hunting companion shot him).
sponsible for activities originating within its territorial jurisdiction when the effects of such activities extend beyond that jurisdiction and injure nationals of other states.\textsuperscript{172} In the \textit{Trial Smelter} case between United States and Canada, an arbitral tribunal held that a state cannot use or permit the use of its territory in a way that will injure another's territory, property, or persons "when the case is of serious consequence and the injury is established by clear and convincing evidence."\textsuperscript{173} Additionally, the \textit{Corfu Channel} case between Great Britain and Albania held that states may not knowingly permit their territories to be used for acts which contravene the rights of other states.\textsuperscript{174} These international principles point to the possibility that the United States government could be the target of a lawsuit based on its control over American citizens who export hazardous waste. The \textit{Trial Smelter} and \textit{Corfu Channel} cases involved property ownership, and this may preclude their application when the United States, or a United States' citizen, does not own the property that is the genus of the damage.

Another form of redress available to foreign claimants is a cause of action based on the EPA's failure to fulfill a nondiscretionary duty to regulate the export of hazardous waste.\textsuperscript{175} Therefore, it is possible the government could incur liability for nondiscretionary acts arising out of its regulatory programs.\textsuperscript{176} This situation may arise, for example, if the United States fails to abide by its obligation under RCRA to prohibit waste exportation in the absence of the consent of the receiving country.\textsuperscript{177} The United States, however, may attempt to claim sovereign immunity as an affirmative defense.\textsuperscript{178}


\textsuperscript{174} Corfu Channel (Great Britain v. Albania), 1948-1949 I.C.J.Y.B. 57, 61 (1949). For a discussion of the Corfu Channel and Trial Smelter cases, see \textit{Abolish the Double Standard}, supra note 54, at 82-83.

\textsuperscript{175} Hazardous Waste Exports, supra note 10, at 10,174.

\textsuperscript{176} See Berkowitz v. United States, 486 U.S. 531, 538-39 (1988) (holding that discretionary function exception does not preclude liability for any and all acts arising out of federal agencies' regulatory programs but insulates from liability only those governmental actions and decisions that involve element of judgment or choice based on public policy considerations).

\textsuperscript{177} Hazardous Waste Exports, supra note 10, at 10,174.

\textsuperscript{178} Sovereign immunity laws of foreign countries would control whether the United
Because its enforcement of the waste export program is weak, the United States remains open to this type of liability. The EPA has contended that the hazardous waste export program is not an EPA priority. Agency officials claim that the EPA is not able to support the waste export program because the RCRA program is severely resource-constrained. The EPA Inspector General’s audit concluded that handling great quantities of hazardous waste contravened regulations. Thus, the EPA’s minimal enforcement efforts, combined with limited resources, opens the door to challenges to the government’s failure to abide by RCRA.

States would be successful in escaping liability under the cloak of sovereign immunity. See 20 CANADIAN YEARBOOK OF INTERNATIONAL LAW 79 (1982) (incorporating restrictive theory of sovereign immunity where foreign state is entitled to sovereign immunity only based on its public acts); see also J. SWEENEY, C. OLIVER & N. LEECH, THE INTERNATIONAL LEGAL SYSTEM 323-71 (3d ed. 1988) (describing history, theories, and application of sovereign immunity by various countries).

179. Audit, supra note 25, at 22.
180. Id. at 23.
181. Id. The official expressed the need for support from the Office of Enforcement and Compliance Monitoring (OECM). An OECM senior budget analyst, however, responded that OECM’s budget did not provide resources for the hazardous waste export program. Id.
182. Id. at 2. The Inspector General declared that the EPA is not equipped to regulate the export of waste. 11 Int‘l Env’t. Rep. (BNA) 434, 434 (Aug. 10, 1988).

The audit highlighted several problems in the EPA’s efforts to manage waste export. Audit, supra note 25, at 2. Among the major recommendations of the audit were: (1) an enforcement strategy to identify exporters not complying with agency regulations; (2) a joint nationwide program with the United States Customs Service to monitor and spot check hazardous waste exports in order to vigorously pursue violations; (3) procedures to ensure that exporters provide complete descriptions of how hazardous wastes will be handled in receiving countries; and (4) stronger procedures to alert exporters when a receiving country objects to the export. Id.

The EPA audit cited examples of how the description of the manner of handling had been improper or inadequate in past waste export: “(1) forty metric tons of lead dross in Pakistan was given simply as “Recycling”; (2) 120 drums of spent chemical catalyst containing mercury sludge in South Africa was given as “Recycling”; and (3) 250 tons of lead flue dust, 250 tons of lead furnace slag, and 11,000 tons of lead press coke in West Germany were given as “Reclamation.” Id. at 5. This audit concluded that exporters provided inadequate descriptions because they were unclear about what to include in the notification. Id.

One example of the troubled program involves Mexico. Id. at 13. In 1986 Mexican environmental authorities discovered an illegal dumping site in a rural community where a Mexican recycling company had dumped 10,000 gallons of heavy hydrocarbons and other hazardous materials that it had purchased from United States companies. Id. The Mexican company was neither a licensed recycler nor importer, and was not authorized to dump the material at the illegal site. Id. Subsequently, a federal grand jury returned a 41 count indictment against four officers and owners of two corporations that were allegedly involved in the illegal activity. Id. If the system had worked as it was supposed to, Mexican authorities would not have consented to this particular import. Id.

An additional enforcement problem cited by the audit involved the yearly reporting provisions of RCRA section 6939(g) which requires more specific and accurate information than the notifications. 42 U.S.C. § 3018(a) (1982 & Supp. V 1987). Most exporters did not comply with this regulation, which is used in part to help determine the direction the waste export program should take. Audit, supra note 25, at 24. Therefore, it was increasingly difficult for the EPA to enforce the provisions. Id. One EPA office revised its waste export program in response to the audit. Nevertheless, it is too soon to know if the revisions, once implemented, will make a difference in enforcement of the program. National Enforcement Investigations Center, Enforcement Strategy Hazardous Waste Exports, Mar. 1988.
As the foregoing discussion demonstrates, neither RCRA, CERCLA, nor the tort system provide an effective net to catch exporters once waste is removed from the country. This failure and the resulting difficulty in establishing liability once waste is removed from national boundaries, has created an incentive for generators to export.\textsuperscript{183} On the other hand, placing the liability for inadequate waste disposal in foreign countries on the United States government is fundamentally misdirected because it fails to address the root of the problem. It does not place liability on the exporter who can best assume the costs of improper transport or disposal. On the contrary, it allows exporters to escape the stringent United States' regulations and liability provisions of RCRA and CERCLA.\textsuperscript{184} In fact, the permissiveness of the RCRA system eliminates both the incentive to dispose of waste within United States' borders and the incentive to reduce waste, despite the availability of the technology to do so.\textsuperscript{185} Therefore, more waste is produced, creating a greater need to export.

2. Uncontrolled export of nonhazardous waste

Although RCRA requires that hazardous waste exports be monitored, it does not regulate the export of nonhazardous waste.\textsuperscript{186} Consequently, absent media coverage or private interest group actions, there is no way to track nonhazardous waste movement. Such imperfect coverage provides virtually no regulatory benefit and presents several problems. Aside from the issue of liability discussed above,\textsuperscript{187} this practice poses potential dangers to human health and the environment by permitting unregulated dumping in foreign countries.

Despite the implementation of increasingly stringent waste export regulation over the past ten years, the current system is inadequate to meet the needs of growing waste traffic.\textsuperscript{188} Municipal garbage is exported without scrutiny because the EPA's authority extends only to domestic solid waste disposal.\textsuperscript{189} Consequently, there are no reg-

\textsuperscript{183} Hazardous Waste Exports, supra note 10, at 10,174-75.
\textsuperscript{184} Id. at 10,172.
\textsuperscript{185} Hearings 2, supra note 17, at 24 (statement of Rep. John Conyers, Jr.).
\textsuperscript{186} Id. at 28 (statement of Rep. Mike Synar); see also supra note 27 and accompanying text (citing RCRA regulations concerning EPA's authority over nonhazardous waste).  
\textsuperscript{187} See supra notes 175-77 and accompanying text (positing potential United States' liability).
\textsuperscript{188} Hearings 1, supra note 10, at 28-29 (statement of Rep. Mike Synar) (stressing message from Subcommittee on Environmental, Energy, and Natural Resources hearing that waste export control program is inadequate to control growing waste export business).
\textsuperscript{189} A proposal to create a land mass in the Marshall Islands using 34 billion pounds of United States municipal trash illustrates the dangers that exist absent export regulations for
ulations to ensure the safe treatment, storage, and disposal of solid waste beyond the United States' borders.

This lack of regulation is significant because nonhazardous waste has hazardous properties. Although RCRA provides a chain of regulatory actions and policy initiatives that are designed to segregate nonhazardous and hazardous waste disposal activity, hazardous wastes are continuously found in nonhazardous waste landfills and incinerators. The increased costs and regulations of hazardous waste disposal encourage the illegal disposal of hazardous waste into nonhazardous waste receptacles. Additionally, about one percent of household wastes, such as paints, pesticides, batteries, cleaning solvents, and cosmetics include hazardous materials.

Due to the landfill squeeze, this type of waste is often sent abroad. Furthermore, poor enforcement of RCRA regulations allows waste that should be classified as hazardous to be mislabelled and sent abroad as nonhazardous.

Exposure to hazardous substances is linked to health problems such as cancer, birth defects, and personality disorders. Similarly, exposure to incinerator ash promotes serious health risks be-
cause it consistently contains heavy metals\textsuperscript{197} and toxic organics\textsuperscript{198} that are toxic to humans. These toxins pose a threat to human health by either seeping into the ground or by escaping into the air.\textsuperscript{199}

The dangers inherent in nonhazardous waste and incinerator ash become even more likely to cause harm when these substances are disposed of outside the United States. Disposal is then subject to the regulatory system of the importing country which in many cases may consist of open dumping or may even be nonexistent.\textsuperscript{200}

B. Analysis of the Waste Export Control Act

Under RCRA there is no control for nonhazardous waste export, and there is no capacity to control waste once it leaves the country.\textsuperscript{201} The ramifications of these two problems highlight the importance of a strong, effective enforcement program to regulate waste before and after it leaves the United States.\textsuperscript{202} First, in order to address liability concerns, RCRA and CERCLA must have international jurisdiction. Second, nonhazardous waste export must be strictly regulated. WECA proposes to incorporate these changes in amendments to RCRA.\textsuperscript{203}

1. Liability

One goal of WECA is to provide recourse for damages incurred by transboundary movements of waste.\textsuperscript{204} While RCRA and CER-

\textsuperscript{197} L. BLUMBERG & R. GOTTLIEB, supra note 2, at 110. The most dangerous heavy metals are lead, nickel, cadmium, chromium-b, mercury, and arsenic. \textit{Id.}

\textsuperscript{198} \textit{Id.} (pointing to dioxin as example of toxic organic).

\textsuperscript{199} \textit{Id.} When ash is buried in landfills, the more soluble heavy metals are likely to seep into the groundwater. \textit{Id.} Moreover, the lime used in incinerator scrubber systems increases the alkalinity of the ash, and actually accelerates seeping caused by such natural phenomena as erosion and runoff from rainfall. \textit{Id.} at 110-11; see \textit{International Export of Waste: Hearing before a Subcommittee of the Committee on Government Operations House of Representatives, 100th Cong., 2d Sess. 9} (1988) [hereinafter \textit{Hearings 3}] (statement of Rep. John Conyers, Jr.). The ash contains heavy metals and dioxins that can cause learning disabilities, cancer, and congenital defects. \textit{Id.} Aside from the obvious dangers associated with direct contact with the ash, improperly stored wastes may contaminate population centers through groundwater or the atmosphere. \textit{Id.}

\textsuperscript{200} Abolish the Double Standard, supra note 54, at 72-78.

\textsuperscript{201} Porterfield & Weir, supra note 18, at 343 (quoting Wendy Grieder from EPA's Office of International Activities: "Under the Federal system, we only have control over what's in the country . . . . Once it leaves, we can't do anything about it").

\textsuperscript{202} See F. ANDERSON D. MANDELKER & A.D. TARLOCK, supra note 68, at 604 (explaining theories for determining scope by RCRA).


\textsuperscript{204} H.R. 2525, 101st Cong., 1st Sess. § 12005 (1989) (permitting national government of foreign country in which damages are incurred to bring action under section 107 of CERCLA as if damages were incurred in United States).
CLA offer compensation and accountability measures for waste disposal in the United States, there are no parallel provisions covering the waste once it is exported.\textsuperscript{205} WECA permits the extension of RCRA and CERCLA liability provisions to foreign countries.\textsuperscript{206}

The expansion of the jurisdiction of RCRA and CERCLA depends upon two WECA amendments. First, by requiring bilateral agreements, WECA eliminates sovereignty issues.\textsuperscript{207} Second, requiring that the treatment, storage, and disposal standards of the recipient country be equal to those of the United States should discourage exporters searching for cheap and easy disposal and ensure equitable liability coverage.\textsuperscript{208}

WECA is criticized by Canadians and other proponents of waste export on the basis that it infringes on the sovereignty of other countries by dictating standards for the treatment, storage, and disposal of waste.\textsuperscript{209} The effect of the "no less strict" standard and the inspection procedures is to impose United States' regulations and scrutiny on recipient countries. There is, however, no infringement of other nations' sovereignty because bilateral agreements are required by WECA.\textsuperscript{210} Consequently, the sovereignty argument posited by the Canadian government\textsuperscript{211} and those espousing similar

\textsuperscript{205} See supra notes 149-50 and accompanying text (discussing limitation of RCRA and CERCLA to domestic waste disposal). It is conceivable that the United States could be found liable for failure to adequately regulate waste export activities as mandated by RCRA if they result in injury to foreign countries. See supra notes 175-77 and accompanying text (exploring possible liability of United States).


\textsuperscript{207} Id. § 12002(a)(1)-(2).

\textsuperscript{208} Id. §§ 12002, 12003(b)(8).

\textsuperscript{209} See Hearings 2, supra note 17, at 313 (statement of Ambassador D. H. Burney of Canada) (calling on United States to ensure that sovereignty of receiving countries is not infringed by requiring United States' standards and inspection of foreign facilities); id. at 316 (testimony of Chemical Manufacturers Association) (suggesting improvement of WECA by respecting sovereign rights of importing countries); id. at 39-40 (statement of Dr. Frederick Bernthal) (explaining that the "no less strict" standard places an additional and impractical burden on countries already practicing environmentally sound management of wastes); id. at 44 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA) (warning that prohibiting exports, except where receiving facility strictly adheres to extensive RCRA administrative and technical requirements, intrudes too much on sovereignty of other nations); id. at 80 (statement of Richard C. Fortuna, Executive Director, Hazardous Waste Treatment Council) (declaring bill's goal unobjectionable, but standard and process by which the goal is implemented self-defeating).

\textsuperscript{210} Id. at 31. (statement of Rep. Howard Wolpe) (responding to sovereignty criticism: "It has been suggested that our bill somehow would intrude upon the sovereignty of another . . . . That's frankly nonsense. Sovereignty is in no way intruded upon if a country agrees in advance to accept the terms of an international agreement. If a country . . . is offended by the language in a proposed agreement, it can refuse to sign that agreement. Of course, that country does not have to accept American waste products either").

\textsuperscript{211} Hearings 1, supra note 10, at 312-14 (testimony from Ambassador D. H. Burney of Canada). The greater sovereignty problem exists with Canada with whom the United States has a bilateral treaty governing hazardous waste trade. Id. The Canada-United States Agreement on the Transboundary Movement of Hazardous Wastes of October 1986 was designed
views are untenable because the recipient country is not required to accept United States' waste.\textsuperscript{212}

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to ensure the safe disposal of hazardous wastes by minimizing the distances wastes need to be transported. Id. Under the treaty, waste is treated at the nearest available facility, regardless of whether it is American or Canadian. Id. Since the Agreement was signed, Canada has begun the process of ratifying the Basel Convention and is in the process of adopting more stringent legal provisions to govern hazardous waste. Id. Under WECA, the bilateral agreement with Canada would need to be renegotiated to ensure that waste exported from the United States would be managed according to regulations that are "no less strict" than those in the United States. Id. Canada claimed that such a provision effectively extends the application of United States' law and standards into other countries and does not take into account the responsibility of the receiving country to ensure that its own standards, enforced by its own officials, are respected. Id.

Many other organizations, as well as the Bush Administration, have expressed the same sentiments regarding waste export to Canada and believe the critical issue should be whether human health and the environment are protected—"not whether standards are identical. Id. at 91 (statement of Barry L. Malter, Counsel, International Environmental Policy Coalition); see id. at 3 (statement of Rep. Gejdenson, Chairman, Subcomm. on International Policy and Trade) (suggesting that Canada should either be exempt from the "no less strict" standard or standard should be changed to "as effective as," thereby allowing Canada to develop alternative technologies from United States).

Although other countries have objections similar to those of Canada, developing countries interested in importing waste have an additional concern. \textit{Abolish the Double Standard}, supra note 54, at 78. Their concern focuses on a perception that the bill is another paternalistic practice of the United States. Id. Paternalistic attitudes were evident during the hearings on the bill, for example, "Can we honestly expect safe handling of highly toxic wastes in countries with inadequate port facilities, substandard roads, and where there may be little understanding of the danger of these substances?" \textit{Hearings 1}, supra note 10, at 15 (statement of Rep. John Conyers, Jr.). Developing countries view the waste export issue as one which involves the right of a nation to determine the products it chooses to import for the use of its citizens. \textit{Abolish the Double Standard}, supra note 54, at 78. By framing the issue this way, these countries perceive WECA as a violation of sovereign rights because it would preclude most developing countries (those that do not have "no less strict" standards) from importing waste from the United States. Id. In fact, one developing country accused the developed world of "environmental imperialism" when export controls were used to protect its environment and public health. Id. at 77. Moreover, the Act relies on the assumption of many exporting nations that the importing country will have the ability to implement the regulations of a developed country by mandating equivalent treatment, storage, and disposal standards. Id. at 78. WECA embodies an implicit judgment about the value of the environment and health, and it imposes it on other countries that may not share the same environmental and economic values as the United States. As Congressman Synar explains, the bill "ensures that the citizen of foreign countries will have at least equal protection that we would demand out of our own citizens .... There is a moral question here. It sets a framework up for meeting our environmental obligations ...." \textit{Hearings 1}, supra note 10, at 28.

On the other hand, many developing nations recognize the dangerous effects of uncontrolled waste disposal and are understandably sensitive to being treated as the garbage dump of developed nations. As a result, many countries have regulations banning waste import. Christian Science Monitor, Mar. 24, 1989, at A4, col. 1 (noting that approximately 40 developing nations ban hazardous waste import). Nigeria, for example, has threatened execution by a firing squad for anyone found guilty of importing toxic waste for profit. \textit{Hazardous Waste Exports}, supra note 10, at 10,179. But see Christian Science Monitor, Mar. 24, 1989, at A4, col. 1 (mentioning point by Mostafa Tolba, executive director of UNEP, that some developing countries may need to export waste "in the interest of sound environmental management").

212. \textit{See Hearings 1}, supra note 10, at 139 (statement of Rep. Mike Synar) (rebuttering assertion that WECA creates extraterritorial application of United States law: "I think it was .... the intent of the authors of this bill not to pass judgment on any other nation's laws. [The bill] focuses on exporters and on facilities that are managing the wastes .... This is a review of a voluntary business transaction between two companies, \textit{not two countries}") (emphasis added); see also id. at 3 (statement of Rep. Gejdenson, Chairman, Subcomm. on International
Opponents of extending the jurisdiction of RCRA and CERCLA argue that the bill may increase illegal waste exports because it will be more expensive and administratively difficult to send waste abroad legally.\textsuperscript{213} This argument, however, ignores the substance of the legislation. First, with the imposition of criminal penalties in the amount of $250,000 for knowingly exporting hazardous waste without a bilateral agreement,\textsuperscript{214} the notion that exporters will be inclined to break the law is questionable. Second, in view of the potential liability under CERCLA, the risks of illegal export simply become too great.\textsuperscript{215} Because liability under CERCLA is joint and several, transporters also face potential liabilities.\textsuperscript{216} A transporter facing enormous liabilities will be unwilling to bear the liability of the generator and exporter, and will be forced to reveal their identities. Therefore, the new legislation makes it easier to trace the source of illegally exported wastes. Further, allowing harmful exportation of waste because of potentially inadequate enforcement mechanisms focuses on the wrong side of the problem. Inadequate enforcement can be improved by increased funds that would allow for greater regulatory control. Harmful exportation, however, can never be corrected without strong legislation.

2. Nonhazardous waste export

Another major criticism of WECA is that it effectively bans waste export.\textsuperscript{217} Detractors argue that the “no less strict” standard and the extensive application requirements will prevent the export of any waste for at least a few years while interested nations develop standards comparable to those of the United States.\textsuperscript{218} Although

\textsuperscript{213} See \textit{Hearings 1, supra} note 10, at 57 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA) (discussing illegal transboundary shipments of waste). One EPA official compared the likelihood of catching illegal hazardous waste transports to stopping illegal drug trafficking. Porterfield & Weir, \textit{supra} note 18, at 341.

\textsuperscript{214} H.R. 2525, 101st Cong., 1st Sess. § 12006(c) (1989).

\textsuperscript{215} See supra notes 101-08 and accompanying text (outlining severity of penalties); see also \textit{Hearings 1, supra} note 10, at 115 (statement of William Y. Brown, Director of Environmental Affairs, Waste Management, Inc.) (advocating Superfund liability provision of WECA).


\textsuperscript{217} \textit{Hearings 1, supra} note 10, at 96 (testimony of Barry L. Malter); see also \textit{Hearings 2, supra} note 17, at 109 (testimony of Donald B. Bright, CEO, Environmental Audit, Inc.) (stating “I do believe that H.R. 2525 in its current form is a de facto moratorium on the exporting of any hazardous materials that would be useful for energy generation or other activities in foreign countries”).

\textsuperscript{218} \textit{Hearings 1, supra} note 10, at 93 (statement of Barry L. Malter). There are permit system delays because the regulatory scheme that foreign countries would have to create, EPA officials have advised, could easily take three to five years to fully implement. \textit{Id.} at 110.
the sponsors of the bill deny this, it is inevitable that the implementation of the requirements of WECA will take a substantial amount of time.

Although WECA purports that it is merely extending the regulations covering hazardous waste to nonhazardous waste, it effectively quells the export of nonhazardous waste. For example, WECA requires that waste generators make "reasonable efforts" to eliminate or minimize waste generation prior to export. Although this provision is not further defined, there are other sections of the bill that support the enforcement of waste minimization. The "no less strict" clause effectively interrupts export efforts while other countries implement standards as strict as RCRA. In addition, the potential liability posed by extending RCRA and CERCLA should encourage local governments to recycle rather than to export. Waste generators will be forced to develop new strategies for reducing waste at its source and recycling. As a result, valuable post-consumer goods will remain in this country, thus conserving the fossil fuel necessary to ship them abroad and saving the energy necessary to create new products from virgin material.

Elimination of the export option for waste disposal would certainly increase the cost of domestic disposal as demand increases and capacity becomes scarce. The increase in demand for domes-

219. Id. at 44 (statement of Rep. Mike Synar). Representative Synar said, "This proposal does not prohibit the export of United States wastes. Rather, the objective of the Waste Export Control Act is to correct the shortcomings of our current export control program and to provide a framework for fulfilling our international agreements and global environmental responsibilities." Id.

220. Id. at 109 (statement of Barry L. Malter). The bill states that waste exports may not go forward without an EPA permit and that permits may not be issued until the EPA, in consultation with the Secretary of State, has promulgated such regulations "including regulations on permits, manifests, packaging, labeling, transporting, reporting, record keeping, pretreatment, treatment, storage, and disposal." H.R. 2525, 101st Cong., 1st Sess. § 12003(i) (1989). In developing these regulations, the Administrator is required to "actively solicit public comment . . . ." Id. Barry Malter testified that he had been advised by EPA officials that the implementation of these regulations could take three to five years. Hearings I, supra note 10, at 110 (statement of Barry L. Malter). In the meantime, he said, "we will have trade with Canada disrupted." Id. at 93.

221. See supra notes 66-111 (comparing different regulatory standards for hazardous and nonhazardous waste).


223. Id. at § 12002(b)(C).

224. Id. at §§ 12003(b), 12005.

225. ENVIRONMENTAL DEFENSE FUND, COMING FULL CIRCLE: SUCCESSFUL RECYCLING TODAY 10-11 (1988) (revealing benefits of substituting secondary resources for virgin resources). For example, the amount of energy required to recycle an aluminum can is only five percent of the energy needed to produce a can from raw ore. L. BLUMBERG & R. GOTTLIEB, supra note 2, at 200.

226. Eliminating the export option would require increased use of the only alternatives, recycling and conservation. The Office of Technology Assessment reported that utilization of current technology could eliminate as much as half of the hazardous waste generated in the
tic disposal facilities would place an additional strain on existing repositories. These concerns give rise to the fundamental question of the value of exporting nonhazardous waste. In the present United States system, few ultimately profit from waste export. The United States loses valuable resources while other countries are burdened with materials that they may not be able to dispose of adequately. The consequence of this is injury to humans and the environment.

3. Enforcement

The Waste Export Control Act contains mechanisms to eliminate the enforcement problems of the present waste export control program. The wide scope of the permit system ensures that permit recipients are in a position to deal responsibly with waste export. It also provides a tracking and an accountability system that is currently absent under RCRA by making the requirements of the application much more explicit.

An additional enforcement mechanism of the Act is the authority vested in the EPA to halt waste export transactions. Currently, the EPA is powerless to stop even a dangerous export if the import-
ing country agrees to accept the shipment.\textsuperscript{234} Under WECA, this potentially disastrous situation would be less likely to occur because the EPA would command the authority to prevent waste transportation to countries where facilities are inadequate.\textsuperscript{235}

Of course, the stepped-up enforcement provisions of WECA are accompanied by increased administrative costs. The requisite user fees, however, defray the cost of running a waste export control program.\textsuperscript{236} This relieves some of the pressures of budgetary constraints and allows a greater investment in the program. Given the expected rise in the amount of waste generated and the increased pressure to export that is likely to follow, this provision becomes especially important.

III. \textbf{Recommendations}

WECA adequately responds to the deficiencies in the current waste export program, and should be employed as an interim measure. The ultimate goal of legislation in this area, however, should be a complete ban on exports of nonhazardous waste and a strictly regulated export program for hazardous waste.

A large percentage of nonhazardous waste consists of recyclable or reusable resources that can be used in this country.\textsuperscript{237} Rather than retaining these post-consumer goods for American consumption, under the current system they are sent abroad. A majority of the nonhazardous waste stream is recyclable or reusable materials.\textsuperscript{238} Because the earth's resources are finite, it is imperative that the United States develop a waste disposal system that dispels the

\textsuperscript{234} Porterfield & Weir, supra note 18, at 343.
\textsuperscript{236} Id. § 12004.
\textsuperscript{237} ENVIRONMENTAL DEFENSE FUND, supra note 224, at 1 (noting that as much as 80\% of waste stream could be recycled).
\textsuperscript{238} Id. Additionally, RCRA mandates that waste reduction should be the first line of defense against the generation of waste and its attendant problems. Hearings 1, supra note 10, at 17 (statement of Rep. John Conyers, Jr.). More than 99\% federal and state pollution control money is allocated to cleaning up pollution after waste is generated, with less than one percent spent on waste reduction. Id. There is also indirect but increased pressure from Third World countries to dispose of waste in the United States because an increasing numbers of these countries are banning waste import. Id. at 164 (testimony of Greenpeace); see also supra note 210 (discussing number of Third World countries banning hazardous waste import). The following are the countries that ban waste exports as of June, 1989: Algeria, Bangladesh, Barbados, Belize, Benin, Burundi, Bulgaria, Cameroon, Comoros, Congo, Dominican Republic, Gabon, Gambia, Ghana, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Indonesia, Ivory Coast, Jamaica, Kenya, Lebanon, Liberia, Libya, Mali, Niger, Nigeria, Panama, Peru, Philippines, Saint Lucia, Senegal, Sierra Leone, Solomon Island, Tanzania, Togo, Tonga, Trinidad & Tobago, Vanuatu, Venezuela, Western Samoa, Zambia, and Zimbabwe. Hearings 1, supra note 10, at 164 (testimony of Greenpeace).

The following table indicates the composition of municipal solid waste in the United States for the years 1970 and 1984, and the projected composition for the year 2000.
notion that natural resources can continue to be exploited recklessly. A necessary step toward this goal is to stop exporting this valuable material. Technology exists to reduce the amount of waste generated by at least fifty percent through recycling and reuse.\textsuperscript{239}

The result of reducing waste would be less waste to dispose of and less constriction on present waste receptacles. This, in turn, would reduce pressure to export.\textsuperscript{240}

Hazardous waste should only be exported when a bilateral agree-

Materials Discarded into the Municipal Solid Waste Stream (In Millions of Tons and Percents):

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper and Paperboard</td>
<td>36.5</td>
<td>49.4</td>
<td>65.1</td>
</tr>
<tr>
<td>Glass</td>
<td>12.5</td>
<td>12.9</td>
<td>12.1</td>
</tr>
<tr>
<td>Metals</td>
<td>13.5</td>
<td>12.8</td>
<td>14.3</td>
</tr>
<tr>
<td>Plastics</td>
<td>3.0</td>
<td>9.6</td>
<td>15.5</td>
</tr>
<tr>
<td>Rubber and Leather</td>
<td>3.0</td>
<td>3.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Textiles</td>
<td>2.2</td>
<td>2.8</td>
<td>3.5</td>
</tr>
<tr>
<td>Wood</td>
<td>4.0</td>
<td>5.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Food Wastes</td>
<td>12.7</td>
<td>10.8</td>
<td>10.8</td>
</tr>
<tr>
<td>Yard Wastes</td>
<td>21.0</td>
<td>23.8</td>
<td>24.4</td>
</tr>
<tr>
<td>Misc. Organics</td>
<td>1.8</td>
<td>1.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Totals</td>
<td>110.3</td>
<td>133.0</td>
<td>158.8</td>
</tr>
</tbody>
</table>

L. BLUMBERG & R. GOTTLIEB, supra note 2, at 11.

239. See supra note 225 (discussing report by Office of Technology Assessment concluding that as much as half of hazardous waste generated by United States could be eliminated); see also ENVIRONMENTAL DEFENSE FUND, supra note 224, at 10 (suggesting that at least 80% of solid waste is technically recyclable and/or compostable).

240. The benefits of recycling are numerous. ENVIRONMENTAL DEFENSE FUND, supra note 224, at 11. There are minor adverse environmental effects to recycling, such as transportation of waste and waste residue. \textit{Id.} These costs, however, are minor compared to the harm generated by the current manufacturing and disposal processes. \textit{Id.} Recycling preserves natural resources. \textit{Id.} at 10 (noting that recycling one ton of newspapers saves 17 trees). Virgin materials are unnecessary in the manufacturing process because products are generated from using post-consumer material. Recycling also reduces the energy used and pollution created from manufacturing new products. \textit{Id.} at 10-11.

Benefits from Substituting Secondary Resources for Virgin Resources (Percent Reduction):

<table>
<thead>
<tr>
<th>Benefits from Substituting Secondary Resources for Virgin Resources (Percent Reduction):</th>
<th>Paper</th>
<th>Glass</th>
<th>Steel</th>
<th>Aluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy \textsuperscript{241}</td>
<td>23-74</td>
<td>4-32</td>
<td>47-74</td>
<td>90-97</td>
</tr>
<tr>
<td>Air Pollution \textsuperscript{241}</td>
<td>74</td>
<td>20</td>
<td>85</td>
<td>95</td>
</tr>
<tr>
<td>Water Pollution \textsuperscript{241}</td>
<td>35</td>
<td>-</td>
<td>76</td>
<td>97</td>
</tr>
<tr>
<td>Mining Wastes \textsuperscript{242}</td>
<td>-</td>
<td>80</td>
<td>97</td>
<td>-</td>
</tr>
<tr>
<td>Water Use \textsuperscript{242}</td>
<td>58</td>
<td>50</td>
<td>40</td>
<td>-</td>
</tr>
</tbody>
</table>

\textit{Id.} at 11. In addition, recycling avoids hazardous disposal methods such as landfilling and incinerating. \textit{Id.} Furthermore, recycling creates more job opportunities than alternate disposal methods. \textit{Id.} at 12. An estimated 36 jobs are necessary to recycle 10,000 tons of material as opposed to 6 new jobs for an equivalent amount of landfilling or 0.9 new jobs for incineration. \textit{Id.} at 12-13.
ment exists with the importing country. Such an agreement must ensure that the importing country has the knowledge and technology to safely treat, store, and dispose of the waste. It should also provide liability provisions that impose liability costs on the exporter through RCRA and CERCLA. Imposing the costs of cleaning up foreign waste disposal sites on the exporter provides a powerful incentive to practice responsible disposal methods. Because one of the primary reasons for exporting waste is to avoid potential liability under CERCLA, extending CERCLA liability beyond United States borders will force potential exporters to reconsider export decisions and to look for alternative and less costly means of disposal, such as source reduction and recycling. The Waste Export Control Act eliminates the incentive to escape RCRA and CERCLA liability by retreating to foreign countries.\textsuperscript{241}

**CONCLUSION**

The United States is faced with a mounting waste disposal crisis. The current waste export control program, administered pursuant to RCRA, does not effectively control the problem because it lacks remedial provisions and does not provide regulations for nonhazardous waste export. WECA adequately responds to these deficiencies and implements a comprehensive waste control program. The bill’s major contribution is in the area of liability, where it extends CERCLA and RCRA into the international arena. In addition, the bill addresses currently unregulated nonhazardous waste exports by including them under the umbrella of RCRA. A more effective program, however, would end nonhazardous waste export, strictly limit hazardous waste export, and establish a comprehensive recycling and reuse program.

\textsuperscript{241} See *supra* notes 49-63 and accompanying text (discussing incentives to export waste).