

## NOTES

### BLOOD ON NORTH AMERICAN SOIL: A COMPARISON OF UNITED STATES AND CANADIAN INFECTIOUS WASTE DISPOSAL REGULATIONS

#### I. INTRODUCTION

The summer of 1988 marked the passage of infectious waste, as an issue, from the obscurity of the pre-problem stage in the public attention cycle to the spotlight of the alarmed-discovery stage.<sup>1</sup> Vials of blood testing positive for the AIDS antibody, used syringes and other hospital waste washed ashore on the beaches of Long Island and New Jersey in the East,<sup>2</sup> and on the shores of Michigan and Ohio in the Midwest.<sup>3</sup> Due to the current national fear of AIDS, infectious waste now has the attention of more than just the few governmental experts and concerned environmentalists who have been working on the problem for years.<sup>4</sup> The public and media responded as though this was a new problem never before encountered on American soil.<sup>5</sup> Predictably, the American

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1. A. DOWNS, *THE POLITICAL ECONOMY OF ENVIRONMENTAL CONTROL* 14-19 (1971).

2. Kolata, *A Low Risk of Disease Seen From Syringes on Beaches*, N.Y. Times, July 12, 1988, at A1, col. 5; Gutis, *Fears on the Beaches: What Waste May Mean*, N.Y. Times, July 12, 1988, at B4, col. 1; Gross, *2 Vials Are Tainted by Hepatitis*, N.Y. Times, July 14, 1988, at B3, col. 4; *How to Clean Up Needle Beach*, N.Y. Times, July 24, 1988, at 24, col. 1 [hereinafter *Needle Beach*].

3. *DNR Eyes Wisconsin as Source of Medical Waste*, Grand Rapids Press, Oct. 2, 1988, at A1, col. 1 [hereinafter *DNR Eyes Wisconsin*].

4. See A. DOWNS, *supra* note 1.

5. Clark, Williams, McKillop & Turque, *The Garbage Health Scare*, NEWSWEEK, July 20, 1987, at 56. Prior to 1988, there had been several incidents of improper disposal of infectious waste, each of which had a minimal impact on the public interest. In Indianapolis a small group of children found and smashed several small bottles containing blood samples from a nearby clinic, one of which contained blood from an individual diagnosed with AIDS. Also, "three Boardman Township, Ohio, youngsters discovered some syringes in a dumpster and spent an afternoon jabbing each other in the arm in a game of doctor." *Id.* Two years earlier in a New York City suburb, local residents complained of offensive odors coming from a nearby warehouse. Hanley, *The Dangers of Dumping Medical Wastes Are Under Scrutiny*, N.Y. Times, Aug. 24, 1987, at B1, col. 2. Investigating health inspectors found about five tons of hospital and medical waste, including body parts. *See id.* In November of 1986, Brooklyn firefighters discovered about 1400 bags of hospital waste, including bloody gauze and hypodermic needles, in a smoldering warehouse. *Id.* There was evidence indicating that vagrants had rummaged through and slept on these bags. *Id.*

public reacted: first with expressions of moral outrage and demands for retribution,<sup>6</sup> then adoption of the "not in my backyard" attitude,<sup>7</sup> followed by requests for legislation to eliminate the problem,<sup>8</sup> and finally with an attitude to forget the problem and live happily ever after.

The unfortunate truth of the matter is that infectious waste, as a health and environmental issue, has been a problem for a long time. It is not an issue unique to the United States<sup>9</sup> and it will remain a problem if we continue to produce voluminous amounts of waste.<sup>10</sup>

It is the intent of this note to show that the United States federal government has failed to establish a clear national definition and standard for the handling of infectious waste, and that that failure is responsible for the confusion among state infectious waste policies. The federal approach taken by the United States will be compared with that of the Canadians, and both will be ex-

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6. See Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950; N.Y. Times, July 14, 1988, at B3, col. 4.

7. See Billmyer, *Medical Waste Brought in Cash for Cemetery*, Syracuse Herald Am., Oct. 2, 1988, at F1, col. 1. Syracuse residents used community pressure to force a local cemetery to stop burning medical waste in its crematorium. *Id.* Residents complained about bags of medical waste piling up outside, and eventually forced an end to the burning. *Id.* This attitude is not exclusive to the United States. The residents of South Riverdale, a community in metropolitan Toronto, were enraged to learn, just after winning a long battle to have a neighborhood incinerator closed, that their community would soon be the site for an experimental hospital infectious waste disposal unit. See Sarick, *Incinerator Plan Upsets Residents*, Globe & Mail, Sept. 10, 1988, at A10, col. 1. The innovative waste disposal system, which would be operated by a group of Metro Toronto hospitals, has not been tested in Canada, but has a "proven track record" in the United States. Opponents demand that "it [be] proven before it comes into our neighborhood." *Id.*

8. See *Needle Beach*, *supra* note 2, at 24, col. 1.

9. See Fayerman, *New Westminster Hospital Staff Scared by Body Fluids in Laundry*, Vancouver Sun, Aug. 12, 1988, at A3, col. 1. Surrey Memorial Hospital in Vancouver was responsible for two separate biomedical waste accidents in as many weeks. The first incident involved an uncapped hypodermic needle, found on the hospital lawn near the emergency ward. The needle was eventually stuck in the arm of a five year-old girl. The second incident involved three bags of blood and body fluids from surgery marked "Isolation" that ended up in a laundry bin instead of an incinerator, exposing laundry workers to a high risk of infection. *Id.* In Toronto, four metropolitan hospitals were each charged with two violations of the Environmental Protection Act when they knowingly dumped hazardous pathological waste at a local landfill. See *4 Hospitals Charged Over Pathological Waste*, Globe & Mail, Sept. 14, 1988, at A18, col. 1. Biomedical wastes have continually turned up at public disposal sites in the Greater Vancouver area, despite assurances from area hospitals that they are taking all necessary precautions. See Blain, *Biomedical Wastes Cause Problem at Disposal Sites*, Vancouver Sun, Aug. 8, 1988, at B6, col. 1.

10. See *Needle Beach*, *supra* note 2, at 24, col. 1. The hospitals, clinics, nursing homes and laboratories in New York State alone, produce more than forty-five thousand tons of infectious waste a year.

amined to determine the impact each has had on its nation, and the support each has given its state or provincial governments. By making these comparisons, this note will show the importance of a clear national definition and standard for infectious waste on the effectiveness of national and state infectious waste policies.

Part II of this note will provide an overview of the United States and Canadian policies and approaches to the regulation of infectious waste, and will introduce the weaknesses of the United States model. Part III will present the United States and Canadian national, state and provincial definitions of infectious waste, focusing on the strength of the national standards created by these definitions. Part IV will examine the comprehensiveness of the individual national policies prescribing infectious waste transportation, treatment and disposal. Part V will look at the implementation and enforcement of these regulations, determining the degree of federal deference to state and provincial governments for implementation and enforcement of national policies, and determine the national impact of these subordinate governmental entities. In Part VI, this note will examine the weaknesses of the United States model, specifically its inability to effectively direct state policies, by comparing it with the Canadian model. To facilitate this comparison, the focus will be on the policies of Ontario and those states in the Great Lakes region. Parts VII and VIII will review the Medical Waste Tracking Act of 1988,<sup>11</sup> and its subsequent regulations respectively, to determine whether Congress can effectively direct the federal efforts needed to help resolve this problem in the United States. In conclusion, this note will address the future of the infectious waste issue in North America and its presence on the continental environmental agenda.

## II. OVERVIEW

In the United States, response to the issue of infectious waste has come primarily from the states,<sup>12</sup> with very little response from the federal government.<sup>13</sup> Over the years, state legislatures have passed several statutes calling for the regulation of infectious and

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11. See Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2951-52.

12. See MORELAND, STATE INFECTIOUS WASTE REGULATORY PROGRAMS 3 (Council of State Governments 1988).

13. Resource Conservation and Recovery Act, 42 U.S.C. § 6907 (1976); EPA, GUIDE FOR INFECTIOUS WASTE MANAGEMENT (1986).

biomedical waste treatment, transportation and disposal.<sup>14</sup> Congress passed a hazardous waste act encompassing the issue of infectious waste and just recently passed the Medical Waste Tracking Act.<sup>15</sup> Under these federal acts, the EPA, the Center for Disease Control (CDC), the Nuclear Regulatory Commission (NRC), and several state health departments, were delegated the necessary authority to handle the various aspects of the infectious waste issue that relate to their particular area of specialty.<sup>16</sup> Under the Resource Conservation and Recovery Act,<sup>17</sup> the EPA has the power to regulate those substances that it has determined meet the criteria of hazardous waste. The EPA was unable to conclusively determine the hazards posed by waste classified as infectious, and decided not to regulate.<sup>18</sup> Instead of regulating infectious waste, it published a comprehensive guide for the private management and state regulation of infectious waste, outlining what it believed were the proper methods for transporting, treating and disposing of infectious materials.<sup>19</sup> The EPA's own uncertainty over the health risks posed by unregulated infectious waste was reflected in the contradictory recommendations made in this manual.<sup>20</sup> As a result, the manual failed to establish a minimum national standard for the proper disposal of infectious waste, and left the states to determine the procedures needed to handle this problem.<sup>21</sup>

The standardless national definition of infectious waste has lead to a myriad of state responses and a complex array of procedures and agencies intended to deal with the problem at the state level.<sup>22</sup> Neighboring state's infectious waste policies often clash and contribute to each other's failures.<sup>23</sup> State regulatory measures that

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14. MORELAND, *supra* note 12, at 4. "State governments have proved to be the most responsive to this new environmental issue (infectious waste)." *Id.* See also EPA, *supra* note 13, at A1-24.

15. See Resource Conservation and Recovery Act, 42 U.S.C. § 6901 (1976). As recently as November of 1988, Congress passed the Medical Waste Tracking Act in response to the medical waste problems of that summer. Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950 (1988).

16. See Resource Conservation and Recovery Act, 42 U.S.C. § 6907 (1976); see generally Center for Disease Control Guideline for Handwashing and Hospital Environmental Control (1985); NRC, Biomedical Waste Disposal, 46 Fed. Reg. 16,230 (1981) (to be codified at 10 C.F.R. § 20); MORELAND, *supra* note 12, at 4-6.

17. See Resource Conservation and Recovery Act, 42 U.S.C. § 6912 (1976).

18. See *infra* notes 88-90 and accompanying text.

19. See generally EPA, *supra* note 13.

20. See *infra* notes 120-33 and accompanying text.

21. See *infra* notes 193-95 and accompanying text.

22. See *infra* notes 197-200 and accompanying text.

23. See *infra* notes 134-38, 198 and accompanying text.

require records proving waste delivery to certified disposal sites are confounded by delivery to sites out of state and their inability to track the waste across state lines.<sup>24</sup> This movement across state lines also poses a problem to the state receiving the waste, for it is often unaware of the entrance of waste into the state or its subsequent disposal.<sup>25</sup> Even if the states share a similar infectious waste disposal policy, one state may suffer from the other's lax enforcement of its policy.<sup>26</sup> Without a consistent basis for state regulatory behavior and enforcement, interstate waste conflicts and illegal dumpings will continue to be a problem.<sup>27</sup>

Considering the uncertainty surrounding the necessity for precautionary infectious waste control policies,<sup>28</sup> the absence of a national standard for such policies seems grossly inappropriate in the face of federal efforts to control the spread of AIDS.<sup>29</sup> It would seem that if the federal government wished to secure the public's confidence in its efforts to handle the AIDS emergency, it would begin by rigidly controlling all possible risks of exposure and certify those methods found to be safe.<sup>30</sup> Neither the EPA nor the CDC have sufficiently clarified the safety or hazardousness of infectious waste to the public's satisfaction;<sup>31</sup> the Medical Waste Tracking Act is an attempt by Congress to force this clarification.<sup>32</sup>

Much like the United States, the provincial governments in Canada exercise primary control over the disposal of hazardous biomedical and pathological waste<sup>33</sup> and the Canadian Parliament has allowed for the national control of the movement and handling of dangerous goods, including infectious waste.<sup>34</sup> However, the federal government in Canada has taken a more active role in the control of infectious waste than the United States federal government, by regulating the inter-provincial transportation and handling of

24. See *infra* note 135 and accompanying text.

25. See *id.*

26. See Hanley, *supra* note 5; see also *DNR Eyes Wisconsin*, *supra* note 3, at col. 3.

27. See *infra* notes 134-38 and accompanying text.

28. See *infra* notes 88-103 and accompanying text.

29. See *infra* notes 239, 240 and accompanying text.

30. Compare *infra* notes 238, 239 and accompanying text with *infra* notes 221, 236 and accompanying text.

31. See generally Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950-59; *Needle Beach*, *supra* note 2, at 2, col. 1.

32. See Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2951-52.

33. See generally D. ESTRIN, 3 HANDLE WITH CAUTION (1986).

34. See generally Transportation of Dangerous Goods Act, Can. Stat. ch. 36 (1980).

these wastes.<sup>35</sup> Within Canada's Transportation of Dangerous Goods Act (TDGA), the Minister of Transportation has the authority to negotiate for provincial implementation and enforcement of the TDGA, which may directly impact intra-provincial transportation.<sup>36</sup> Unlike the United States, the Canadian Ministry of Transportation chose to use its delegated authority to regulate the transportation and handling of infectious waste like all other potentially dangerous goods.<sup>37</sup> The acknowledgment that infectious waste presents, or can present a public health risk, has provided Canadian national regulations with the structure, clarity and consistency needed to effectively direct national and provincial policies.<sup>38</sup>

Ontario legislated beyond the national requirements and regulates infectious substances under their strict environmental protection policies controlling hazardous wastes.<sup>39</sup> Under Ontario's environmental protection policies, infectious waste is clearly acknowledged and classified as a hazardous waste and its disposal is strictly regulated.<sup>40</sup> It is the framework of the national regulations and the clear identification of the risks posed by the improper treatment of biomedical waste which have given Ontario the confidence needed to make effective policy choices.<sup>41</sup> Beside providing a policy direction, the national standard also protects the provinces from improper inter-provincial transportation, helping insure their ability to maintain control over their regulations.<sup>42</sup>

### III. THE DEFINITION OF INFECTIOUS WASTE

#### A. *United States*

##### 1. *Federal Definition*

Under the Resource Conservation and Recovery Act (RCRA), Congress gave the EPA the authority to regulate hazardous and solid waste.<sup>43</sup> Congress stressed the need for inter-governmental cooperation at all levels, with the federal government leading the

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35. See *id.* ch. 36.

36. See *id.* ch. 36, §§ 25, 32.

37. See *infra* notes 139-50 and accompanying text.

38. See *id.*

39. See Environmental Protection Act, ONT. REV. STAT. ch. 141 (1980).

40. See *id.* ch. 141, pt. IX.

41. See *infra* notes 139-50, 169 and accompanying text.

42. Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Gaz. Part II 429, 430, 433, 436, Feb. 6, 1985.

43. See Resource Conservation and Recovery Act, 42 U.S.C. § 6907 (1976).

way in all aspects of the disposal of hazardous and solid waste.<sup>44</sup> Following the definition of hazardous waste in the RCRA,<sup>45</sup> infectious waste is clearly within the EPA's regulatory authority.<sup>46</sup>

The 1986 EPA Guide for Infectious Waste Management is a revision of the EPA's guidance manual of 1982<sup>47</sup> and is "intended to provide guidance to persons responsible for infectious waste management decisions at . . . facilities which generate infectious waste."<sup>48</sup> The EPA suggests that this guide may be helpful to state and local regulatory agencies; however, they recommend that those agencies "use this document only as reference material."<sup>49</sup>

Recognizing the variations in the definition of infectious waste used by the many participants in infectious waste management, the EPA recommended a definition that attempted to avoid this inconsistency.<sup>50</sup> As part of its definition, the EPA included a list of

44. See *id.* § 6902. Objectively, the Resource Conservation and Recovery Act is intended to: provide technical and financial assistance to state and local governments; promulgate guidelines for solid waste collection, transportation, separation, recovery, and disposal; promote research for improved solid waste management; and "establish a cooperative effort among the Federal, State, and local governments and private enterprise in order to recover valuable materials and energy from solid waste." *Id.*

45. See *id.* § 6903 (1976).

The term "hazardous waste" means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

*Id.*

46. See *id.* § 6912. "In carrying out this chapter, the [EPA] Administrator is authorized to—(1) prescribe, in consultation with Federal, State, and regional authorities, such regulations as are necessary to carry out his functions under this chapter." *Id.*

47. See EPA, DRAFT MANUAL FOR INFECTIOUS WASTE MANAGEMENT (1982).

48. EPA, *supra* note 13, at 1-1.

49. *Id.*

50. See *id.* at 2-1.

For purposes of this guidance document, infectious waste is defined as waste capable of producing an infectious disease. This definition requires a consideration of certain factors necessary for induction of disease. These factors include: a) presence of a pathogen of sufficient virulence; b) dose; c) portal of entry; and d) resistance of host. Therefore, for a waste to be infectious, it must contain pathogens with sufficient virulence and quantity so that exposure to the waste by a susceptible host could result in an infectious disease. The six categories listed below are recommended EPA infectious waste categories: 1. isolation wastes [wastes generated by hospitalized patients placed in isolation to protect others from communicable diseases. EPA recommends that isolation wastes be managed in accordance with the CDC guidelines.]; 2. cultures and stocks of infectious agents and associated biologicals [all cultures and stocks of infectious agents should be designated infectious, because of the high concentrations of pathogenic organisms typically present.]; 3. human blood and blood products [all waste human blood and blood products should

potentially infectious materials, which it suggested should be evaluated to determine whether they might pose a serious health hazard.<sup>51</sup> The EPA lacked any current information on the relative risk of infection or disease posed by these materials, and subsequently recommended that the risk evaluation be conducted by those managing its disposal.<sup>52</sup>

## 2. State Definitions

States promulgating infectious waste programs in lieu of federal policies are first required to submit written applications of such programs to the EPA for authorization.<sup>53</sup> As of February 1, 1988, all but eleven states had adopted some form of regulation addressing either the transportation, treatment, or disposal of infectious waste.<sup>54</sup> Within the last few years, several states have promulgated extensive policies addressing the infectious waste problem either as new statutes, addendum to current solid waste and public health laws,<sup>55</sup> or through comprehensive state guidelines similar to those published by the EPA.<sup>56</sup> The differences between state statutory definitions of infectious waste are based primarily on the age of the statute, the placement in either state solid waste or public health laws, and the extensiveness of any revisions.<sup>57</sup> Although all state infectious waste regulations must adhere

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be managed as infectious waste.]; 4. pathological wastes [consisting of tissues, organs, body parts, and body fluids removed during surgery and autopsy, considered infectious because of the possibility of unknown infection.]; 5. contaminated sharps [all hypodermic needles, syringes, pasteur pipettes, broken glass, scalpel blades which have come in contact with infectious agents during patient care.]; 6. contaminated animal carcasses, body parts, and bedding [animals that were intentionally exposed to pathogens in research].

*Id.*

51. *Id.* at 2-2. This list includes, but is not limited to: "contaminated equipment, wastes from surgery and autopsy, miscellaneous laboratory wastes, and dialysis unit wastes." *Id.*

52. *See id.*

53. *See* Resource Conservation and Recovery Act, 42 U.S.C. § 6926 (1976).

54. *See* EPA, *supra* note 13, at A1-24.

55. *See* N.Y. ENVTL. CONSERV. LAW § 27-1501 (McKinney 1988). New York added title 15, "Storage, Treatment, and Disposal of Infectious Waste", which went into effect April 1, 1988, onto its Solid Waste Laws. *Id.*

56. *See generally* MINNESOTA STATE ATTORNEY GENERAL, REPORT AND RECOMMENDATIONS ON THE REGULATION OF INFECTIOUS WASTE (1988). The Minnesota Attorney General's office recently completed an extensive state guide for those involved in the management of infectious waste.

57. *See* EPA, *supra* note 13, at A1-24. An interagency task force in Minnesota developed a new infectious waste definition for the state solid waste rules. *See* MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at A-7; *see also* N.Y. ENVTL. CONSERV. LAW § 27-1501 (McKinney 1988).



to the regulatory requirements of the EPA, as provided in section 6926 of the RCRA,<sup>58</sup> they are not required to conform to the EPA's published recommendations, which are intended to serve only as a guide for state policies.<sup>59</sup>

Following the above-mentioned regulatory requirement in the RCRA,<sup>60</sup> the states are not presently under any constraints in their regulation of infectious waste because the EPA has not yet promulgated any requirements.<sup>61</sup> With merely recommendations guiding the course of infectious waste regulation, some states have chosen to take a less precautionary approach, being concerned with the probability of exposure or presence of pathogens than that of all biomedical materials and by-products expressed in the EPA guide.<sup>62</sup> Other states have expanded the EPA definition to include

58. See Resource Conservation and Recovery Act, 42 U.S.C. § 6926 (1976).

59. See EPA, *supra* note 13, at 1-1. "State and local regulatory agencies may also find this manual useful as resource material. The EPA strongly urges, however, that such agencies use this document only as reference material." *Id.*

60. See *id.*

61. See MORELAND, *supra* note 12, at 3.

A definition of and treatment methods for infectious wastes were included in the [EPA's proposed regulations of hazardous waste]. However, when the final rule was published on May 19, 1980, the Agency stated in the preamble that infectious waste regulations would be published when RCRA work on treatment, storage, and disposal standards was completed. Eight years and two reauthorizations of RCRA later, still no federal regulations have been promulgated.

*Id.*

62. N.Y. ENVTL. CONSERV. LAW § 27-1501 (McKinney 1988). New York's categorization of infectious waste is narrower than the EPA recommendations, and concentrates more on the likelihood of a pathogens presence in the waste when classifying it as infectious. This is particularly noticeable in the categorization of blood products. The New York State Environmental Conservation Law defines infectious waste as

a. Surgical waste, which consists of materials discarded from surgical procedures involving the treatment of a patient on isolation . . . ; b. Obstetrical waste, which consists of materials discarded from obstetrical procedures involving the treatment of a patient on isolation . . . ; c. Pathological waste, which consists of discarded human tissues and anatomical parts which are discarded from surgery, obstetrical procedures, autopsy and laboratory procedures; d. Biological waste, which consists of discarded excretions, exudates, secretions, suctionings, and disposable medical supplies which have come in contact with these substances that cannot be discarded directly into the sewer and that emanate from the treatment of a patient on isolation . . . ; e. Discarded materials soiled with blood emanating from the treatment of a patient on isolation . . . ; f. All waste being discarded from renal dialysis, including tubing and needles; g. Discarded serums and vaccines that have not been autoclaved or returned to the manufacturer or point of origin; h. Discarded laboratory waste which has come in contact with pathogenic organisms and which has not been rendered non-infectious by autoclaving or other sterilization techniques; i. Animal carcasses exposed to pathogens in research, their bedding and other waste from such animals that is discarded; and j. Other articles that are being discarded that are infectious and that might cause punctures or cuts including intravenous tubing with

materials considered by the EPA to be possibly infectious, but not yet evaluated and classified by the EPA as such.<sup>63</sup> Without the EPA taking a strong leadership role in the establishment of a national infectious waste standard, as promised in the RCRA,<sup>64</sup> the formulation of a comprehensive national policy for the disposal of infectious waste is improbable.<sup>65</sup>

## B. Canada

### 1. Federal Definition

Creation of the Transportation of Dangerous Goods Act (TDGA)<sup>66</sup> was a legislative response to the growing public awareness of the dangers posed by the unrestricted movement of potentially hazardous substances within Canada.<sup>67</sup> Under the TDGA, the Canadian Parliament gave the authority to regulate all handling and transportation of dangerous goods to the Ministry of Transportation.<sup>68</sup> Dangerous goods are broadly defined and classified by

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needles attached, that have not been autoclaved or subjected to a similar decontamination technique and crushed or otherwise rendered incapable of causing punctures or cuts.

*Id.*

63. See *id.* New York's statutory definition follows the EPA recommendation to evaluate and consider dialysis unit wastes as infectious. Minnesota's proposed statutory definition, includes all waste

originating from the diagnosis, care, or treatment of a[n] . . . animal that has been or may have been exposed to a contagious or infectious disease; . . . all bandages, dressings, casts, catheters, tubing, and similar disposal items which have been in contact with wounds, burns, anatomical tracts or surgical incisions and which are suspect of being or have been medically verified as infectious.

MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at A-7.

64. See Resource Conservation and Recovery Act, 42 U.S.C. § 6901(4) (1976). "[T]he problems of waste disposal . . . have become a matter national in scope and in concern and necessitate Federal action through financial and technical assistance and leadership in the development, demonstration, and application of new and improved methods and processes . . . to provide for proper and economical solid waste disposal practices." *Id.*

65. See generally MORELAND, *supra* note 12, at 1.

66. See Transportation of Dangerous Goods Act, Can. Stat. ch. 36 (1980).

67. See D. ESTRIN, *supra* note 33, at 1. "[T]he 1979 Mississauga train derailment, which forced the . . . evacuation of over 220,000 people, and the 1985 spill of PCB's, which closed the Trans-Canada Highway near Kenora, has been reflected in recent legislative initiatives." *Id.*

68. See Transportation of Dangerous Goods Act, Can. Stat. ch. 36, § 2 (1980).

"[H]andling" means loading, packing or placing, unloading, unpacking or removing or reloading, repacking or replacing dangerous goods in or from any container, packaging or means of transport or at any facility for the purposes of, in the course of or following transportation and includes storing dangerous goods in the course of transportation; 'means of transport' means any road or railway vehicle, aircraft, water-borne craft, pipeline or any other contrivance that is or may be used to carry

their characteristics to encompass a wide variety of items that are by their nature dangerous, or have the potential to be hazardous when transported.<sup>69</sup>

All consignors<sup>70</sup> transporting potentially dangerous goods in Canada are responsible for determining whether or not their products are dangerous and what precautions must be taken.<sup>71</sup> This duty does not apply to products or substances in Classes 1 (explosives), 6.2 (infectious substances),<sup>72</sup> 7 (radioactive substances), and 9 (miscellaneous products or substances),<sup>73</sup> because all substances within these classes are presently regarded as "specified dangerous goods."<sup>74</sup> The definition of infectious waste, for the purpose of classification, is narrowed by the exemptions in the TDGA.<sup>75</sup> Along

persons or goods whether or not the goods are in packaging or containers.

*Id.*

69. See *id.* § 2 and schedule.

"[D]angerous goods" means any product, substance or organism included by its nature or by the regulations in any of the classes listed in the schedule; SCHEDULE: Class 1—Explosives, including explosives within the meaning of the Explosives Act; Class 2—Gases: compressed, deeply refrigerated, liquified or dissolved under pressure; Class 3—Flammable and combustible liquids; Class 4—Flammable solids; substances liable to spontaneous combustion; substances that on contact with water emit flammable gases; Class 5—Oxidizing substances; organic peroxides; Class 6—Poisonous (toxic) and infectious substances; Class 7—Radioactive materials and prescribed substances within the meaning of the Atomic Energy Control Act; Class 8—Corrosives; Class 9—Miscellaneous products, substances or organisms considered by the Governor in Council to be dangerous to life, health, property or the environment when handled, offered for transport or transported and prescribed to be included in this class.

*Id.*

70. Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Gaz. Part II 417, February 6, 1985, amended by SOR/85-609 (1985), 119 Can. Gaz. Part II 2994, July 10, 1985. A Consignor is: "any person (a) who manufactures the dangerous goods or formulates products containing the dangerous goods, including the preparation or alteration of mixtures and solutions containing the dangerous goods; or (b) on whose behalf an international consignment or a trans-border consignment of dangerous goods is brought into Canada." *Id.*

71. See D. ESTRIN, *supra* note 33, at 64-70 Classification of potentially dangerous goods is made easier for consignors, by the guidelines promulgated by the Ministry of Transportation.

72. Dangerous Goods—A Simple Guide to Dangerous Goods Classification, Transport Canada publication TP5945. "Organisms that are infectious or that are reasonably believed to be infectious to humans or to animals and the toxins of such organisms." *Id.*

73. See D. ESTRIN, *supra* note 33, at 64.

74. *Id.* at 17.

75. See Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Gaz. Part II 405, Feb. 6, 1985, amended by, SOR/85-609 (1985), 119 Can. Gaz. Part II 2987, July 10, 1985.

Exemption—Infectious substances. Substances, articles or objects that are reasonably believed to contain organisms that are infectious to humans or animals are ex-

with narrowing the definition of infectious waste, these exemptions have also accentuated the deficiencies and inexactness of the definition.<sup>76</sup>

## 2. Provincial Definitions: Ontario

Ontario's legislature borrowed the same terms, definitions and classification scheme used in the TDGA<sup>77</sup> for its Dangerous Goods Transportation Act (DGTA),<sup>78</sup> resulting in an identical statutory definition of infectious waste.<sup>79</sup>

Part IX of Ontario's Environmental Protection Act, commonly referred to as the "Spills Bill,"<sup>80</sup> provides for regulatory protection of the environment from pollutants, which are spilled or improperly discharged.<sup>81</sup> Under the Environmental Protection Act, Regu-

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empt from the transporting provisions of the regulations if they are enclosed in a waterproof form of containment, transported on land in a vehicle, other than a public passenger road vehicle or railway vehicle, from the place where they are found as directly as possible to a veterinary or medical doctor or a municipal, provincial or federal government office, and constantly in the custody and control of the person in charge of that vehicle. Exemption—waste—hospital and medical. Low concentration hospital waste or other low concentration wastes of a medical nature, other than infectious substances set out in Schedule VII and radioactive materials, are exempt from the regulations' provisions as to handling, offering for transport and transporting.

*Id.*

76. D. ESTRIN, *supra* note 33, at 18. In the exemption of hospital and medical waste, "[t]here is no definition of the term 'low concentration' or 'wastes of a medical nature'. 'Waste' is defined as meaning 'a product or substance that is intended for disposal'. A review of Schedule VII reveals that 'infectious substances' set out in that Schedule are not defined with any degree of exactitude and considerable room for scientific judgment and uncertainty is allowed by the terminology used." *Id.*

77. See *supra* note 69 and accompanying text

78. See Dangerous Goods Transportation Act, Ont. Stat. ch. 69 (1981).

79. See *id.* § 1 and schedule (1981).

80. Environmental Protection Act, ONT. REV. STAT. ch. 141, part IX (1980).

81. See *id.* § 79(1)(b), (c), (f), (j), (k) (1980).

"[S]pill", when used with reference to a pollutant, means a discharge, (i) into the natural environment, (ii) from or out of a structure, vehicle or other container, and (iii) that is abnormal in quality or quantity in light of all the circumstances of the discharge, and when used as a verb has a corresponding meaning; "discharge", when used as a verb, includes add, deposit, emit or leak and, when used as a noun, includes addition, deposit, emission or leak; "pollutant" means a contaminant other than heat, sound, vibration or radiation, and includes any substance from which a pollutant is derived; "contaminant" means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from the activities of man that may, (i) impair the quality of the natural environment for any use that can be made of it, (ii) cause injury or damage to property or to plant or animal life, (iii) cause harm or material discomfort to any person, (iv) adversely affect the health or impair the safety of any person, or (v) render any property or plant or animal life unfit for use by man; "natural environment" means

lation 309, "pathological waste" is waste that possibly may be infectious.<sup>82</sup> In 1987, an inter-ministry task force was established to review the problem of managing biomedical waste in Ontario and to make recommendations for its improvement.<sup>83</sup> This task force found that the current definition of "pathological waste" in regulation 309 is an "outdated definition of this hazardous waste," and should be updated to be more inclusive of "biomedical" waste.<sup>84</sup> The term biomedical waste includes most varieties of wastes generated by the health care industry.<sup>85</sup>

#### IV. NATIONAL REGULATIONS

##### A. *The United States*

###### 1. *The Resource Conservation and Recovery Act*

The federal government's role, under the RCRA, was to provide information, research, and financial assistance, and to initiate

the air, land and water, or any combination or part thereof, of the Province of Ontario.

*Id.*

82. ONT. REV. REGS. 309, § 1.48 (1980).

"Pathological waste" is defined as: 1. any part of the human body, including tissues and bodily fluids, but excluding fluids, extracted teeth, hair, nail clippings and the like, that are not infectious; 2. any part of the carcass of an animal infected with a communicable disease; or 3. non-anatomical waste infected with a communicable disease.

*Id.* The Ministry of the Environment suggests seeking the advice of a licensed medical or veterinary practitioner when determining the status of waste which may possibly be pathological. D ESTRIN, *supra* note 33, at 60.

83. See Report of the Inter-Ministry Task Force on Biomedical Waste: A Strategy for the Management of Biomedical Waste (1986) (Microlog # 87-02539) [hereinafter Inter-Ministry Report].

84. *Id.* at 17-18. The term "Pathological Waste" in regulation 309, was borrowed from the 1982 Ministry of the Environment's *Guidelines for the Handling, Storage, Collection, Transportation and Disposal of Pathological and Institutional Wastes*, and was used because no legal definition of biomedical waste existed at the time. "Pathological Waste," as a sub-category of hazardous waste, was underinclusive of the intent of Regulation 309, and was only intended to be used temporarily in order to prevent the issuance of the regulation. It was understood at the time that the term would later be amended to "incorporate a broader generic definition of biomedical waste." *Id.*

85. *Id.*

"Biomedical" waste refers to any waste that includes anatomical waste, pathological waste, infectious waste, hazardous waste, and other waste generated in health care facilities and medical laboratories that require special handling. Previously, the terms "pathological" and "institutional" wastes were used to refer to what is now considered "biomedical" waste."

*Id.*

a solid waste management policy.<sup>86</sup> The intention behind placing the federal government in this position was to get the states and local governments to take an active role in the implementation and control of local waste disposal programs, while at the same time maintaining minimum national standards.<sup>87</sup> The EPA had initially promulgated a definition and a proposed method for regulating infectious waste treatment and disposal.<sup>88</sup> After receiving input from outside sources, the EPA changed its stance on the hazardousness posed by these materials, retracted its earlier proposed regulations, and replaced them with an infectious waste management manual.<sup>89</sup> This guide, based on a survey of state statutory requirements, recommends general plans for the segregation, packaging, storage, transportation, treatment, and disposal of infectious waste.<sup>90</sup>

The recommended EPA standards for the regulation of infectious waste are merely a composite of existing state regulations.<sup>91</sup> Where no state unanimity on an aspect of regulation could be found, the EPA chose not to recommend a course of action for inquiring states, but instead listed the different state regulations covering that particular dimension of infectious waste control.<sup>92</sup> In

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86. Resource Conservation and Recovery Act, 42 U.S.C. § 6902(5) (1976). Congress intended the Resource Conservation and Recovery Act to provide for "the promulgation of guidelines for solid waste collection, transport, separation, recovery, and disposal practices." *Id.*

87. See Resource Conservation and Recovery Act, 42 U.S.C. §§ 6922, 6923; STATE OF THE ENVIRONMENT, CONSERVATION FOUNDATION REPORT 421-24 (1984); .

88. See MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B-1.

89. See EPA Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Infectious Waste Management, 53 Fed. Reg. 20,140 (1988). The EPA rescinded its proposal for infectious waste regulations, after receiving numerous suggestions from state health officials, the Center for Disease Control, and other experts on the subject of infectious waste, that there was an insufficient amount of evidence showing that infectious waste posed a human or environmental health hazard. See also MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B-1.

90. The segregation and packaging recommendations suggest effective methods and materials for producing facilities. See *supra* note 57.

91. See generally EPA, *supra* note 13, at 3-12.

92. See *id.* at 3-13. The EPA recognized the necessity of controlling the temperature and length of time, when storing infectious waste, and offered, through exemplary state regulations, a range of time and temperature which are currently in use.

There is no unanimity of opinion on optimum storage time and temperature. Some states establish storage requirements as a function of time and temperature. For example regulations in California permit storage for a maximum of four days at temperatures above 32 degrees [Fahrenheit]. Massachusetts allows infectious waste to be stored for one day at room temperature (64-77 degrees [Fahrenheit]) or for three days in a refrigerator (34-45 degrees [Fahrenheit]). These requirements are for total storage time prior to treatment, regardless of whether the waste is stored at the generating facility or at a separate treatment facility. EPA recommends that

states that have taken an active role in regulating infectious waste, statutory requirements are often-times more restrictive than the methods recommended by the EPA.<sup>93</sup> These states have demonstrated, not that the EPA is leading the states in the establishment of a national infectious waste policy, but rather it is the EPA which is being led.<sup>94</sup>

## 2. Center for Disease Control Regulations and Guidelines

The regulations and guidelines promulgated by the Center for Disease Control (CDC) apply specifically to medical institutions, and therefore, have had less of an impact on the nation's waste removal industry than the recommendations of the EPA.<sup>95</sup> For this reason, CDC recommendations are only able to effectively reach the generators of infectious waste, and their on-site handling and treatment of infectious waste.<sup>96</sup>

CDC recommendations tempered the urgency for labeling most waste generated by hospitals and medical institutions as infectious.<sup>97</sup> Instead, the CDC chose to recommend classifying a material based on its relative risk of disease transmission.<sup>98</sup> This CDC

storage times be kept as short as possible.

*Id.*

93. See generally N.Y. ENVTL. CONSERV. LAW § 27-1503 (McKinney 1988); MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56.

94. See N.Y. ENVTL. CONSERV. LAW § 27-1503 (McKinney 1988); see also MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at A1-4. Several state statutes are more demanding and specific in their requirements for the handling, storage, containment and treatment of infectious waste than the EPA. These states require the separation from non-infectious from infectious waste at the site of production, segregation of infected sharp objects from the rest of the waste, containment of infectious waste in clearly marked bags impervious to moisture, ripping and leakage, and storage in containers which are sturdy, leakproof and clearly marked. See *id.*

95. See Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Infectious Waste Management, 53 Fed. Reg. 20,140 (1988) (to be codified at 40 C.F.R. § 261).

96. See *id.*

97. See Center for Disease Control, *Recommendations for Prevention of HIV Transmission in Health-Care Settings*, Morbidity and Mortality Weekly Report, Aug. 21, 1987, at 12s (supp.) [hereinafter CDC].

[I]dentifying wastes for which special precautions are indicated is largely a matter of judgment about the relative risk of disease transmission. The most practical approach to the management of infective waste is to identify those wastes with the potential for causing infection during handling and disposal and for which some special precautions appear prudent. . . . While any item that has had contact with blood, exudates, or secretions may be potentially infective, it is not usually considered practical or necessary to treat all such waste as infective.

*Id.*

98. See Center for Disease Control, *supra* note 97. "Hospital wastes for which special

policy for the treatment of potentially infectious waste helped convince the EPA that an insufficient amount of evidence existed, and showed that neither human health or environmental safety would be at risk if infectious waste were not regulated.<sup>99</sup> CDC's recommendation to the EPA did not mean that infectious waste is not hazardous, only that not all waste generated by hospitals should be classified as infectious.<sup>100</sup> This distinction suggests that the EPA's decision not to regulate infectious waste disposal was a misinterpretation of these recommendations.<sup>101</sup>

### 3. Nuclear Regulatory Commission Regulations and Guidelines

The U.S. Nuclear Regulatory Commission (NRC) regulates all biomedical wastes that have been exposed to radiation for research purposes.<sup>102</sup> Although the NRC regulations directly affect the disposal of infectious waste, its treatment of this waste is based purely on the waste's radioactive character; all radioactive materials above a specified concentration must be sent to a radioactive waste burial ground for disposal.<sup>103</sup> The NRC has chosen to defer treatment of low level radioactive wastes to the regulatory practices of other agencies.<sup>104</sup>

## B. Canada

The Ministry of Transportation's duty under the TDGA is to promote public safety by regulating the inter-provincial movement

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precautions appear prudent include microbiology laboratory waste, pathology waste, and blood specimens or blood products." *Id.*

99. See MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B-1. "[A]fter receiving numerous responses from state health authorities, the CDC and others knowledgeable on the subject of infectious waste, the EPA elected not to regulate infectious waste disposal." *Id.*

100. See Center for Disease Control, *supra* note 97.

101. See *supra* note 89 and accompanying text.

102. See Biomedical Waste Disposal, 46 Fed. Reg. 16,230 (1981) (to be codified at 10 C.F.R. § 20). Use of hydrogen-3 and carbon-14 as tracers in biomedical research and for the diagnosis of diseases produces radioactive wastes. The biological samples usually tainted with radiation and considered radioactive are blood, urine, and animal carcasses. These materials, absent their radioactive quality, are usually treated as infectious waste. *Id.*

103. *Id.* The NRC amendment to its Biomedical Waste Disposal regulations "will allow NRC licensees to dispose of liquid scintillation media and animal carcasses containing less than 0.05 microcuries of hydrogen-3 or carbon-14 per gram without regard to their radioactivity." *Id.*

104. *Id.* Following a reduction of radioactive disposal standards for biomedical wastes, the NRC added a clarifying statement to the reduction: "Nothing in this section relieves the licensee from complying with other applicable federal, state, and local regulations governing any other toxic or hazardous property of these materials." *Id.*



of dangerous goods, including infectious waste, by all modes of transportation.<sup>105</sup> Its power to regulate the transportation of dangerous goods does not extend to those modes of transportation that are directly controlled by the provinces, notably intra-provincial trucking,<sup>106</sup> or those modes that are specifically exempt in the Act.<sup>107</sup> Provisions in the TDGA enable the Minister of Transportation to negotiate with the provinces for application of specific sections of the Act to those modes of transportation that are not already within the Ministry's control.<sup>108</sup> Where reasonable negotiations are at a standstill, the Minister of Transportation may ask the Governor in Council to proclaim the Act in force in the negotiating province,<sup>109</sup> in effect removing the province's power to

105. See D. ESTRIN, *supra* note 33, at 2. The Act prescribes several methods and requirements for regulating the movement of dangerous goods, including waste registration, classification, labeling, packaging, documenting, training of staff handling the goods, reporting of unusual events and taking emergency precautions in case of an accident. See *id.*

106. See Transportation of Dangerous Goods Act, Can. Stat. ch. 36, § 32(1) (1980).

This Act or any provision thereof shall come into force (a) with respect to the handling for transport, offering for transport and transporting of dangerous goods by all or any of the modes of transport described in paragraphs 4(a) to (e) of the National Transportation Act, whether or not that transport is for hire or reward, on a day or days to be fixed by proclamation; . . .

*Id.* National Transportation Act paragraphs 4(a) to (e) list the modes of transportation subject to regulation under the Transportation of Dangerous Goods Act:

(a) transport by railways to which the Railway Act applies; (b) transport by air to which the Aeronautics Act applies; (c) transport by water to which the Transport Act applies and all other transport by water to which the legislative authority of the Parliament of Canada extends; (d) transport by a commodity pipeline connecting a province with any other or others of the provinces or extending beyond the limits of a province; and (e) transport for hire or reward by a motor vehicle undertaking connecting a province with any other or others of the provinces or extending beyond the limits of a province.

National Transportation Act, R.S.C. ch. N-17, § 4(a)-(e) (1980); see D. ESTRIN, *supra* note 33, at 2.

107. Transportation of Dangerous Goods Act, Can. Stat. ch. 36, § 3 (3)-(5) (1980).

108. *Id.* § 25(1)-(2).

(1) The Minister may, with the approval of the Governor in Council, enter into an agreement with the government of a province: (a) for the implementation of this Act and the regulations or any provision thereof in the province with respect to any mode of transport other than one referred to in paragraphs 4(a) to (e) of the National Transportation Act; and (b) with respect to the administration and enforcement of this Act and the regulations or any provision thereof in that province. (2) An agreement entered into under subsection (1) may provide for any matters necessary for or incidental to the implementation, administration or enforcement agreed on and for apportionment of any costs, expenses or revenues arising therefrom.

*Id.*

109. See *id.* § 32(4).

Where the Minister is satisfied that, despite reasonable efforts over a period of twelve months after the commencement of negotiations or such longer period as the

negotiate its position. The result is an increase in the federal government's power over intra-province transportation.<sup>110</sup>

The TDGA based regulations, promulgated by the Ministry of Transportation, set out specific requirements for the safe handling and transport of dangerous goods.<sup>111</sup> All employers whose employees handle or transport dangerous goods are obligated to properly train their employees in the handling of such goods and to certify that they have received this training.<sup>112</sup> In addition, those businesses involved in the transport of infectious waste and other dangerous goods must both register their activities<sup>113</sup> and obtain a permit from the Ministry of Transportation.<sup>114</sup> In the event of a "dangerous occurrence,"<sup>115</sup> those persons in control of the subject

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Minister considers reasonable, an agreement pursuant to paragraph 25(1)(a) has not been entered into with a province, the Governor in Council may, on the recommendation of the Minister, by proclamation, make any provision authorized under subsection (2) as if an appropriate agreement had been entered into.

*Id.*

110. See *id.* § 32(2).

Where an agreement is entered into with a province pursuant to paragraph 25(1)(a), the Governor in Council may, by proclamation, provide that this Act and the regulations or any provision thereof specified in the proclamation shall come into force in that province with respect to such handling, offering for transport and transporting of dangerous goods, such places, such means of transport, such persons and such purposes as have been agreed on and specified in the proclamation.

*Id.*

111. Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Gaz. Part II 467, Feb. 6, 1985, amended by SOR/85-77 (1985), 119 Can. Gaz. Part II 3010, July 10, 1985, reprinted in Leckie, *The Transportation of Dangerous Goods Regulations: An Overview for Lawyers, 1985 Too Hot To Handle Transportation of Dangerous Goods and the Spills Act*, 1985 CAN. ONT. B.A. CONTINUING LEGAL EDUC. 7. The Transportation of Dangerous Goods Regulations provide for: the documentation of every shipment of dangerous goods; specific safety markings for labeling classified dangerous goods; and specific safety measures for the packaging and handling of each classification of dangerous goods. See *id.*

112. Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Gaz. Part II 467, Feb. 6, 1985, amended by SOR/85-77 (1985), 119 Can. Gaz. Part II 3010, July 10, 1985. Under the regulations, "a person is trained in relation to his assigned duties when his employer is satisfied that the person has received adequate training and has issued a certificate of training to that effect." *Id.* The Ministry of Transportation has not prescribed any requirements for the training necessary for those handling infectious waste, or for the handling of any dangerous goods. "[T]he responsibility for determining the level and scope of training rests squarely with the employer." Leckie, *supra* note 111, at 7.

113. Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Gaz. Part II 467, Feb. 6, 1985, amended by SOR/85-77 (1985), 119 Can. Gaz. Part II 3010, July 10, 1985. Registration applies primarily to those persons or businesses who ship quantities of dangerous goods in bulk, greater than five hundred kilograms. See *id.*

114. See Leckie, *supra* note 111, at 10. There are two types of permit types issued by the Minister: permits for exception from the application of the Act and regulations, and permits signifying that all standards of required safety have been met. See *id.*

115. See Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can.

goods are under an obligation to report the accident immediately to the proper authorities.<sup>116</sup>

These regulations are an attempt to follow the primary objectives of the TDGA, to ensure that those handling dangerous goods have the necessary safety information, knowledge, and facilities needed to take the appropriate precautions when handling these items.<sup>117</sup> Following the prescribed powers of enforcement<sup>118</sup> and the scope of application<sup>119</sup>, the TDGA-based regulations should be able to effectively protect the Canadian public from the hazards posed by the movements of infectious waste.

## V. IMPLEMENTATION AND ENFORCEMENT

### A. *The United States*

#### 1. *Federal Role*

Under the RCRA, the EPA administrator has the power to set standards for the handling, transportation and storage of all forms of hazardous waste.<sup>120</sup> The RCRA also provides for federal enforcement of all EPA regulations of hazardous waste, including civil and criminal penalties for violations.<sup>121</sup> The EPA has chosen not to reg-

Gaz. Part II 467, Feb. 6, 1985, amended by SOR/85-77 (1985), 119 Can. Gaz. Part II 3010, July 10, 1985, reprinted in Leckie, *supra* note 111, at 7. Subsection (a) provides in part: an escape of any dangerous goods in quantities which exceed specified levels, or in any quantity which represents a danger to health, life, property or the environment, "(b) a transportation accident in which any means of bulk containment that contains dangerous goods is damaged, . . . (d) an unintentional explosion or fire involving dangerous goods." *Id.*

116. See Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 116 Can. Gaz. Part II 470-71, Feb. 6, 1985, amended by SOR/85-77 (1985), 119 Can. Gaz. Part II 3010, July 10, 1985, reprinted in Leckie, *supra* note 111, at 7. "A person who has the charge, management, or control of dangerous goods at the time he discovers or is advised of a dangerous occurrence in respect of those goods should immediately notify or cause to be notified the local police, or the appropriate authority of the province, the person's employer, and the owner or consignor of the goods." *Id.*

117. See Estrin, *An Overview of Federal and Provincial Regulatory Requirements Concerning the Transportation of Dangerous Goods, Hazardous Wastes and Spills, Municipal and Environmental Law: Spills-Municipal Requirements, Rights and Compensation*, 1986 CAN. ONT. B.A. CONTINUING LEGAL EDUC. 3.

118. See *supra* notes 66-69, *infra* notes 139-50.

119. See *supra* notes 108-10 and accompanying text.

120. *Id.* §§ 6921, 6923, 6924 (1976).

121. Resource Conservation and Recovery Act, 42 U.S.C. § 6928 (1976). Congress has established four penalty categories to accommodate the different types of waste disposal violations: compliance orders, criminal penalties, knowing endangerment, and civil penalties. The compliance order category authorizes the EPA administrator to demand immediate compliance by those persons in violation of a hazardous waste regulation, or else face either a civil or injunctive penalty. Those violators who fail to correct their behavior within a reasonable length of time, will be "liable for a civil penalty of not more than \$25,000 for each

ulate infectious waste disposal because of a lack of evidence indicating any health or environmental hazards from such materials.<sup>122</sup> Absent any federal regulations for infectious waste disposal based on the RCRA, the EPA is unable to enforce any national standards for its disposal, and therefore, is unable to apply the penalties made available under the RCRA.<sup>123</sup>

## 2. The State Role

Without any federal regulations in the area, the individual states have been forced to implement and enforce their own policies.<sup>124</sup> In addition to not regulating infectious wastes, the EPA failed to recommend how the states should enforce their infectious waste policies or how to make federal funds available to help initiate state action.<sup>125</sup> States must rely entirely on their own agencies for regulation and enforcement of handling, transportation and treatment standards.<sup>126</sup> The large number of state agencies granted

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day of continued noncompliance." Criminal penalties are available for use against violators who either knowingly, and or without a permit: transport hazardous waste to a facility that is not permitted; treat, store, or dispose of any hazardous waste; or, make a false material statement in the recording, labeling or permit of hazardous waste. Those convicted shall be subject to a fine of not more than \$25,000 per day of violation, or may be imprisoned for one to two years. The category of knowing endangerment, provides stiffer penalties for those violators who deliberately disregard the EPA regulations, knowing that their actions are placing others in imminent danger, or that their conduct shows an extreme indifference for human life. Any one charged and convicted for knowingly disregarding the danger to others, shall be subject to fines up to \$250,000 or two years imprisonment. Those acting with an extreme indifference for human life, may be fined up to \$250,000 or five years imprisonment, or both. It should be noted that a stiffer fine, up to \$1,000,000, may be imposed on a corporate or organizational defendant. *Id.*

122. See Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Infectious Waste Management, 53 Fed. Reg. 20,140 (1988) (to be codified at 40 C.F.R. § 261).

123. Resource Conservation and Recovery Act, 42 U.S.C. § 6928 (1976)

124. See MORELAND, *supra* note 12, at 3.

125. See generally EPA, *supra* note 13. This is primarily because the EPA wrote their guide for persons managing infectious waste treatment for private facilities, not state and local agencies. "With no federal statutes or regulations to guide them and no federal money to support the creation of a new environmental regulatory program, states, regardless of size or location, are in the process of meeting the public's demand for protection." MORELAND, *supra* note 12, at 3.

126. MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B3; see also Transportation of Infectious Waste, N.Y. St. Reg. ENV 35-88-00004-EP (Aug. 31, 1988); Storage, Treatment and Disposal of Infectious Wastes, N.Y. St. Reg. HLT 35-88-00005-EP (Aug. 31, 1988). Most states have divided the authority for infectious waste regulation, between their health departments, which regulate internal waste management, and their solid waste management agencies, which oversee off-site disposal. See *id.*

the authority to regulate and enforce compliance<sup>127</sup> has resulted in a myriad of methods for dealing with each aspect of infectious waste disposal.<sup>128</sup> State enforcement of infectious waste regulations are usually shared between various state departments and bureaus, depending upon their area of specialty.<sup>129</sup> Enforcement often centers around forestalling attempts by hospitals to forego the cost of treatment through improper disposal of infectious waste.<sup>130</sup> In these situations, states are faced with the difficulty of first discovering the illegal dumping, and then the near impossible task of identifying its origin.<sup>131</sup> In some cases, the states have been able to successfully charge and convict violators for illegally dumping waste where their dumping was blatantly counter to the proscriptions of the law.<sup>132</sup> However, in cases where the classification of the waste is questionable, the state has a more difficult time enforcing its regulations.<sup>133</sup>

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127. See MORELAND, *supra* note 12, at 6.

When asked which agency had the enforcement lead, most states responded that the solid waste office covered the off-site disposal of the waste, the air control board handled incinerators, and the hospital licensure office monitored on-site generation, treatment, and disposal of infectious wastes. In a dozen states, enforcement was delegated by the state health department (to either) the county health departments (7) or to the Joint Commission on Accreditation of Health Care Organizations (5).

*Id.*

128. See *id.* at 9-16. Several regulatory methods are being used, including: 1. permits, which are required or being considered required for use in twenty-eight states to regulate either the treatment, storage, transport, disposal, emergency, or research and development; 2. requirements for special packaging and labeling; 3. specifications for storage facilities; 4. transportation and record keeping requirements which specify vehicle standards; 5. recommendations of incineration, steam sterilization, or chemical treatment; and 6. land disposal without treatment (in several states). See *id.*

129. *Id.* at 6. A Council of State Governments survey of state regulatory structures showed that the enforcement authority for infectious waste is shared between "the solid waste office, [which] cover[s] the off-site disposal of the waste; the air control board, [which] handle[s] the incinerators; and the hospital licensure office, [which] monitor[s] on-site generation, treatment, and disposal of infectious wastes." *Id.*

130. See *Virtually All New York Beaches Open as Fear of Pollution Subsides*, N.Y. Times, July 12, 1988, at A1, col. 1. "A private carter, which charges more to properly handle infectious hospital waste than it does for the common trash taken from restaurants and other businesses, might save itself money and trouble by simply backing a truck down a pier and dumping hospital trash in the harbor." *Id.*

131. See *id.*

132. See Baker, *Blood in the Water: A Tide of Hospital Waste*, NEWSWEEK, July 18, 1988, at 35, col. 2. "St. Luke's-Roosevelt Hospital in New York City was recently fined \$30,000 for throwing human organs out with the regular trash." *Id.*

133. Memorandum in Support of Motion for Temporary Restraining Order Minnesota v. Ehrlichmann Energy Corp., No. C787-751 (D. Minn. Dec. 7, 1987). In Minnesota, state health officials responded to a tip that a private waste recycling corporation, Ehrlichmann Energy Corp., involved in the recycling and disposal of hospital generated waste, was not

Perhaps the greatest problem facing some states in their efforts to enforce an infectious waste policy is their susceptibility either to the inadequacies of infectious waste policies or to the lack of enforcement in neighboring states.<sup>134</sup> Violations in a state that has failed to maintain or enforce a minimum standard for infectious waste disposal, and which shares a common waterway with other states, are usually the source of the infectious debris on the beaches of those neighboring states.<sup>135</sup> The absence of regulations for the intra and interstate transportation of such waste poses an additional problem to those states attempting to regulate infectious waste, for they have no way to detect or control these substances before they enter their state.<sup>136</sup> In addition, regulatory measures, which require records proving waste delivery to certified disposal sites, are confounded by delivery to sites out of state.<sup>137</sup> It appears as though these problems are complicated by the absence of a national standard,<sup>138</sup> and will not go away until all state policies become compatible.

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incinerating all of the infectious waste it received, but was sorting the wastes for recycling. Approximately three thousand pounds per week of waste, labeled infectious, was processed, hand sorted and distributed for reuse or recycling without having been treated in some way. State arguments for a Temporary Restraining Order against Ehrlichmann focused on the serious health hazards of Ehrlichmann's operation on those persons handling the infectious waste, and on the community and environment surrounding their plant. The defendant, Ehrlichmann, argued that this sterilization process was adequate, and that those receiving the retrieved medical instruments and glass would sterilize the materials. *See id.*

134. *See* Hanley, *supra* note 5; *see also* DNR *Eyes Wisconsin*, *supra* note 3, at col. 3.

135. *See* Hanley, *supra* note 5. The New York City area was identified to be the source of a fifty mile long garbage slick, containing medical waste, that was left on New Jersey beaches in 1987. *See id.* Medical waste, which washed ashore on the beaches of Michigan, has been linked to the improper disposal of waste from hospitals in Wisconsin. *See DNR Eyes Wisconsin*, *supra* note 3, at col. 1.

136. *See* Hanley, *supra* note 5; *see also* Billmyer, *supra* note 7, at F1, col. 2.

137. *See* Hanley, *supra* note 5, at B1, col. 3. "If it goes out of state, there's no way to track it." *Id.* at B2, col. 3. Infectious waste, which had successfully been blocked from incineration in a Syracuse neighborhood, is now being shipped to a waste disposal plant in Pennsylvania. *See* Billmyer, *Waste Will Be Trucked out of State*, *Syracuse Herald Am.*, Oct. 2, 1988, at F7, col. 1.

138. *See* MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B2. "The lack of consensus [between the EPA and the CDC] on an appropriate definition of infectious waste and on acceptance treatment and disposal options has made the development of infectious waste programs somewhat difficult for the states." *Id.*; *see also* MORELAND, *supra* note 12, at 3; Clark, Williams, McKillop & Torque, *The Garbage Health Scare*, *NEWSWEEK*, July 20, 1987, at 56.

## B. Canada

## 1. The National Role

Under the TDGA, the Ministry of Transportation has the power to set standards for all aspects of the handling and inter-provincial transportation of goods determined to be dangerous, pursuant to the classification schedule in the Act.<sup>139</sup> The Act provides for federal enforcement of the dangerous goods regulations promulgated by the Ministry of Transportation, including strict penalties for violations of the Act.<sup>140</sup> The TDGA provisions that empower the Ministry of Transportation to destroy or dispose of abandoned dangerous goods,<sup>141</sup> combined with the right of the government to recover the costs for these actions,<sup>142</sup> gives the federal government an implied power to regulate the disposal of infectious waste.<sup>143</sup>

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139. Transportation of Dangerous Goods Act, Can. Stat. ch. 36, § 21 (1980). "The Governor in Council may make regulations generally for carrying out the purposes and provisions of this Act. . . ." *Id.* "[A] copy of each regulation that the Governor in Council proposes to make under section 21 shall be published in the Canada Gazette and a reasonable opportunity shall be afforded to interested persons to make representations to the Minister with respect thereto." *Id.* § 22(1).

140. *See id.* § 6(1)(2).

(1) Every person who contravenes or fails to comply with section 4 or 5 or a direction under section 28 of which he has been notified in accordance with the regulations, is guilty of an offence and is liable (a) on summary conviction, to a fine not exceeding fifty thousand dollars for a first offence, and not exceeding one hundred thousand dollars for each subsequent offence; or (b) on conviction on indictment, to imprisonment for a term not exceeding two years. (2) Every person who contravenes or fails to comply with any provision of this Act . . . is guilty of an offence and is liable (a) on summary conviction, to a fine not exceeding ten thousand dollars; or (b) on conviction on indictment, to imprisonment for a term not exceeding one year.

*Id.*

141. *See id.* § 15(2). "Any dangerous goods that on reasonable and probable grounds appear to an inspector to be abandoned or to have deteriorated and to be a danger to persons, property or the environment may be destroyed or otherwise disposed of by the inspector in such manner as is appropriate in the circumstances." *Id.*

142. *See id.* § 18(1).

Her Majesty in right of Canada may recover the costs and expenses of and incidental to the taking of any measures pursuant to subsections 14(3) or 15(2) or section 17 jointly and severally from any persons who, through their fault or negligence or that of others for whom they are by law responsible, caused or contributed to the causation of a failure to comply, . . . to the extent that such costs and expenses can be established to have been reasonably incurred in the circumstances.

*Id.*

143. *Compare id.* § 15(2) with *id.* §§ 18(1), 6(2). Improper disposal of infectious waste would constitute an abandonment of a dangerous substance under Section 15(2), which grants to the Ministry of Transportation the power to dispose of the waste properly. The Ministry then can exercise its right to seek damages from the violators for the costs of clean up, Section 18(1), and punish the violators, Section 6(2). Although this implied power exists,

With the authority to regulate and enforce the inter-provincial transportation of dangerous goods,<sup>144</sup> the power to make federal regulations applicable to intra-provincial transportation,<sup>145</sup> and the right to seek costs from cleaning-up abandoned dangerous waste sites,<sup>146</sup> the Ministry of Transportation is clearly capable of establishing and regulating a national standard for the disposal of infectious waste.<sup>147</sup> Regulations promulgated by the Ministry since 1985 demonstrate that it is following the precautionary prescripts of the TDGA, and that it has incorporated the penalties made available under the TDGA into its regulations.<sup>148</sup> Unlike the United States EPA, the Canadian Ministry of Transportation has chosen to regulate infectious waste as a hazardous substance, much like all the other classified dangerous goods.<sup>149</sup> These regulations, in effect, provide a minimum, although imprecise, national standard for the movement and handling of infectious waste.<sup>150</sup>

## 2. The Provincial Role

The minimum national standard for the transportation and handling of infectious wastes in Canada, created by the TDGA and the Ministry of Transportation, has provided a foundation for the establishment of comprehensive provincial statutes and regulations.<sup>151</sup> Ontario's Dangerous Goods Transportation Act (DGTA),<sup>152</sup> which incorporated most of the provisions in the TDGA, was created to respond to the intra-provincial aspects of the issues addressed in the TDGA.<sup>153</sup> By tackling the broader issues of infectious waste, Canada's federal government has allowed the provinces to focus their regulatory efforts upon those aspects of

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no evidence was uncovered in the research of this note to indicate that the power to control infectious waste disposal is exercised at the federal level.

144. See *supra* notes 105-07 and accompanying text.

145. See *supra* notes 108-10 and accompanying text.

146. See *supra* notes 140-42 and accompanying text.

147. See *supra* notes 105-10, 140-42 and accompanying text.

148. See *generally id.* Class 6.2 is regarded in the regulations as a dangerous substance, no different in hazardousness than other substances similarly classified. Cf. *supra* notes 120-23 and accompanying text. The United States EPA was similarly situated, in regards to the availability of power, in its ability to establish and enforce a national infectious waste standard. Yet it chose not to regulate. See *id.*

149. See *generally* Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Stat. Part II 393, Feb. 6, 1985 (amended 1985).

150. See *generally id.*

151. See *infra* notes 152, 155-68 and accompanying text.

152. Dangerous Goods Transportation Act, Ont. Stat. ch. 69 (1981).

153. See *generally id.*



the problem that they are better equipped to resolve.<sup>154</sup> In Ontario, three provincial Acts address the problem of biomedical waste: the Environmental Protection Act, the Health Protection and Promotion Act, and the Occupational Health and Safety Act.<sup>155</sup> The Ministries of Environment, Health and Labour derive their respective authority from these Acts, and share in the responsibility for controlling infectious waste.<sup>156</sup> Each Ministry is assigned a different aspect of the biomedical waste issue, thus preventing duplication of function, while at the same time utilizing the technical expertise of each Ministry.<sup>157</sup>

### 3. Ontario's Spills Bill Provision

The "Spills Bill" provision in Ontario's Environmental Protection Act<sup>158</sup> has had a dramatic impact on the regulation of infectious substances in Ontario, and has become the model for all environmental protection legislation in Canada.<sup>159</sup> Its effectiveness is due primarily to the rigidity and immediacy with which it applies

154. See Transportation of Dangerous Goods Act, Can. Stat. ch. 36, § 25(2) (1980). Mainly by establishing national standards, regulations and funding waste provincial transportation and control programs, the federal government is able to handle the broader issues of infectious waste. See *id.*

155. See Inter-Ministry Report, *supra* note 83, at 7-8. The Environmental Protection Act, the Health Protection and Promotion Act and the Occupational Health and Safety Act all govern a different aspect of the infectious waste issue. *Id.*

156. See *id.* The Ministry of the Environment has the role of implementing and enforcing the provisions of the Environmental Protection Act, which provides for the regulation of "the control, handling, manifesting, transportation, treatment, and safe disposal of biomedical waste." The Ministry of Health Administers has the duty under the Health Protection and Promotion Act of regulating the handling and disposal of biomedical waste while the Ministry of Labour has the duty of administering the Occupational Health and Safety Act and regulations in regards to worker involvement with the handling of biomedical waste. *Id.*

157. See *id.* "A successful strategy for biomedical waste handling and disposal depended on the various agencies and parties understanding and accepting their assigned roles." *Id.*

158. See Environmental Protection Act, ONT. REV. STAT. ch. 141, pt. IX (1980).

159. See Daily Commercial News, July 31, 1985, reprinted in Lax, *Liability for the Mishandling of Dangerous Goods, 1985 Too Hot to Handle: Transportation of Dangerous Goods and The Spills Act*, 1985 CAN. B.A. ONT. CONTINUING LEGAL EDUC. 2 [hereinafter Lax]. The Council of Ontario Contractors Associations commented that the Spills Bill "will leave contractors, manufacturers and suppliers 'totally exposed and totally liable' in the event of a spill even if they are 'completely innocent' of causing the incident." *Id.* Other industry spokesmen called it "the strictest type of pollution legislation in the country." *Id.* A former Ontario Minister of the Environment described it as: "a piece of legislation that I honestly believe will go down in the annals of our environmental law as one of the premier bills this province . . . and this country [have] seen. Indeed, it's legislation that breaks a lot of ground in this country." Hon. H. Parrott, Hansard, 1979, at 5382, reprinted in *id.* at 3.

liability for the clean-up of spills.<sup>160</sup> The Spills Bill does not regard spillage as an offense;<sup>161</sup> rather, it has established a response criteria based on the prioritized needs accompanying a hazardous waste spill.<sup>162</sup> This schedule for response, which is primarily concerned with site clean-up, must be carried out jointly by the owner of the spilled substance and the person in control of the substance prior to spillage.<sup>163</sup> Determination of fault and liability is resolved after clean-up.<sup>164</sup>

Ontario faces some of the same difficulties encountered by the Great Lake states, such as the illegal dumping of infectious waste

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160. Jackson, *The Statutory Regimes, 1985 Too Hot To Handle: Transportation of Dangerous Goods and the Spills Act*, CAN. B.A. ONT. CONTINUING LEGAL EDUC. 4, 9.

[The Spills Bill's] main purpose has always been to ensure prompt clean up of spills to the environment. . . . The Minister has the power, under section 82, through his employees or agents to carry out the duties imposed by section 81 if they are not being carried out by the owner or person in control.

*Id.*

161. See *id.* at 8-9. "[The Spills Bill] does not make the act of spilling an offence and no penalty provisions apply . . . to the spill itself. (Spills of course, may be an offence under any number of other provisions including provisions in the Environmental Protection Act itself)." *Id.* Penalties have been provided for in the Act to punish non-compliance with the prescriptive duties in the Act. See *id.*

162. See Environmental Protection Act, ONT. REV. STAT. ch. 141, § 80(1)(2) (1980).

(1) Every person having control of a pollutant that is spilled and every person who spills or causes or permits a spill . . . shall forthwith notify . . . (i) the Ministry; (j) the municipality. . . ; (k) where the person is not the owner of the pollutant and knows or is able to ascertain readily the identity of the owner of the pollutant, the owner of the pollutant; and (l) where the person is not the person having control of the pollutant and knows or is able to ascertain readily the identity of the person having control of the pollutant, the person having control of the pollutant, of the spill, of the circumstances thereof, and of the action that the person has taken or intends to take with respect thereto. (2) The duty imposed by subsection (1) comes into force in respect of each of the persons having control of the pollutant and the person who spills or causes or permits the spill of the pollutant immediately he knows or ought to know that the pollutant is spilled and is causing or is likely to cause adverse effects.

*Id.*

163. See *id.* § 81(1)(2).

(1) The owner of a pollutant and the person having control of a pollutant that is spilled and that causes or is likely to cause adverse effects shall forthwith do everything practicable to prevent, eliminate and ameliorate the adverse effects and to restore the natural environment. (2) The duty imposed by subsection (1) comes into force in respect of each of the owner of the pollutant and the person having control of the pollutant immediately the owner or person, as the case may be, knows or ought to know that the pollutant is spilled and is causing or is likely to cause adverse effects.

*Id.*

164. See Jackson, *supra* note 160, at 4. "[S]wift clean up action outweighs the need to take time to determine who was at fault." *Id.*

and the investigatory problems accompanying it.<sup>166</sup> However, the statutory and regulatory structures in Ontario, both at the federal and provincial levels, have prevented some of the more severe problems experienced by its United States counterparts.<sup>166</sup> Revision of the definition for the wastes regulated, from pathological waste to biomedical waste,<sup>167</sup> has clarified the provincial classification of goods prescribed for special treatment, and has aided enforcement and compliance efforts within the province.<sup>168</sup> In addition, the national standards resulting from the TDGA regulations, particularly the federal requirements for documentation and labeling, have enhanced Ontario's ability to track and certify the transportation of infectious waste leaving and entering the Province.<sup>169</sup> Ontario's ability to effectively regulate infectious waste is due largely to the strength of its own environmental statutes and regulations, but its success has clearly been enhanced by the presence of a national standard.<sup>170</sup>

### C. *The Effect of United States and Canadian Implementation Procedures on Regulations*

The EPA's decision not to regulate infectious waste did not in and of itself result in the hodgepodge of incongruous state policies. Rather, it was the EPA's promulgation of a manual which stated its decision not to regulate infectious waste and subsequent recommendation that states consider regulatory controls, which caused the confusion.<sup>171</sup> This mixed signal has resulted in a combination of incompatible state regulatory solutions in the Great Lakes region ranging from strict regulation of most biomedical waste in some states<sup>172</sup> to virtually no requisite precautions in others.<sup>173</sup> These incompatible policies have created an interstate regulatory

165. See *4 Hospitals Charged Over Pathological Waste*, *Globe & Mail*, Sept. 14, 1988, at A18, col. 2.

166. See *supra* notes 108-119 and accompanying text.

167. Inter-Ministry Report, *supra* note 83. The term biomedical waste is used instead of infectious waste or pathological waste, because it is considered more inclusive of all the potential hazards posed by wastes with a propensity for infectiousness, or wastes which may come in contact with infectious substances. See *id.*

168. See *Incinerator Design and Operating Criteria: Volume II: Biomedical Waste Incinerators (Ont. 1987)* (Microlog # 87-06346).

169. Compare *Transportation of Dangerous Goods Regulations*, SOR/85-77 (1985), 119 Can. Stat. Part II 429, 430-33, 436, Feb. 6, 1985 with *supra* note 134 and accompanying text.

170. See *supra* notes 139-50 and accompanying text.

171. See *infra* note 184 and accompanying text.

172. See MORELAND, *supra* note 12, at 4.

173. See *id.* at 5.

problem for those states choosing to regulate infectious waste. This incompatibility has in effect become the national standard for infectious waste disposal.<sup>174</sup>

Ontario was not put in this difficult position by the Ministry of Transportation because the Ministry's regulatory actions on infectious waste are not contradictory to its recommendations to the Provinces.<sup>175</sup> The Ministry's regulation of interprovincial waste transportation provides Ontario with a minimum measure of protection from improperly labeled, packaged or untracked biomedical waste entering the province.<sup>176</sup> This national regulatory standard provided by the Canadian federal government is markedly different from the one each of the states were left to create on their own.<sup>177</sup>

## VI. WEAKNESSES

### A. *An Evaluation of United States Policies*

By granting to the EPA the authority to regulate hazardous waste,<sup>178</sup> Congress intended that the EPA use this authority to establish a national standard for the management of all forms of hazardous waste.<sup>179</sup> A national standard, if established, would facilitate interstate regulation and control, which in turn would prevent conflicts of policy between neighboring states.<sup>180</sup> Recognizing what it believed was an insufficient amount of evidence supporting the regulation of infectious waste,<sup>181</sup> the EPA chose not to regulate, and instead published a guide for waste management.<sup>182</sup> Technically, this guide has satisfied the RCRA's objective of providing information,<sup>183</sup> but it also contributed to the confusion surrounding the hazardousness of infectious waste by not providing a basis for interstate control.<sup>184</sup> The EPA's guide for infectious waste man-

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174. See generally *id.*

175. Compare *supra* notes 105-19 and accompanying text with *infra* note 184 and accompanying text.

176. See *supra* notes 105-19 and accompanying text.

177. Compare *supra* notes 139-50, 167-69 and accompanying text with *infra* note 184 and accompanying text.

178. Resource Conservation and Recovery Act, 42 U.S.C. §§ 6911-13 (1976).

179. See *id.* § 6901.

180. See generally *id.* §§ 6901-6902.

181. See *supra* notes 89-99 and accompanying text.

182. See *id.*; *supra* notes 89-90 and accompanying text.

183. Resource Conservation and Recovery Act, 42 U.S.C. § 6902(5) (1976).

184. See MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B-2, B-3. "The lack of consensus on an appropriate definition of infectious waste and on acceptance treatment

agement "address[es] the problems posed by [the] infectious characteristics"<sup>185</sup> of infectious waste<sup>186</sup> yet contradicts its position not to regulate the waste in the first place.<sup>187</sup> The EPA's original position, that regulation is not necessary,<sup>188</sup> contradicts its subsequent suggestions for private management and state regulations.<sup>189</sup> If the EPA's original position<sup>190</sup> was incorrect, and its recommendations for special handling and disposal are necessary,<sup>191</sup> then the EPA did not settle the hazardousness issue and failed to meet the objectives of the RCRA, to establish a national standard for the control of hazardous waste.<sup>192</sup>

Without federal guidance and support, the states were slow to develop and regulate infectious waste.<sup>193</sup> Unlike other environmental issues, where "the federal government established baseline programs which state programs were expected to emulate,"<sup>194</sup> the states were forced to create definitions for the infectious substances<sup>195</sup> and determine the procedures needed to handle these substances.<sup>196</sup> By regulating their own definitions of infectious waste, independent of federal direction or the input of neighboring states, states collectively created an interstate waste problem, which hampers the operation of their individual state regulations.<sup>197</sup> These state policy differences are accentuated by the

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and disposal options has made the development of infectious waste programs somewhat difficult for the states." *Id.*

185. See EPA, *supra* note 13, at vi.

186. See *id.* at 1-1.

187. See MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B-2, B-3. "[T]hough the EPA suggests that the landfill disposal of untreated infectious waste be prohibited, research indicates that landfilling should be acceptable from both an environmental and a public health standpoint." *Id.*

188. See *supra* note 89.

189. See *supra* notes 47-49, 90 and accompanying text.

190. See *supra* note 89.

191. See generally EPA, *supra* note 13.

192. Resource Conservation and Recovery Act, 42 U.S.C. § 6902(5) (1976).

The objectives of this chapter are to promote the protection of health and the environment . . . by (1) providing technical and financial assistance to State and local governments and interstate agencies for the development of solid waste management plans. . . ; (4) regulating the treatment, storage, transportation, and disposal of hazardous wastes which have adverse effects on health and the environment. . . ; (6) promoting a national research and development program for improved solid waste management. . . .

*Id.*

193. See MORELAND, *supra* note 12.

194. See *id.*

195. See *id.* at 7, 8; MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at A-7.

196. See MORELAND, *supra* note 12, at 9-16.

197. See *infra* note 198.

transportation of waste for disposal across state lines.<sup>198</sup> The myriad of state responses has resulted in a standardless national definition of infectious waste,<sup>199</sup> and a complex array of procedures and agencies intended to deal with the problem.<sup>200</sup>

Following the intent of Congress in the RCRA,<sup>201</sup> this type of interstate hazardous waste problem should have been avoided by the EPA's application of its RCRA authority.<sup>202</sup> Either through a direct interstate regulation or an affirmative directive, the EPA could have provided the states with a minimum amount of protection from out of state violations.<sup>203</sup> These federal policies would implicitly have required that state regulations adopt a common, minimal level of protection in order to conform with federal policies.<sup>204</sup> This commonality would in turn have eliminated many pos-

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198. Compare N.Y. ENVTL. CONSERV. LAW §§ 27-1507, 27-1509, 27-1511 (McKinney 1988) with MORELAND, *supra* note 12, at 8 (New York regulations for the transportation and treatment of infectious waste do not require that the waste be treated before it is transported, but do require that the transporter have a permit for moving this waste from generators to disposal sites and return a validated receipt to the generator certifying that the waste has been transported to proper disposal site. If the waste is shipped out of state, there is no way for New York to check the validity of the receipt, or know for sure that the waste was properly disposed of. In New Jersey there is no requirement for transporters to certify that the waste was delivered to a proper disposal site because the waste must be treated before it is removed from the site of treatment. Treated waste is considered nonhazardous and safe for normal transport. Infectious waste transported legally in New York is illegal when it enters New Jersey, and can be improperly disposed of without either state having direct knowledge that this illegal activity has taken place).

199. See MORELAND, *supra* note 12, at 7-8; see also MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56, at B-2; EPA, *supra* note 13.

200. See MORELAND, *supra* note 12, at 9-16; see generally MINNESOTA STATE ATTORNEY GENERAL, *supra* note 56; EPA, *supra* note 13, at A1-A24.

201. See Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901(a)(4), 6902 (1976).

202. See Resource Conservation and Recovery Act, 42 U.S.C. § 6901(a)(4) (1976).

[W]hile the collection and disposal of solid wastes should continue to be primarily the function of State, regional, and local agencies, the problems of waste disposal as set forth above have become a matter national in scope and in concern and necessitate Federal action through financial and technical assistance and leadership in the development, demonstration, and application of new and improved methods and processes to reduce the amount of waste and unsalvageable materials and to provide for proper and economical solid waste disposal practices.

*Id.*

203. Compare *supra* notes 120, 121, 123 and accompanying text with notes 105-07, 139-43, 148 and accompanying text (The authority granted to the EPA in the Resource Conservation and Recovery Act, for controlling hazardous substances, is similar to the authority granted the Ministry of Transportation in the Transportation of Dangerous Goods Act to control the transportation of dangerous goods).

204. See generally Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901(4), 6902, 6926 (1976).

sible policy differences between the states.<sup>205</sup> Unfortunately, the EPA's policy choice did not produce a national standard which could support interstate controls.<sup>206</sup>

*B. A Comparison of the Effectiveness of United States and Canadian Policies*

The role played by the federal governments in Canada and the United States is the key to both the success and failure of their infectious waste policies.<sup>207</sup> In both countries, the national legislatures granted to an established federal regulatory agency, the power to regulate infectious waste as part of a broader grant of power to control potentially hazardous substances.<sup>208</sup> Both governments regulatory agencies have recognized the potential health risks posed by the improper handling of infectious waste, and have taken measures to inform the health care industry of the dangers and the necessary precautions associated with those risks.<sup>209</sup> However, the EPA and the Ministry of Transportation have each approached the regulatory needs of their country differently. The EPA has chosen not to regulate infectious waste, deferring the burden of setting standards to the states,<sup>210</sup> while the Ministry of Transportation has determined that regulation is necessary at the federal level.<sup>211</sup> The degree to which each nation was able to successfully establish a national standard for infectious waste disposal rested on this decision.<sup>212</sup>

The regulations established by the Ministry of Transportation have formed the foundation of a national standard on which Ontario has been able to construct an effective infectious waste policy.<sup>213</sup> The existence of a Canadian national standard has provided Ontario with statutory, regulatory and definitional guides,<sup>214</sup> as

205. *Cf. supra* note 198 and accompanying text. The conflict between New York and New Jersey exists because there is no commonality between their infectious waste policies.

206. *See supra* notes 122, 123 and accompanying text.

207. *Compare* notes 113-16 and accompanying text with notes 120-31 and accompanying text.

208. *See* Resource Conservation and Recovery Act, 42 U.S.C. § 6901 (1976); *see also* Transportation of Dangerous Goods Act, Can. Stat. ch. 36 (1980).

209. *See generally* EPA, *supra* note 13; Transportation of Dangerous Goods Regulations, SOR/85-77 (1985), 119 Can. Gaz. Part II 393, Feb. 6, 1985 (amended 1985).

210. *See supra* notes 89-94 and accompanying text.

211. *See supra* notes 105-16 and accompanying text.

212. *See supra* notes 89-94, 105-16 and accompanying text.

213. *See supra* notes 151-70 and accompanying text.

214. *See id.*

well as a system for protection from improper inter-province transportation.<sup>215</sup> The Great Lake States lack this federal leadership in the formulation of policy, and are left with an inoperative statutory model for infectious waste regulation, no regulatory guidelines, and a manual that reflects the EPA's own confusion over the actual hazardousness of infectious waste.<sup>216</sup> The decision made by the Ministry of Transportation on the issue of infectious waste has given the provincial governments an understanding of the policy choices they need to make for regulating infectious waste.<sup>217</sup> Conversely, the Great Lake States are without a guiding national standard or a clear signal from the EPA as to how they should address the issue.<sup>218</sup> Their confusion and delay in establishing state infectious waste policies resulted from the absence of a national infectious waste standard and the EPA's ambivalence toward the potential risks associated with this type of waste.<sup>219</sup>

## VII. THE MEDICAL WASTE TRACKING ACT OF 1988

In response to public pressure following the highly publicized incidents of medical debris on New York and New Jersey shorelines in 1988, Congress enacted the Medical Waste Tracking Act of 1988 (MWTa).<sup>220</sup> This Act established a two year demonstration medical waste tracking program that was designed to cover the states within the Great Lakes region, New York, New Jersey and Connecticut.<sup>221</sup> Under the MWTa, the EPA must promulgate regulations for the tracking of medical waste from generators to disposal sites.<sup>222</sup> Congress requires that the EPA compile a list of those medical wastes that it has determined pose a threat to

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215. *See id.*

216. *See supra* notes 124-38 and accompanying text.

217. *See supra* notes 139-64 and accompanying text.

218. *See supra* notes 124-38 and accompanying text.

219. *See supra* notes 179-88 and accompanying text.

220. *See* N.Y. Times, July 24, 1988, at 20, col. 1; *see also* Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950.

221. *See* Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 11001, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950. Subsection (b) includes an "Opt Out" provision for those designated states that do not wish to be included in the program. Such states opting out of the demonstration program must notify the EPA Administrator and show that it presently implements a "medical waste tracking program that is no less stringent than the demonstration program . . ." If the Administrator determines that the state program is no less stringent than the demonstration program, then he must remove the state from the demonstration program. Subsection (c) provides for states not included in the demonstration program to petition the Administrator for inclusion. *Id.*

222. *See id.* § 11003, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) at 2952.



human health or the environment, and regulate its movement.<sup>223</sup> The Act lists all solid wastes that shall also be included on the EPA's list of regulated medical waste.<sup>224</sup> The MWTAs list sets out the same wastes identified as infectious in the EPA's Guide for Infectious Waste Management,<sup>225</sup> and those wastes that the EPA considers to be potentially infectious but which also require further evaluation.<sup>226</sup> Although Congress strongly asserts the inclusion of the MWTAs list in the EPA's list,<sup>227</sup> it has provided the EPA with the limited authority to exclude from its list those wastes that it has determined do not pose a present or potential hazard to human health.<sup>228</sup> In effect, Congress has required that the EPA

223. See *id.* § 11002, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) at 2951. "[T]he Administrator shall promulgate regulations listing the types of medical waste to be tracked under the demonstration program." *Id.*

224. See *id.*

(1) Cultures and stocks of infectious agents and associated biologicals, including cultures from medical and pathological laboratories . . . (2) Pathological wastes, including tissues, organs, and body parts that are removed during surgery or autopsy. . . (3) Waste human blood and products of blood, including serum, plasma, and other blood components. (4) Sharps that have been used in patient care or in medical, research, or industrial laboratories . . . (5) Contaminated animal carcasses, body parts, and bedding of animals that were exposed to infectious agents during research . . . (6) Wastes from surgery or autopsy that were in contact with infectious agents, including soiled dressings, sponges, drapes, lavage tubes, drainage sets, underpads, and surgical gloves. (7) Laboratory wastes from medical, pathological, pharmaceutical, or other research, commercial, or industrial laboratories that were in contact with infectious agents . . . (8) Dialysis wastes that were in contact with the blood of patients undergoing hemodialysis . . . (9) Discarded medical equipment and parts that were in contact with infectious agents. (10) Biological waste and discarded materials contaminated with blood, excretion, exudates or secretion from human beings or animals who are isolated to protect others from communicable diseases. (11) Such other waste material that results from the administration of medical care to a patient by a health care provider and is found by the Administrator to pose a threat to human health or the environment.

*Id.*

225. Compare *supra* note 50 with *supra* note 224 (solid waste items listed one through five and number ten in § 11002 of the Medical Waste Tracking Act are the same categories of waste identified as potentially infectious in the EPA's Guide for Infectious Waste Management).

226. Compare *supra* note 51 with *supra* note 224 (solid waste items listed six through nine in § 11002 of the Medical Waste Tracking Act are the same categories of waste identified as potentially infectious, but requiring further evaluation by the states to determine the health hazards present).

227. See Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 11002, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950. "Except as provided in subsection (b), such list shall include, but need not be limited to, each of the following types of solid: . . ." *Id.*

228. See *id.* "Exclusions from List—The Administrator may exclude from the list under this section any categories or items described in paragraphs (6) through (10) of subsection (a) which he determines do not pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, disposed of, or

regulate those wastes that it identified in its 1986 guide as infectious, and re-evaluate those wastes that it had identified as potentially infectious.<sup>229</sup>

Tracking regulations promulgated under the authority of this Act shall apply uniformly to the states in the demonstration program.<sup>230</sup> Such regulations shall include requirements for properly segregating, labeling and containing defined infectious wastes, and shall establish a record keeping program that tracks the transportation of waste from generators to disposal sites in a way that best assures generators that the waste has been received at the disposal site.<sup>231</sup> Included in the EPA's statutory authority is the power to enforce these regulations through the imposition of civil and criminal penalties similar to those set out in the RCRA.<sup>232</sup> Although the EPA's implementation and enforcement of these regulations are to be uniform, its actions shall not preempt state laws except where state laws are inconsistent with the uniformity of the program's tracking capabilities.<sup>233</sup>

At the heart of the MWTa is the congressional concern that AIDS, and other communicable diseases, may be spread by the mishandling of this type of waste.<sup>234</sup> Concerns over AIDS are ad-

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otherwise managed." *Id.*

229. Compare *supra* notes 50, 51 with *supra* note 224.

230. See generally Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 11003, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2951.

231. See *id.*

[T]he Administrator shall promulgate regulations establishing a program for the tracking of the medical waste listed in section 11002 which is generated in a State subject to the demonstration program. The program shall (1) provide for tracking of the transportation of the waste from the generator to the disposal facility, except that waste that is incinerated need not be tracked after incineration, (2) include a system for providing the generator of the waste with assurance that the waste is received by the disposal facility, (3) use a uniform form for tracking in each of the demonstration States, and (4) include the following requirements: (A) A requirement for segregation of the waste at the point of generation where practicable. (B) A requirement for placement of the waste in containers that will protect waste handlers and the public from exposure. (C) A requirement for appropriate labeling of containers of the waste.

*Id.*

232. Compare *supra* note 121 and accompanying text with Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 11005, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2953-54.

233. See Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 11007, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2955.

234. See *id.* § 11009, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) at 2956; see also Sexually Transmitted Diseases; Acquired Immune Deficiency Syndrome; Prevention and Control Projects and Programs, 42 U.S.C. § 247c (1984); Proclamation No. 5892, 53 Fed. Reg. 44,167 (1988).

dressed by a congressional request for a special report on the health impacts of improperly disposed medical waste, which will include an estimate of the total number of reported AIDS and Hepatitis B cases that are attributable to medical waste.<sup>235</sup> This report is due at the end of the demonstration period and shall include the Administrator's evaluation of the overall success of the program, the health risks presented by improper medical waste disposal, and the need for continued federal regulation.<sup>236</sup> At that time Congress will consider the need for imposing national regulatory controls.<sup>237</sup>

The MWTA and other federal health programs have identified the immediacy with which the country must act to control the spread of AIDS.<sup>238</sup> Various federal health agencies have identified the sources of AIDS transmission: infected blood, blood products and contaminated needles, and have preached for the control of all modes that increase the public's risk of exposure to these items.<sup>239</sup> Medical waste contains blood, blood products and contaminated needles,<sup>240</sup> and is currently without strict regulation.<sup>241</sup>

The MWTA appears to be a sincere and reasonable attempt by Congress to meet the national need for a clear identification of the risks presented by medical waste, and the uniformity with which these risks must be addressed.<sup>242</sup> However, as an attempt to practically reduce the exposure risk of AIDS from medical waste, it seems to have disregarded the immediacy of the issue.<sup>243</sup> The

235. See Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 11009, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2957.

236. See *id.* § 11008, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) at 2956.

237. See generally *id.* §§ 11008, 11009, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) at 2956

238. See *id.* § 11008, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) at 2956; see also Sexually Transmitted Diseases; Acquired Immune Deficiency Syndrome; Prevention and Control Projects and Programs, 42 U.S.C. § 247c (1984); Proclamation No. 5892, 53 Fed. Reg. 44,167 (1988). The expected number of AIDS cases in the United States is expected to grow from 40 thousand in 1987 to 270 thousand in 1991. See Occupational Exposure to Hepatitis B Virus and Human Immunodeficiency Virus, 52 Fed. Reg. 45,438 (1987) (to be codified at 29 C.F.R. § 1910).

239. See Occupational Exposure to Hepatitis B Virus and Human Immunodeficiency Virus, 52 Fed. Reg. 45,438 (1987) (to be codified at 29 C.F.R. § 1910); see also *supra* notes 83, 84, 86 and accompanying text.

240. See *supra* notes 97, 98, 100, 224, 234 and accompanying text.

241. See *supra* notes 3-5, 130, 134-38 and accompanying text.

242. See generally Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2950.

243. Compare *supra* notes 238 and 239 with *supra* note 236 (the EPA will not give its AIDS report to Congress until November 1990, a full two years after enactment of the MWTA).

MWTA's limited regional scope and the length of time that will pass before Congress receives an answer to its medical waste health risk question conflict with the need to control the spread of the disease immediately.<sup>244</sup> If Congress suspects that AIDS and other diseases may be spread by medical waste,<sup>245</sup> that improper disposal of such waste exposes the public to unnecessary risks,<sup>246</sup> and that public exposure to unnecessary risks needs to be controlled in order to limit the spread of AIDS,<sup>247</sup> then a program intended to control such waste, which only covers ten states and takes two years to yield substantive results<sup>248</sup> is an impractical solution to a dire problem.<sup>249</sup>

#### VIII. THE EXPECTED IMPACT OF THE MEDICAL WASTE TRACKING REGULATIONS

On June 22, 1989, the EPA's "Standards for the Tracking and Management of Medical Waste" (STMMW) went into effect in five states, Puerto Rico and the District of Columbia.<sup>250</sup> Of the original ten states selected by Congress to participate in the tracking program only those three that were required to participate remain.<sup>251</sup>

In the preamble of the STMMW, the EPA reiterated the congressional intent of the MWTA<sup>252</sup> along with its own expected re-

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244. See *id.*

245. See *supra* notes 234, 235 and accompanying text.

246. See *supra* note 236 and accompanying text.

247. See *supra* notes 235, 238 and accompanying text.

248. See *supra* notes 221, 236 and accompanying text.

249. Compare *supra* notes 224, 227, 235, 236, 238 and accompanying text with *supra* notes 216, 231 and accompanying text.

250. See *Panel Says Public Education Crucial to Keeping Medical Waste off Beaches*, *Env't Rep. (BNA)*, at 489 (June 30, 1989) [hereinafter *Public Education*]. The states participating in the Medical Waste Tracking Program are: New York, New Jersey, Connecticut, Rhode Island, and Louisiana. *Id.*

251. See *Medical Waste Tracking Act of 1988*, Pub. L. No. 100-582, § 1101, 1988 U.S. CODE CONG. & ADMIN. NEWS (102 Stat.) 2950, 2950. New York, New Jersey and Connecticut were specifically identified to partake in this program. The Great Lake states, which were included in the plan, were given the option to opt out, which they all in fact did. *Id.*; *Public Education*, *supra* note 250, at 489.

252. See *EPA Standards for the Tracking and Management of Medical Waste*, 54 Fed. Reg. 12,326-27 (1989) [hereinafter *Standards for Tracking*]. The Act is intended to control as quickly as possible the washup of medical waste; to prevent the careless management of the waste by establishing tracking and storage requirements; to assure that medical waste generated in affected states reaches its intended destination; to alert the EPA and state authorities whenever waste has not arrived at the designated disposal site; and to inform Congress on the effectiveness of the program and how to broaden the program. See *id.*

sults from the regulations.<sup>253</sup> These expectations addressed all but the primary objective of the MWTa: to control sources contributing to the washup of medical waste on the nation's beaches.<sup>254</sup> This optimistic congressional goal was not shared by the EPA because the agency did not consider the targets for regulation set out in the MWTa, hospitals and large medical research facilities, to be the sources responsible for the known washups.<sup>255</sup> The EPA's conclusions are based on extensive examination of the waste that washed ashore in New York and New Jersey which revealed that only an "extremely small" quantity of the total waste found was medical in nature.<sup>256</sup> In addition, nearly all of the total waste consisted of "floatables"<sup>257</sup> and very little variety was noticed among the medi-

253. See *id.* at 12,327-28.

[The] EPA has developed a regulatory program that should accomplish a number of objectives set forth in the Act. Under today's regulations, increased quantities of medical waste will be packaged securely. This will reduce the chances of waste handlers and the public being exposed to medical waste. Although currently available data suggests that medical waste does not generally pose a significant potential for disease transmission, proper packaging will reduce physical hazards (i.e., needle sticks, etc.), and it will help ensure that any health risks are minimized.

Second, due to the presence of labels, marking tags, and a uniform tracking form, medical waste will be more easily identified. This should serve as a deterrent to careless or otherwise improper waste management, and it will help identify parties who do not manage their waste properly. Better identification of medical waste is also likely to lead to the waste being managed separately from, and with greater care than, general refuse.

See *id.*

254. See *id.* at 12,328. "The principal intent of the Act was to prevent beach closings caused by the washup of medical waste. However, the available evidence suggests that the tracking program established today may have only a limited effect on reducing beach washups." *Id.*

255. See *id.*

[T]oday's regulations may not significantly reduce the amount of medical waste deposited on beaches. Sources of medical waste not addressed by the regulations (e.g., household medical care and intravenous drug use) are known to contribute significantly to beach waste wash-ups. However, the regulations should ensure that medical wastes from institutions and commercial sources are being managed properly.

*Id.* See also Assistant Surgeon General Scolds Lawmakers on Bills enacted over 'Environmental Crisis', *Env't Rep.* (BNA), at 489 (June 30, 1989) [hereinafter *Environmental Crisis*]. At the Fourth Annual Environmental Health Conference, Paul S. Mushovic of the EPA told the conference that the EPA's actions would have little control over preventing future beach washups. See *Environmental Crisis, supra*.

256. Investigation: Sources of the Beach Washups of 1988, N.Y. Dep't of Env'tl. Conserv. (Nov. 1988) cited in Standards for Tracking, *supra* note 252, at 12,328. "The amount of medical waste washup was extremely small compared with both the total amount of garbage that washed ashore and the volume of such waste generated and disposed by New York City's hospitals." *Id.*

257. See *id.* at 12,328. The debris found on the beaches was solid waste capable of floating, such as household waste, wood and garbage. Insulin-type syringes, blood vials and

cal waste identified.<sup>258</sup> This evidence suggests that the waste did not come from a hospital or large research facility, but rather from sewer discharges and improperly disposed household waste.<sup>259</sup>

Critics of the MWTAs have charged that Congress has responded to a mere problem of aesthetics as though it were a public health crisis.<sup>260</sup> Congress' failure to responsibly research the need for legislation and to focus concern on needed legislation has forced the EPA to concentrate on already controlled generators of medical waste and away from known and suspected sources of violation.<sup>261</sup> Additional criticism has stressed that Congress should avoid taking a "crisis of the week" approach to environmental legislation and give more attention to the larger causes of "environmental violence."<sup>262</sup>

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other "medical-related waste" was estimated at between one and ten percent of the total volume of "floatables." *See id.*

258. *See id.* If the waste found on the beaches had come from a hospital, "a larger variety of waste types would have been present, [s]pecifically, more noninsulin type syringes, bloody bandages and dressings, bed sheets, and surgical gowns and gloves . . ." *See id.*

259. *See Public Education, supra* note 250, at 489. EPA studies indicate that "much of the debris on the beaches came from ordinary trash and sewer overflows containing wastes from home health care and illegal drug use." *Id.* The EPA's conclusions were also shared by Richard Bernstein, head of the Medical Waste Policy Committee, who reported to Congress on June 26, 1989 that most of the medical waste that washed up last summer came from small clinics, households, doctor's offices and illegal intravenous drug use, not from hospitals. *See id.*

260. *See Environmental Crisis, supra* note 255, at 489. Speakers at the Fourth Annual Environmental Health Conference argued that the "crisis" to which Congress responded with the MWTAs, the washups of syringes and blood vials on the beaches of New York and New Jersey, "was more a problem of aesthetics than a threat to safety and that the regulatory burden was misplaced." *Id.* Daniel Liberman, a biological hazard assessment specialist, said that presently there is no epidemiological evidence suggesting that current hospital infectious waste disposal practices pose a risk to the public. He also argued that the absence of a distinction in the law between medical waste and infectious waste is responsible for unnecessarily high medical waste disposal costs, which are unduly burdensome to hospitals. *Id.*

261. *Id.* Mark Thomas, a representative for the Hospital Association of New York addressing the Environmental Health Conference, stated that the state and federal hazardous waste disposal laws weigh heavily on the hospitals or institutions that are already regulated, but do not impact other sources of medical waste. *See id.*

262. *Id.* Vernon N. Houk, assistant surgeon general and director of the CDC's Center for Environmental Health and Injury Control, called on state and federal lawmakers to "stop passing environmental crisis-of-the-week bills" that deal with minimal problems and to redirect their energies to curbing the biggest causes of "environmental violence."

"Until the environmental community stands up and begins addressing that," . . . "we are whistling Dixie" and "need not concern ourselves about something that may cause 20 excess cancer deaths by some quantitative risk assessment."

*Id.*

On June 26, 1989, only four days after the EPA's release of the STMMW, the Medical Waste Policy Committee<sup>263</sup> delivered its report to Congress on its investigations and recommendations for curbing the washup problem.<sup>264</sup> The panel arrived at the same findings as the EPA as to the sources of the medical waste washups,<sup>265</sup> and concluded that there were no effective means for controlling medical waste coming from these smaller low-volume sources.<sup>266</sup> Based on these conclusions and to establish control over the primary sources of improperly disposed waste, the panel recommended an active public education program targeted at smaller medical facilities and household sources.<sup>267</sup>

This committee's report and the conclusions of the EPA following the washups in 1988 reflect the necessary investigation and evaluation of environmental problems vital for formulating effective environmental policy.<sup>268</sup> Without these elements Congress could not have expected to effectively curb the improper disposal of infectious waste; therefore, it should have waited for informed conclusions of fact before proceeding to legislate.<sup>269</sup> As a result of Congress' hasty response, the EPA is now obligated to enforce regulations that it knows will have no appreciable impact.<sup>270</sup>

## IX. CONCLUSION

Although the argument over the risks posed by some of the waste labeled infectious is unsettled, their potential gravity suggests that precautions are needed to maintain a reasonable margin of safety.<sup>271</sup> The Canadian Ministry of Transportation responded

263. See *Public Education*, *supra* note 250, at 489. The Medical Waste Policy Committee is a thirteen member panel composed of health care, medical supply, waste disposal, environmental and union interest representatives. The panel was created to research and recommend solutions to the medical waste problem. *Id.*

264. See generally *id.*

265. See *id.* "Most of the medical waste on beaches last summer came from small clinics, households, doctor's offices, and illegal intravenous drug users rather than from hospitals." *Id.*

266. See *id.* The Committee Report stated, "[e]ffective means have not yet been developed for dealing with waste from these smaller, low-volume sources." *Id.*

267. See *id.* Citing the large numbers of diabetics and others using disposable syringes (diabetics alone use more than 1.2 billion syringes per year), and the difficulty of regulating these sources, Richard Bernstein, head of the panel, explained that "an active program of public education is likely to prove critical" in order to control the disposal of medical waste. *Id.*

268. See generally A. DOWNS, *supra* note 1.

269. See *supra* note 252 and accompanying text.

270. See *supra* notes 254, 255 and accompanying text.

271. See *supra* notes 124-38 and accompanying text.

to this potential risk by broadly classifying and regulating these wastes as it would any other dangerous material.<sup>272</sup> The United States EPA also acknowledged the potential hazards posed by some infectious wastes, but responded ambivalently to these risks and chose to promulgate guidelines instead of regulations.<sup>273</sup> The regulations promulgated by the Ministry of Transportation became the foundation for a stable national standard from which the provinces could pattern their own infectious waste policies.<sup>274</sup> In the United States, the guidelines promulgated by the EPA did not establish a federal infectious waste policy and left states without the leadership needed to effectively guide and coordinate their regulatory efforts.<sup>275</sup>

Passage of the MWTA reflects Congress' recognition of the need for a national standard for the identification and regulation of medical waste, and the need for EPA leadership in establishing that standard.<sup>276</sup> However, Congress' demands in the MWTA<sup>277</sup> have also shown that it is environmentally ignorant and prone to pass "panic" legislation instead of patiently gathering and evaluating the information necessary to fashion an effective policy.<sup>278</sup> All things considered, it is quite easy to believe that this Act was merely a political tool used to quell present public fears.<sup>279</sup> Regardless of the intent behind the passage of the MWTA, if the United States hopes to avoid the potential risks associated with the improper disposal of infectious wastes in the future it must define and identify the risks posed by infectious waste and establish some type of a national standard based on that definition that will clearly guide the states in uniformly controlling the problem. If such a standard is not established, the Great Lakes States can continue to expect conflicts over incompatible infectious waste policies, and its citizens can expect to find more syringes and vials of blood on their beaches.

Scott B. Goldie

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272. See *supra* notes 151-70 and accompanying text.

273. See *supra* notes 87-93 and accompanying text.

274. See *supra* notes 105-19 and accompanying text.

275. See *supra* notes 121-38 and accompanying text.

276. See *supra* notes 220-33 and accompanying text.

277. See *supra* notes 222-36 and accompanying text.

278. See *supra* notes 260-62, 268-70 and accompanying text.

279. See *supra* notes 243-49 and accompanying text. Cf. N.Y. Times, July 29, 1988, at 20, col. 1 (proposition of MWTA was jointly sponsored by the senators from New York and New Jersey immediately following the incidents of hospital waste on the beaches of their states).