

# AN ANALYSIS OF REGULATIONS UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT

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## I. INTRODUCTION

The American industrial system utilizes more than 43,000 chemical substances for commercial production and introduces thousands of new chemicals each year.<sup>1</sup> American industries produce more than 57,000,000 metric tons of hazardous wastes annually by such diverse processes as textile dyeing, printed circuit board etching, steelmaking, newspaper ink production, pottery making, and vegetable oil production.<sup>2</sup> Not surprisingly, safe management of these wastes has become a substantial and troublesome problem.

Careful handling and appropriate disposal of chemical wastes is essential to protect the public from exposures that produce injuries or create unacceptable risks. More than 2,000 dumpsites containing

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1. S. REP. NO. 848, 96th Cong., 2d Sess. 2 (1980). *See generally* S. EPSTEIN, L. BROWN & C. POPE, *HAZARDOUS WASTE IN AMERICA* (1982).

2. S. REP. NO. 848, *supra* note 1, at 2. *See generally* OFFICE OF TECHNOLOGY ASSESSMENT, *TECHNOLOGIES AND MANAGEMENT STRATEGIES FOR HAZARDOUS WASTE CONTROL* (1983).

hazardous wastes presently threaten public health because of our legal system's long-standing failure to recognize the special problems of hazardous wastes and to design effective waste regulating systems.<sup>3</sup> Chemical spills capable of inflicting environmental harm occur about 3,500 times a year under present regulation.<sup>4</sup> The federal government has regulated hazardous wastes since 1976, but whether persons and companies handling and disposing hazardous waste within the statutory and regulatory framework can adequately protect the public from serious health risks remains uncertain.

This article analyzes efforts to deal with the generation, transportation, treatment, storage and disposal of hazardous wastes under the Resource Conservation and Recovery Act (RCRA)<sup>5</sup> and the Environmental Protection Agency's (EPA) regulations promulgated thereunder.<sup>6</sup> RCRA is Congress' primary effort to confront the problem of hazardous waste management, but other federal laws are also applicable. They include the Comprehensive Environmental Response, Compensation and Recovery Act (CERCLA or "Superfund"),<sup>7</sup> the Clean Water Act,<sup>8</sup> the Safe Drinking Water Act<sup>9</sup> and the Toxic Substances Control Act.<sup>10</sup> Additionally, local land use controls as well as site and permit regulations more stringent than federal standards may affect a particular hazardous waste site or generator. Indeed, statutory provisions in major industrial states such as California, Illinois and New Jersey exceed RCRA requirements, thereby forcing generators as well as treatment, storage and disposal (TSD) facility operators to consider non-land disposal alternatives. Some states are considering total bans on land disposal.<sup>11</sup> The RCRA remains, how-

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3. S. Rep. No. 848, *supra* note 1, at 2.

4. *Id.* at 5.

5. Pub. L. No. 94-580, 90 Stat. 2795 (1976) (codified at 42 U.S.C. §§ 6901-6987 (1976 & Supp. IV 1980)).

6. The regulations are at 40 C.F.R. §§ 260-267 (1982).

7. Pub. L. 96-510, 94 Stat. 2810 (1980) (codified at 42 U.S.C. § 6901-6987 (Supp. IV 1980)).

8. 33 U.S.C. §§ 1251-1376 (1976 & Supp. IV 1980).

9. 42 U.S.C. §§ 300f-300k (1976).

10. 15 U.S.C. §§ 2601-2629 (1976).

11. For a detailed analysis of state laws, see Tarlock, *Anywhere But Here: An Introduction to State Control of Hazardous Waste Facility Location*, 2 U.C.L.A. EVNTL. L. REV. 1 (1981). See also NATIONAL CONFERENCE OF STATE LEGISLATURES, HAZARDOUS WASTE MANAGEMENT: A SURVEY OF STATE LAWS—1976-1980 UPDATE (1980).

ever, the centerpiece of national attempts to regulate the disposal of hazardous waste. Utilizing its rulemaking authority under the Act, the EPA has generated an elaborate, complicated and confusing set of regulations binding states and private industry.

## II. STATUTORY AND REGULATORY FRAMEWORK

Congress established the statutory framework for hazardous waste regulation by enacting RCRA in 1976, and CERCLA in 1980. The legislation seeks to achieve a number of objectives. Congress intended the measures to ensure that all future disposal sites will be safely designed, that facilities currently in use are made to operate safely, and that previously used sites are cleaned up or "reworked" to prevent injury to surrounding areas. Congress also mandated that waste generators properly handle their waste in the first stages of the waste management cycle and that waste transporters properly carry hazardous waste off-site to disposal facilities. To accomplish these objectives, RCRA establishes "cradle-to-grave" control of hazardous wastes. CERCLA provides the means for cleaning up existing sites and current spills.

Despite congressional amendments, many aspects of RCRA remain unclear. The Act contains broad definitions and objectives, allowing the EPA extensive discretion to implement it with detailed regulations. As a result, RCRA usually is what the EPA says it is.

The EPA has been slow to erect the regulatory framework Congress envisioned. The EPA tardily promulgated many of the RCRA regulations and others are overdue. Existing EPA regulations are long, but leave important gaps concerning the standards for the ultimate TSD facilities.

The Reagan Administration's "go-slow" approach to hazardous waste regulation has systematically weakened key aspects of RCRA and its regulations.<sup>12</sup> As a result of the "go-slow" approach, a major political controversy erupted in late 1982 over the administration of Superfund and the failures of the EPA to control hazardous waste. After several months of congressional investigations and Reagan administration infighting, Rita Lavelle, the assistant administrator of

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12. Examples of the Reagan Administration's attitude include the abolition of the annual report requirements for generators, *see infra* at text accompanying notes 171-77, and the abolition of annual report requirements for TSD facility operators and the reduction of insurance requirements and post-closure standards for such operators. *See infra* text accompanying notes 278-300.

EPA for solid waste and emergency response, resigned and Congress cited her for contempt. Soon after, the EPA administrator, Anne Gorsuch Burford, and most of the high level EPA staff, also resigned. The new administrator, William Ruckelshaus, has announced that hazardous waste problems will have a high priority in the reorganized EPA.

RCRA is primarily directed at the control of hazardous wastes after their generation. It creates programs for proper treatment, storage and disposal of such waste. The Act attempts to encourage recycling, recovery and reuse of materials indirectly, by partially excluding certain recycling activities from some aspects of the regulatory scheme.<sup>13</sup> The recycling exclusion provisions create significant problems, however, because they have allowed the use of hazardous wastes as fuels and road covering materials.<sup>14</sup>

In establishing a scheme that encourages states to assume major responsibilities, RCRA is similar to the Clean Air Act and the Clean Water Act.<sup>15</sup> RCRA provides that states eventually will administer many of its provisions, including those affecting the location of disposal sites and licensing.<sup>16</sup> Unlike the Clean Air Act and the Clean Water Act, however, RCRA does not "force" new technology. For example, under the RCRA, TSD facilities must be made safer, but the operator has much more discretion to choose among state of the art management options than a company subject to the air and water acts.<sup>17</sup>

The balance of this section summarizes RCRA's major topic area. Subsequent parts of this article describe each area at greater length.

First, the Act attempts to define "hazardous wastes."<sup>18</sup> Detailed

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13. See *infra* text accompanying notes 69-74.

14. See *infra* text accompanying notes 74-82.

15. Both the Clean Air Act, 42 U.S.C. §§ 7401-7642 (1976) and Clean Water Act, 33 U.S.C. §§ 1251-1376 (1976) establish similar federal-state schemes.

16. Resource Conservation and Recovery Act of 1976, § 3006, 42 U.S.C. § 6926 (1976).

17. *Id.* § 3004, 42 U.S.C. § 6924 (1976).

18. *Id.* § 1004(5), 42 U.S.C. § 6903(5) (1976). The section provides:

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

regulations further develop the definition.<sup>19</sup> The regulations define "hazardous waste" either as a waste included on an EPA list of hazardous wastes ("listed waste")<sup>20</sup> or as a waste meeting certain characteristics for which the handler must test ("non-listed waste").<sup>21</sup> Recycled material is not considered hazardous waste and is excluded from most regulations.<sup>22</sup> Other excluded wastes include domestic sewage, waste mixtures that flow to a public sewage treatment plant, certain otherwise regulated industrial wastes, agricultural and livestock wastes, and various wastes relating to mineral extraction, fossil fuel combustion and drilling fluids.<sup>23</sup>

Second, as the key to controlling hazardous wastes, RCRA establishes a detailed scheme for regulating the activities of generators of hazardous waste. The Act identifies generators as the persons who create hazardous waste.<sup>24</sup> The EPA regulations, however, exempt small generators; they represent approximately ninety percent of all generators.<sup>25</sup> RCRA does not attempt to influence the amount of hazardous wastes a generator creates, but attempts to control the handling, transportation and ultimate treatment or disposal of such waste. The generator is expected to be both the recordkeeper and the policeman of the system through the mandatory manifest system and reporting requirements. The Reagan Administration, however, has relaxed or eliminated some of the requirements.

Third, RCRA governs the transportation of hazardous waste with a set of controls evincing a substantial lack of confidence in transporters.<sup>26</sup> The transporter must take wastes under controlled conditions from the generator and deliver them to a TSD facility designated by the generator, without any deviations and without treating or substantially handling the waste. This strict control sys-

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environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

*Id.*

19. 40 C.F.R. §§ 260.10, 261.3 (1983).

20. *See infra* text accompanying notes 42-43.

21. *See infra* text accompanying notes 39-41.

22. *See infra* text accompanying notes 69-83.

23. *See infra* text accompanying notes 57-62.

24. *See infra* Part III for a discussion of RCRA control over generators. Part III also contains a discussion of pertinent EPA regulations.

25. *See infra* text accompanying notes 122-29.

26. *See infra* Part IV for a discussion of RCRA controls over transporters. Part IV also contains a discussion of the pertinent EPA regulations.

tem arose after Congress received evidence about "midnight dumpers," those who improperly dispose of hazardous waste, often in the middle of the night.<sup>27</sup>

Fourth, the Act regulates the end of the waste cycle through a set of controls on the ultimate TSD facility.<sup>28</sup> RCRA regulations mandate standards for activities at the TSD facility site as well as its design. For example, EPA specifies the allowable types of storage locations and their operation. Other regulations prescribe allowable treatment processes and disposal mechanisms. In addition, regulations govern the insurance requirements of TSD facilities, post-closure obligations, and other financial standards. Between 1981 and 1983, the Reagan Administration proposed weakening or eliminating many of the standards the EPA established before 1981.<sup>29</sup>

One feature of the regulations for TSD facilities is especially confusing. The EPA regulations create a special category of TSD facilities, the so-called "interim" facility. The term refers to facilities that operated as waste disposal facilities when the EPA promulgated the regulations in 1980. Interim facilities are subject to temporary regulations, eventually to be replaced by permanent regulations and a permanent licensing status. Unfortunately, the EPA is apparently years from promulgating permanent status regulations. Thus, the "interim" status has been expanded, resulting in a confusing, quasi-permanent status for presently operating TSD facilities.<sup>30</sup>

Finally, although not analyzed in this Article,<sup>31</sup> RCRA establishes a series of enforcement mechanisms. The Act provides for civil and criminal enforcement mechanisms,<sup>32</sup> immediate injunctions and orders to eliminate existing hazards,<sup>33</sup> EPA on-site inspections,<sup>34</sup> and

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27. See *infra* note 207 and accompanying text.

28. See *infra* Part V for a discussion of RCRA controls over TSD facilities. Part V also contains a discussion of the pertinent EPA regulations.

29. See *infra* text accompanying notes 263-66.

30. See *infra* text accompanying notes 255-62.

31. For a detailed analysis of enforcement mechanisms, see Deutsch, *RCRA Basics: Inspection and Enforcement* ch. 5, in *LIMITING LIABILITY FOR HAZARDOUS WASTE* (R. Robbins ed. 1981). See also Wesland, *Enforcement Under the Resource Conservation and Recovery Act of 1976*, 8 B.C. ENVTL. AFF. L. REV. 641 (1980); Note, *Liability for Generators of Hazardous Waste: The Failure of Existing Enforcement Mechanisms*, 69 GEO. L.J. 1047 (1981).

32. Resource Conservation and Recovery Act of 1976, § 3008, 42 U.S.C. 6928 (1976).

33. RCRA § 7003, 42 U.S.C. § 6973 (1976). See Trilling, "Potential for Harm" as the Enforcement Standard for Section 7003 of the Resources Conservation and Recovery

citizens' suits.<sup>35</sup>

### III. DEFINING HAZARDOUS WASTE UNDER RCRA

#### A. *General Considerations*

The provisions of RCRA apply only to waste products that the Act and regulations define as "hazardous waste." Congress could have defined covered waste by a material's qualities and its impact on human health. Many materials, however, become hazardous only when present in certain concentrations or above certain quantities. Some materials are hazardous only in certain situations, as when they enter a water supply or affect air quality. Some materials can easily escape from confinement and thus present a higher risk of harm. Other materials can be well confined, but can cause damage if even the smallest amount escapes or if some unusual event ruptures the containment. Thus, a description of what constitutes a hazardous waste for regulatory purposes is difficult to formulate. In drafting a statutory or regulatory description of hazardous waste, one must consider all the variables affecting the magnitude of the waste's possible harm. Moreover, the definition must be politically acceptable and provide adequate notice to industry.

In their deliberations over what to consider hazardous under RCRA, both Congress and the EPA evaluated a number of alternative definitional approaches.<sup>36</sup> Ultimately, Congress adopted a ge-

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*Act*, 2 U.C.L.A. ENVTL. L. REV. 43 (1981); Note, *Using RCRA's Imminent Hazard Provision in Hazardous Waste Emergencies*, 9 ECOLOGY L.Q. 599 (1981).

34. Resource Conservation and Recovery Act of 1976, § 3007, 42 U.S.C. § 6927 (1976).

35. *Id.* § 7002, 42 U.S.C. § 6972 (1976).

36. Congress and the EPA considered whether hazardous waste was to be regulated irrespective of its source of generation or potential use, and determined that it would not be, despite the administrative problem created. See *Identification and Listing of Hazardous Waste*, 45 Fed. Reg. 33091 (1980) (codified at 40 C.F.R. §§ 261.1-33 (1983)). The EPA considered controlling only the by-products of pollution control, such as the sludges remaining after water treatment, but it determined that hazardous waste must include more to protect health and the environment. *Id.* at 33093. Congress considered whether some residues that were always used for manufacturing other products should constitute hazardous wastes and determined that although there was some potential for harm, the risk was low and an exclusion system was necessary. *Id.* at 33094. The EPA considered using the quantity of a particular type of waste generated by a company to determine whether the waste was hazardous, but rejected the approach when it realized that it was incapable of analyzing the waste produced by all generators. *Id.* at 33103. Finally, the EPA considered a "degree of

neric, policy oriented approach for defining "hazardous wastes." RCRA regulates wastes that:

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.<sup>37</sup>

Further, RCRA requires the EPA to develop criteria for "identifying the characteristics of hazardous waste and for listing hazardous waste."<sup>38</sup>

To administer this amorphous definition, the EPA adopted two methods for determining whether a waste is hazardous. First, the EPA identified a series of waste characteristics that would make waste hazardous. Key factors for evaluation include "toxicity, persistence, degradability in nature, potential for accumulation in tissue and other related factors such as flammability, corrosiveness and other hazardous characteristics."<sup>39</sup> The EPA also promulgated specific criteria for determining whether a waste has one of these characteristics.<sup>40</sup>

Under the EPA's regulations, generators of waste must test all wastes to determine if the materials have any of the specified charac-

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hazard" system to link regulatory requirements to risk, but rejected that approach since a scientific system was not developed for distinguishing degree of hazard. *Id.* at 33104. The EPA has continued, however, to consider a degree of hazard approach to regulation. *See* Notice of Preliminary Decision, 46 Fed. Reg. 39427 (1981). In December 1982, the EPA announced it was considering a degree of hazard approach for revising the RCRA regulations. Notice of Proposed Revisions, 47 Fed. Reg. 55880 (1982).

37. Resource Conservation and Recovery Act of 1976, § 1004(5), 42 U.S.C. § 6903(5) (1976).

38. *Id.* § 3001(a), 42 U.S.C. § 6921(a) (1976).

39. *Id.* *See* C.F.R. §§ 261.10-.11 (1983), for the specific criteria for determining that a waste is hazardous.

40. 40 C.F.R. §§ 261.20-.24 (1983). To aid in determining whether a waste is hazardous, the EPA ruled that the waste must have certain specified characteristics. The waste must have one or more of the following characteristics: 1) ignitability (a fire hazard); 2) corrosivity (ability to corrode standard containers or dissolve toxic components of other wastes); 3) reactivity (tendency to explode under normal management or to react violently when mixed with water or to generate toxic gases); or 4) toxicity (measured by a specific extraction procedure to determine the presence of certain toxic material and migration potential simulating leaching action). *See* 40 C.F.R. §§ 261.21-.24 (1982).



teristics.<sup>41</sup> Materials exhibiting any of the proscribed characteristics constitute hazardous wastes for purposes of the Act and the waste handler must comply with the regulations.

The second method of identifying hazardous wastes is more straightforward. The EPA has listed materials which, if present, make a waste hazardous.<sup>42</sup> This method does not require testing or evaluation, because the EPA has presumably tested and evaluated the materials. Only a determination of the presence of one of the substances is necessary.<sup>43</sup>

Given the complexity of industrial processes and wastes, the EPA recognized that the waste lists were not all inclusive and, conversely, might include materials that were not in fact hazardous wastes. Therefore, the regulations provide a petition process to alter definitions, exclude listed wastes, or change testing procedures.<sup>44</sup> To re-

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41. 40 C.F.R. § 262.11 (1983).

42. *Id.* §§ 261.30-33.

43. *Id.* § 261.3(a)(2). Among the listed wastes, the EPA has established several categories and subcategories. One category is "Hazardous Waste from Nonspecific Sources." *Id.* § 261.31. These wastes include quenching wastewater treatment materials, sludges from metal heat treating, certain spent halogenated solvents, and certain plating bath sludges and spent stripping bath solutions. This category is also called the "F" list by the EPA. The wastes in this category are considered acutely hazardous. As a consequence, generators of such wastes are subject to the stricter 100 kg./month maximum exemption for small generators because of their acute nature. *See id.* § 261.3(d).

A second category, the so-called "K" list, is also made up of acutely hazardous wastes. It includes such substances as wood preservation sludges, certain wastewater treatment sludges from inorganic pigment production, and certain organic chemicals. *See id.* § 261.32.

The third and fourth categories include "discarded commercial chemical products, off-specification species, container residues and spill residues." *Id.* § 261.33. In these categories the EPA adopts a more limited definition to distinguish some process intermediates. They are hazardous wastes "if and when they are discarded or intended to be discarded." *Id.*

A third list, the so-called "P" list, includes the most acutely hazardous wastes. The regulation subjects a generator to the most strict one kilogram/month small generator exclusion. *See id.* § 261.33(e). The regulations further define the P wastes by requiring that each chemical on the list be a commercial chemical product or manufacturing chemical intermediate, a residue remaining in a container or an inner liner (except for an empty container), or a residue or contaminated soil from a clean-up of certain products or intermediates. *See id.*

The fourth list, called the "U" list, is made up of less hazardous wastes. These chemicals are subject to the same limitation as wastes on the "P" list, except that residues in containers are not hazardous wastes. *Id.* § 261.33(f).

44. *Id.* §§ 260.20-22. The EPA has granted exclusion six times. *See Grant of*

duce cost and time, the petitions follow the Administrative Procedure Act's informal rulemaking procedures.<sup>45</sup> Under those procedures, an exclusion from treatment as a hazardous waste can become effective on a rapid and temporary basis if the EPA deems there is "substantial likelihood" that testing will show a listed waste to lack all of the hazardous characteristics.<sup>46</sup>

The exclusion applies only to waste at a "particular generating facility" and does not apply across an industry.<sup>47</sup> Thus, each facility must separately apply for the exclusion. Petitioners must show that demonstration samples of the waste do not exhibit the characteristics originally causing the substance to be placed on the lists of hazardous wastes.<sup>48</sup>

States, too, may petition to protect their own interests, including asking for inclusion of a particular waste on the lists of hazardous wastes.<sup>49</sup>

### B. *Solid Waste*

RCRA and the EPA use a convoluted method of classifying waste. Before a waste can be termed a hazardous waste, it must be a "solid waste."<sup>50</sup> Anything that is not a "solid waste," therefore, cannot be a "hazardous waste" and a "hazardous waste" is one subcategory of

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Temporary Exclusions, 47 Fed. Reg. 52668 (1982). See also 13 ENV'T REP. 1172-73 (BNA).

45. 40 C.F.R. §§ 260.20-.22 (1983). The paradox of issuing variances—usually considered an adjudicatory act—by rulemaking is explored in Note, *EPA's Responsibilities Under RCRA Amendments: Administrative Law Issues*, 9 ECOLOGY L.Q. 555 (1981).

46. See 40 C.F.R. § 260.22(m) (1983).

47. See *id.* § 260.22(b).

48. See *id.* § 260.22.

49. Resource Conservation and Recovery Act of 1976, § 3001(c), 42 U.S.C. § 6921(c) (1976).

50. The RCRA defines "solid waste" as:

garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities

Resource Conservation and Recovery Act of 1976, § 1004(27), 42 U.S.C. § 6903(27) (1976). Under the EPA regulations, "solid waste" includes "any garbage, refuse, sludge or other waste material . . ." 40 C.F.R. § 261.2(a) (1983).

“solid waste.”<sup>51</sup>

Because a “solid waste” can be solid, liquid, or gaseous under the RCRA definition,<sup>52</sup> most waste falls into this category. The EPA regulations, however, create three categories of waste materials and treat each differently. “Garbage refuse or sludge” is always a solid waste.<sup>53</sup> “Solid, liquid, semi-solid or contained gaseous materials” is a solid waste unless excluded by the regulations.<sup>54</sup> Finally, all other wastes are not considered solid wastes under the regulations.<sup>55</sup>

When a handler determines that it has a solid waste, it must determine if the waste exhibits any characteristic discussed above (*e.g.*, ignitability) or if the waste appears on one of the lists of covered wastes and is not excluded from coverage by statute or regulation.

### C. Exclusions

Exclusions from the RCRA definition of hazardous waste result from the difficulties of applying RCRA to certain activities, the efficacy of existing laws, and the economic and political muscle of some industries and businesses.<sup>56</sup> Exclusion include materials in household sewage,<sup>57</sup> wastes from drilling fluids, produced waters and other wastes associated with the production of oil and gas (but not wastes produced in oil refining),<sup>58</sup> ash and waste from coal and fossil fuel

51. See 40 C.F.R. §§ 261.2-.3 (1983).

52. See *supra* note 50.

53. 40 C.F.R. § 261.2 (1983).

54. *Id.*

55. *Id.* § 261.4.

56. Exclusions include:

solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended, or source, special nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended.

Resource Conservation and Recovery Act of 1976, § 1004(27), 42 U.S.C. 6903(27).

This industrial discharge exception does not apply to wastewaters while “collected, stored or treated before discharge . . . [or to] sludges generated by industrial wastewater treatment.” 40 C.F.R. § 261.4(a)(2) (Comment) (1983).

Additional statutory exclusions include “solid waste from the extraction, beneficiation, and processing of ores and minerals, including phosphate rock and overburden from the mining of uranium ore . . . [and] [c]ement kiln dust waste.” 42 U.S.C. 6921(b)(3)(A)(ii)-(iii) (Supp. IV 1981).

57. 40 C.F.R. § 261.4(a)(1) (1983).

58. *Id.* § 261.4(b)(5).

combustion,<sup>59</sup> and many mining wastes.<sup>60</sup> RCRA coverage also excludes "solid" but not hazardous wastes. Such wastes include solid wastes generated by agricultural crops and animal manures returned to soils as fertilizers,<sup>61</sup> as well as some wastes that fail the EPA tests because of the presence of specific chemicals.<sup>62</sup>

The EPA recognizes that certain wastes are safe as long as they remain in storage tanks, transport vehicles or vessels, a pipeline, or a manufacturing processing unit. The RCRA neither defines as waste nor regulates such substances until they exit the unit or remain in the unit for more than ninety days after terminating the unit's use.<sup>63</sup>

Some regulations limit owners and operators of disposal sites even though they are handling excluded categories of waste. Those materials are, in effect, partially regulated wastes. The RCRA authorizes regulation of partially regulated wastes by requiring a survey of disposal sites,<sup>64</sup> requiring chemical and physical analysis of such wastes,<sup>65</sup> authorizing EPA entry for inspection,<sup>66</sup> and mandating steps to prevent exposure to radioactive material.<sup>67</sup> The EPA also may fully regulate partially regulated wastes after more study.<sup>68</sup>

## 1. Recycling

Recycled, re-used, or reclaimed wastes receive special treatment.<sup>69</sup> Initially, a sludge or a listed waste that will be recycled is subject to most RCRA controls on transporters, generators, and storage facilities. The controls include requirements for notification, use of the manifest system, and storage in a permitted site.<sup>70</sup> The RCRA, however, does not regulate ultimate recycling.<sup>71</sup>

The recycled material exemption is a major loophole in the RCRA

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59. *Id.* § 261.4(b)(4).

60. *Id.* § 261.4(b)(7).

61. *Id.* § 261.4(b)(2).

62. *See id.* § 261.4(b)(6).

63. *See id.* § 261.4(c).

64. 42 U.S.C. § 6921(b)(2)(A)(i) (Supp. IV 1981).

65. *Id.* § 6921(b)(2)(A)(ii).

66. *Id.* § 6921(b)(3)(B)(i)(I).

67. *Id.* § 6921(b)(3)(B)(iii) (Supp. IV 1981).

68. *Id.* § 6921(b)(2)(B) (Supp. IV 1981).

69. 40 C.F.R. § 261.6 (1983).

70. *Id.* § 261.6(b).

71. *Id.* § 261.6(a).

regulation of hazardous wastes. Hazardous wastes have been added to fuels and have been burned despite the hazardous nature of the resulting smoke.<sup>72</sup> A congressional subcommittee estimates that twenty million tons of hazardous wastes escape control each year through burning in on-site industrial boilers, just one form of hazardous waste burning.<sup>73</sup> Hazardous chemicals, such as dioxin, have been added to "waste" oil used to cover roads without RCRA coverage because road oiling is an end use or re-use of material.<sup>74</sup>

In 1983 EPA announced guidelines to regulate burning hazardous wastes as fuel.<sup>75</sup> The guidelines permit burning as an unregulated end use only if the energy value of the hazardous waste is high.<sup>76</sup> In particular, EPA will look at the amount of energy the waste generates, the quantity of waste in the fuel, the circumstances surrounding the addition of the waste to the fuel, and similar factors.<sup>77</sup> If wastes have little heat or energy value, burning will be considered "incineration," a form of disposal, and the burner will be subject to regulation as a disposal facility.<sup>78</sup> The EPA instructed its staff to direct enforcement efforts at "hazardous waste-derived fuel blenders who supply non-industrial users."<sup>79</sup> The EPA contends that non-industrial boilers are most likely to emit hazardous smoke because of their small size, low efficiency, limited emission controls, and physical location.<sup>80</sup>

The EPA has not taken similar action regarding the use of contaminated waste oils for road purposes, despite a congressional requirement for such regulations in the Used Oil Recycling Act.<sup>81</sup> The

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72. See Report of the House Energy and Commerce Committee Subcommittee on Commerce, Transportation and Tourism, 97th Cong., 2d Sess. 1-5, (1982). See also 13 ENV'T REP. 1173-74 (BNA).

73. See 13 ENV'T REP. 1173-74 (BNA).

74. *Id.*

75. See EPA Enforcement Guidance on Burning Hazardous Waste as Fuel for Energy Recovery, reprinted in 13 ENV'T REP. 1677-1702 (BNA).

76. *Id.* at 1697-98.

77. *Id.* The EPA has set as a benchmark the heating value of low-energy chemical fuels such as wood or low-grade bituminous coal. If the waste's heat energy is below that of these fuels, the burning is not a permitted end use.

78. *Id.*

79. 13 ENV'T REP. 1697-98 (BNA).

80. *Id.*

81. Enacted as P.L. 96-463, the Used Oil Recycling Act of 1980. See ENV'T REP. 1378-79 (BNA). P.L. 96-463, 94 Stat. 2055 (1980) (codified at 42 U.S.C. 6932 (Supp. III 1980)). See also 13 ENV'T REP. 1378-79 (BNA).

House of Representatives, but not the Senate, passed amendments to RCRA in 1982 also requiring such regulations.<sup>82</sup>

The EPA proposed regulations in April 1983 that would substantially enlarge the agency's control over recycled wastes. The regulations would also eliminate certain exemptions for non-listed or "characteristic" wastes.<sup>83</sup> Control of recycled wastes would depend on the type of waste, waste management, and the threat to the environment.<sup>84</sup> The regulations would expand the definition of solid waste to include certain formerly exempt "uses" of waste, including wastes abandoned by disposal or incineration and those accumulated, stored, or treated.<sup>85</sup> The definition would include certain sludges, by-products, listed or spent materials not ordinarily applied to land, certain wastes used as fuel, certain "reclaimed" wastes, and wastes accumulated speculatively or without sufficient amounts being recycled.<sup>86</sup> Nevertheless, those reclaimed at the generator's site and reused in the same process would not be solid wastes. Additionally, "reclaimed" wastes used as raw materials, such as feedstocks, would remain exempt from control, but the EPA would regulate accumulation and storage of those wastes. The regulations create a new category of "regulated recyclable materials" subject to most RCRA controls.<sup>87</sup> Those materials used in the generator's operation, those used by others in their operations, and those used as boiler rather than incinerator fuel remain exempt. The EPA regional administrator may regulate even those wastes on a case-by-case basis if significant threats to human health and the environment exist.<sup>88</sup>

## 2. Residues

Another exclusion exists for residues of wastes in empty containers or inner liners taken from empty containers.<sup>89</sup> The exclusion obtains only when certain conditions of cleaning have been met, and no more

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82. H.R. 6307, 94th Cong., 2d Sess. (1982). See 13 ENV'T REP. 1398-99 (BNA). See also 13 ENV'T REP. 1405 (BNA).

83. 48 Fed. Reg. 14475 (1983).

84. *Id.*

85. *Id.* at 14508.

86. *Id.*

87. *Id.* at 14509.

88. *Id.* at 14510.

89. See 40 C.F.R. § 261.7 (1983).

than one inch of residue remains in the container<sup>90</sup> or no more than a percentage of the maximum weight of the material remains in the container.<sup>91</sup> Where a container held an acutely hazardous waste, the container must be triple rinsed or comparatively cleaned.<sup>92</sup>

### 3. Mixtures

A final exclusion from the hazardous waste definition involves mixtures of wastes. Mixtures present a major problem to the EPA. Failure to control mixtures of hazardous waste with non-hazardous waste could encourage many generators to evade RCRA regulation by diluting waste. While dilution might reduce the risk of environmental and health dangers in some cases, it would not in most cases. Thus, to exclude all mixtures could significantly undercut the statutory purpose of RCRA and leave the dangers to the environment uncontrolled. Mixture rules were, therefore, quite strict in early EPA regulations. Hazardous waste included a "mixture of solid waste and one or more hazardous wastes listed in Subpart D."<sup>93</sup> Under those rules, if a generator mixed ten kilograms per day of hazardous waste with one million gallons of wastewater, the mixture was a hazardous waste and required handling, transportation and disposal as such.

The EPA relaxed the rule in 1981. The new rule reflects recognition of some problems associated with such a stringent requirement.<sup>94</sup> The new rule excludes resultant mixtures that "no longer" exhibit any characteristics of hazardous wastes, providing the waste is listed as hazardous "solely" because it exhibits a defined characteristic.<sup>95</sup> Of course, all mixtures are hazardous wastes if the mixture itself is listed, or if it exhibits the appropriate hazardous characteristics.<sup>96</sup>

If a generator can demonstrate that a mixture consists of wastewater the Clean Water Act regulates,<sup>97</sup> is one of a list of spent sol-

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90. *See id.* § 261.7(b)(1).

91. *See id.* If the container is under 110 gallon capacity, three percent by weight of the total capacity can remain. If the container has a capacity over 110 gallons, 0.3% by weight can remain. *Id.*

92. *See id.* § 261.7(b)(3).

93. *See id.* § 261.3(a)(2)(iv).

94. *See* 46 Fed. Reg. 56582-89 (1981).

95. *Id.* at 56588.

96. *Id.*

97. 40 C.F.R. § 261.4(a)(2) (1983).

vents,<sup>98</sup> or is a specified wastewater resulting from laboratory operations,<sup>99</sup> neither EPA regulations nor the RCRA requires the mixture's regulation. Nevertheless, some of these exclusions are subject to flow and concentration limits.<sup>100</sup>

#### D. Summary

Overall, RCRA and EPA's regulations fail clearly to define hazardous waste. While specific listed wastes are clearly subject to regulation, the characteristic definitions are ambiguous and often difficult to apply. Further, the exclusions are unclear and sometimes exclude wastes that should be regulated given their hazardous nature.

### IV. GENERATORS

RCRA regulation of generators is the key element in the "cradle to grave" scheme of hazardous waste regulation that the Act and the EPA seek. The Act requires each generator to identify the discarded substances that qualify as wastes under RCRA. The RCRA also requires each generator to identify wastes that are hazardous and to begin the tracking system that follows the hazardous waste through transportation and ultimate treatment, storage or disposal. Finally, each generator must report problems that arise in the process. Thus, generators are central to the regulatory scheme, even though the hazardous wastes leave their control early in the process, because generators initiate the regulatory process and no waste will enter the process without their actions.<sup>101</sup>

RCRA does not attempt to limit the creation of hazardous wastes by generators,<sup>102</sup> despite the enormous problems such wastes create.

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98. *See id.* § 261.4(b)(6)(ii).

99. *See* 46 Fed. Reg. 56588 (1981).

100. *Id.*

101. This analysis of generators assumes that the generator ships hazardous waste off-site for treatment, storage or disposal. If the generator stores, treats or disposes of hazardous waste on-site, the generator must comply with the regulations for a treatment, storage or disposal facility. *See infra* at Part V. Approximately twenty percent of hazardous wastes were transported off-site in 1978 (*see* Goldfarb, *The Hazards of Our Hazardous Waste Policy*, 19 NAT. RESOURCES J. 249, 251 (1979)), but that percentage is likely to increase if generators are not liable for off-site wastes. Goldfarb, *supra*, at 256. *See also* Note, *Allocating the Costs of Hazardous Waste Disposal*, 94 HARV. L. REV. 584, 588-89 (1981).

102. *See Report on H.R. 14496 by the House Comm. on Interstate and Foreign Commerce*, 94th Cong., 2d Sess. 27 (1976). *See also* Goldfarb, *supra* note 96, at 255.



The Act does not require generators to meet any operational standards prior to the time they identify their waste as hazardous and begin the disposal process. Further, RCRA does not appear to place continuing liability on generators for wastes disposed of through independent contractors, unless the generator is aware of illicit disposal activities or does not exercise due care in selecting the disposer or transporter.<sup>103</sup>

#### A. Defining "Generator"

The RCRA does not define "generator." The Act defines "hazardous waste generation" as "the act or process of producing hazardous waste."<sup>104</sup> In section 3002 of the Act, Congress directs the EPA to draft regulations governing "generators of hazardous waste."<sup>105</sup> EPA's definition of a generator is broad. It includes any person whose "act or process" produces hazardous waste or whose act first causes a substance to be a hazardous waste subject to RCRA regulation.<sup>106</sup>

The regulations apply to a generator "by site." This provision requires treatment of each particular location as a separate generator if hazardous wastes are produced at that site. Generators must comply with all obligations to produce manifests and file reports on a per site basis rather than by the company or other entity as a whole. While this provision may cause additional burdens to multi-site companies, it also can help a person qualify for the small generator exemption.<sup>107</sup> If the quantity of hazardous waste at a site is less than the maximum allowed, that site will qualify for the exemption, even if the total amount of waste the company generates exceeds the maximum allowed.

The phrase "act or process" in the regulations is intended to create

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103. For a discussion of the continuing liability of the generator, see *infra* notes 175-89 and accompanying text.

104. RCRA § 1004(6), 42 U.S.C. § 6903(6) (Supp. IV 1981).

105. RCRA § 3002, 42 U.S.C. § 6922 (Supp. IV 1981).

106. The present EPA definition states that, "'Generator' means any person, by site, whose act or process produces hazardous waste identified or listed in Part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation." 40 C.F.R. § 260.10 (1983). See also RCRA § 1004(5), 42 U.S.C. § 6903(5). Federal agencies are included in the definition of "person." 40 C.F.R. § 260.10 (1983).

107. See 45 Fed. Reg. 76620-22 (1980). See also *infra* text and accompanying notes 110-23.

the perception that the regulations cover any activity resulting in a hazardous waste. The scope of the phrase is quite broad, especially with the amendment to the regulation establishing that any person whose act or process produces hazardous waste, or whose act first causes a hazardous waste to be subject to regulation, is a generator.<sup>108</sup> Indeed, the EPA commentary states that the owner of a product or material, the owner of a manufacturing process using the material, and the operator of a vehicle moving the material, even if separate entities, can all be generators.<sup>109</sup>

The EPA takes the position that all who "contribute" to the generation are jointly and severally liable. Moreover, while the EPA will accept private agreements to define who will bear primary responsibility for particular waste, "EPA reserves the right to enforce against any and all persons who fit the definition of 'generator' in a particular case if the requirements of Part 262 are not adequately met. . . ."<sup>110</sup>

Where EPA is unaware of a private agreement, it will look to the operator of "a stationary product or raw material storage tank," the operator of a "manufacturing process unit," or the operator of a "central facility which is operated to remove sediments and residues from a product or raw material transport vehicle or vessel" initially to perform the duties of the generator.<sup>111</sup> The EPA will treat as the primary generator the person on-site when the waste is removed from storage facilities, unless that person can show an agreement that another party is to comply as the generator, or convince the EPA to look elsewhere.

So long as a person produces more than the minimum amount of hazardous waste during a month, even though due to an occasional activity or process, or due to a spill of material not ordinarily dis-

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108. See 40 C.F.R. § 260.10 (1983).

109. See 45 Fed. Reg. 72026-27 (1980). In its commentary, the EPA states: The definition of generator, depending on the particular factual situation, can include all of the parties discussed above. Both the operator of a manufacturing process unit, or a product or raw material storage tank, transport vehicle or vessel, and the owner of the product or raw material act jointly to produce the hazardous waste generated therein, and the person who removes the hazardous waste from a tank, vehicle, vessel or manufacturing process unit subjects it to regulation. All three parties are involved and EPA believes that all three (and any others who fit the definition of "generator") have the responsibilities of a generator.

*Id.* at 72,026.

110. *Id.*

111. *Id.* at 72,027 (1980).

carded, that person qualifies as a generator. Furthermore, one qualifies as a generator by producing small amounts of several wastes that, when aggregated, exceed the minimum quantity requirement.

### B. *Exclusions from Full Regulation as a Generator*

While the RCRA and the regulations appear to be as inclusive as possible, there are significant exclusions from the definition of "generator." One set of exclusions results from congressional actions fully exempting certain types of wastes and, by implication, their generators.<sup>112</sup> A second set of exclusions comes from the EPA regulations.<sup>113</sup> While some merely repeat congressional exclusions, the rewording by EPA clarifies some exclusions and changes others.<sup>114</sup>

The most important EPA exclusion—the small quantity generator exclusion—reduces the obligations of most generators. Ninety-one percent of all generators, roughly 695,000, are excluded because they

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112. Congress has excluded from present regulation the following:  
solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 1342 of Title 33, or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923) [42 U.S.C.A. §§ 2011-2296].

RCRA § 1004(27), 42 U.S.C.A. 6903(27) (1983).

drilling fluids, produced waters, and other wastes associated with the exploration, development or production of crude oil or natural gas or geothermal energy.

42 U.S.C. 6921(b)(2)(A) (Supp. IV 1981).

. . . Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal and other fossil fuels.

. . . Solid waste from the extraction, beneficiation and processing of ores and minerals, including phosphate rock and overburden from the mining of uranium ore.

. . . Cement kiln dust waste.

*Id.* § 6921(b)(3)(A).

113. 40 C.F.R. §§ 261.4-.5 (1983).

114. For example, the EPA excludes "domestic sewage and any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment." *Id.* § 261.4(a)(1). "Domestic sewage" means untreated sanitary wastes that pass through a sewer system. *Id.* This exclusion seems to expand the congressional exclusion of "solid or dissolved material in domestic sewage" by allowing industrial wastes to be added, provided they go to a publicly-owned treatment plant.

The EPA excludes "materials subjected to in-situ techniques which are not removed from the ground as part of the extraction process." *Id.* at § 261.4(a)(5). This exclusion seems narrower than the congressional exclusion of solid waste "from the extraction, beneficiation and processing of ores and minerals. . . ." RCRA § 3001(b)(3)(A)(ii), 42 U.S.C. 6921(b)(3)(A)(ii) (Supp. IV 1981).

produce waste in quantities under EPA's cut-off point.<sup>115</sup> This exclusion has no legislative authority.<sup>116</sup> The EPA justifies the exclusion on the basis of the administrative burden and enforcement difficulties that would result from requiring all generators to get ID numbers and file required reports.<sup>117</sup> EPA further defends the exclusion on the ground that "the types of business activity generating small quantities of hazardous waste differ markedly from those generating large quantities . . . over 89 percent of the small generators . . . are from the non-manufacturing sector."<sup>118</sup>

Under the Carter administration, the EPA predicted that, between 1982 and 1985, it would restrict the small generator exclusion to those firms generating 100 kilograms or less per month.<sup>119</sup> The Reagan administration, however, has expressed doubt about extending coverage.<sup>120</sup> As a result, congressional pressure has built for coverage of more generators.<sup>121</sup> It seems likely that the number of excluded generators will be significantly reduced during 1984.

The small generator exclusion only reduces the burdens placed on the generator, without eliminating regulation. Even a small generator must analyze its waste and determine whether it has produced hazardous waste.<sup>122</sup> Furthermore, the generator must "either treat or dispose of his hazardous waste in an on-site facility, or insure delivery to an off-site storage treatment or disposal facility . . ." with an appropriate license.<sup>123</sup>

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115. 45 Fed. Reg. 33102-03 (1980). As a group, small generators generate just one percent of the total hazardous waste generated. *See id.*

116. *See* 40 C.F.R. § 261.5(b) (1983) for the exclusion. In both 1982 and 1983, the House of Representatives approved bills (H.R. 6307 in 1982, H.R. 2767 in 1983), which would require the EPA to reduce the exception from 1000 kilograms per month to 100 kilograms per month. The Act would also authorize a longer storage period for wastes by a small generator, from 90 to 180 days, and authorizes a more flexible regulatory scheme by EPA if the wastes of the small generator go to licensed facilities. The Act died in the Senate in 1982, but the Senate is expected to act on it in February 1984. *See* 13 ENV'T REP. 627, 1379, 1405 (BNA); 14 ENV'T REP. 1283, 1499-1500 (BNA).

117. *See* 45 Fed. Reg. 33103 (1980).

118. *Id.*

119. *Id.* at 33104.

120. The EPA recently announced a two year study of the effects of the exclusion. *See* 40 C.F.R. §§ 261.5, 262.11 (1983).

121. *See supra* note 116.

122. *See* 40 C.F.R. §§ 261.5, 262.11 (1983).

123. *Id.* § 261.5(g)(3).

The exclusion rests on quantities of hazardous waste generated at each site. The basic provision states, “[a] generator is a small quantity generator in a calendar month if he generates less than 1,000 kilograms of hazardous waste in that month.”<sup>124</sup> Nevertheless, if the generator produces more than one kilogram of acutely hazardous waste in a month,<sup>125</sup> or 100 kilograms of any residue or contaminated material from the clean-up of a spill,<sup>126</sup> that acutely hazardous waste or residue is subject to full regulation. Furthermore, if the generator accumulates over 1,000 kilograms of waste, even of different types, or over one kilogram of hazardous waste or 100 kilograms of spill residue, all wastes are fully regulated.

The small generator exclusion applies to small quantities of hazardous wastes mixed with nonhazardous wastes. Excluded hazardous wastes maintain their exclusion, even if the total amount of mixture produced exceeds the threshold, provided that the resulting waste does not show any of the four factors used to test nonlisted wastes for hazard.<sup>127</sup> In addition, certain wastes to be used, reused, recycled or reclaimed are not counted in monthly totals because they are exempt from regulation.<sup>128</sup>

The EPA commentary recognizes that generators may be regulated one month and excluded the next as the quantity of waste generated varies.<sup>129</sup> Generators must file reports only for months when they generate more than the threshold amount of regulated wastes.

The third exclusion from regulation concerns wastes to be used, reused, recycled or reclaimed.<sup>130</sup> The exclusion establishes that a hazardous waste that will be “beneficially used or re-used or legitimately recycled or reclaimed”<sup>131</sup> or is being accumulated, stored or treated before reuse or recycling,<sup>132</sup> is exempt from regulation. “Beneficially” and “legitimately” are imprecisely defined words, but the

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124. *Id.* § 261.5(a). See 45 Fed. Reg. 76623 (1980).

125. 40 C.F.R. § 261.5(e)(1) (1983).

126. *Id.* § 261.5(e)(2).

127. *Id.* § 261.5(h).

128. See *id.* § 261.6.

129. 45 Fed. Reg. 76621 (1980).

130. See *supra* text accompanying notes 73-83 for a discussion of the loopholes resulting from this exclusion and the proposed April 1983 recycling regulations. The proposed regulations would change substantially the recycling exception.

131. 40 C.F.R. § 261.6(a)(1).

132. *Id.* § 261.6(a)(2).

intention of the EPA is clear. The use of the exclusion cannot be a sham to avoid regulation.<sup>133</sup>

An issue arises concerning whether a hazardous waste is eligible for the exclusion if some persons but not others recycle it, or if it is occasionally recycled by a particular company. The regulations are unclear on this question. The EPA, however, interprets the regulations to treat as a hazardous waste any waste which is "sometimes discarded," even if there is occasional recycling or reuse or a particular generator always recycles or reuses it.<sup>134</sup>

This exclusion does not exempt all wastes to be recycled or reused. If the waste is a sludge or a substance listed in subpart D of the regulations, or is to be transported or stored prior to reuse or recycling, some regulation remains.<sup>135</sup>

A final exclusion applies to farmers who discard pesticide wastes from their own use if they triple rinse the pesticide containers and dispose of the residues on their own farms in compliance with the instructions for disposal on the pesticide label.<sup>136</sup>

### C. *Obligations of the Generator*

Both the Act<sup>137</sup> and the regulations<sup>138</sup> impose a series of obligations on generators. First, a generator creating a solid waste must test the waste to determine if it is hazardous. To accomplish this, the generator must look at the statutory and regulatory exclusions. Then the generator must determine whether a substance in the waste is on the subpart D lists of hazardous wastes. If not, the generator must

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133. 45 Fed. Reg. 33091-92 (1980). See *United States Brewers' Ass'n. v. EPA*, 600 F.2d 974 (D.C. Cir. 1979).

134. See T. WATSON, R. HALL, J. DAVIDSON & D. CASE, *RCRA HAZARDOUS WASTES HANDBOOK* 2-25 to 2-28 (1981). See also 45 Fed. Reg. 33093-94; *EPA Enforcement Guidance in Burning Hazardous Waste as Fuel for Energy Recovery*, reprinted in 13 ENV'T REP. 1697-1702 (BNA, at n.1).

135. See 40 C.F.R. § 261.6(b) (1983).

136. See *id.* § 262.51.

137. Resource Conservation and Recovery Act of 1976, § 3002, 42 U.S.C. § 6922 (1976).

138. See generally 40 C.F.R. §§ 262.10-.51 (1983). It should be noted that under the RCRA and its regulations states can assume responsibility for the regulation of hazardous wastes. Approximately thirty-five states have done so. 13 ENV'T REP. 604 (BNA). The states must have regulations as stringent as the federal regulations, but they may exceed them. The analysis of generators' obligations in this article follows the federal regulations, not the state variations.

test the waste for toxicity, ignitability, reactivity or corrosivity, using either the EPA test protocols or an acceptable alternative test method. In the alternative, the generator may, without testing, use his "knowledge of the hazard characteristic of the waste in light of the materials or processes used" to determine if RCRA covers the waste.<sup>139</sup>

### 1. The EPA Identification Number

Assuming a person is a generator, he must secure an EPA identification number.<sup>140</sup> Without the number, a generator may not "treat, store, dispose of, transport, or offer for transportation, hazardous waste."<sup>141</sup> Each site of a company that generates hazardous waste must have its own EPA identification number. Where several companies are involved in generating a single waste, the one acting as a generator for that waste must have and use his own number.

Not only must a generator have an identification number, but the generator may only utilize a transporter with an identification number, and may send wastes only to TSD facilities that have identification numbers. All activities of a generator in the hazardous waste regulatory system must be with another person who has an identification number.

Because a generator can store hazardous wastes on-site for only ninety days without having a permit as a TSD facility,<sup>142</sup> a generator must apply for an identification number within ninety days of the first storage. Any person who anticipates handling a product or substance that would be a hazardous waste if discarded or spilled should apply for an identification number. Under the regulations,<sup>143</sup> any industrial or commercial accident resulting in a spill or spoilage of many types of industrial products and chemicals would constitute the generation of hazardous waste. The person involved in such an accident would be prohibited from storing, treating, or transporting the discarded materials without an identification number.<sup>144</sup>

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139. See 40 C.F.R. § 262.11(c)(2) (1983).

140. *Id.* § 262.12.

141. *Id.* § 261.12(a). The identification number can be obtained by filing EPA form number 8700-12.

142. For a discussion of the proposed changes in the storage rules, see *infra* text at notes 151-60.

143. See 45 Fed. Reg. 85022 (1980).

144. It is possible to call the appropriate EPA regional office to receive a provi-

## 2. The Manifest

The heart of the generator obligation is the manifest system.<sup>145</sup> The EPA has mandated that "a generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal must prepare a manifest before transporting the waste off-site."<sup>146</sup> The EPA identifies three purposes for the manifest. First, it is a tracking device to follow the hazardous waste moving from the generator to its ultimate disposal or treatment, thus establishing clear lines of accountability and communication among the parties. Second, along with other requirements, the manifest provides information to waste handlers and to emergency personnel, thus protecting public health and the environment. Third, the manifest is the principal basis for the record-keeping and reporting requirements imposed by RCRA.<sup>147</sup>

Until March 1982, the EPA had not mandated a specific form of manifest, preferring instead to allow different generators to fit the manifest requirements into their shipping documentation in a way that caused the least additional burden.<sup>148</sup> On March 4, 1982, the

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sional number in an emergency or other unusual circumstance. Form 8700-12 must then be submitted to EPA within ten calendar days. *Id.*

145. See 40 C.F.R. §§ 262.20-.23 (1983).

146. *Id.* § 262.20.

147. See 45 Fed. Reg. 12728 (1980).

148. The EPA did, however, require certain information. This included:

- 1) A manifest document number;
- 2) The generator's name, mailing address, telephone number, and EPA identification number;
- 3) The name and EPA identification number of each transporter;
- 4) The name, address and EPA identification number of the designated facility and an alternative facility, if any;
- 5) The description of the wastes (e.g., proper shipping name, etc.) required by regulations of the U.S. Department of Transportation in 49 C.F.R. 172.101, 172.202 and 172.203;
- 6) The total quantity of each hazardous waste by units of weight or volume, and the type and number of containers as loaded into or onto the transport vehicle.

40 C.F.R. § 262.21(a) (1983). Individual states may adopt a manifest form when certified to take over the RCRA regulatory program. See generally 40 C.F.R. § 123.1-.64 (1983). In addition:

The following certification must appear on the manifest: "This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA.

40 C.F.R. § 262.21(b) (1983).



EPA proposed a uniform manifest for use by all generators.<sup>149</sup> The EPA contended a uniform manifest would free generators with interstate shipments of RCRA covered materials from the complexities of complying with the different requirements of at least twenty-one states that require a specific manifest form for all waste shipments traveling within the state.<sup>150</sup> The proposed manifest form simply provides a unique identification number for each shipment of waste by each generator. The proposed form requires the same information as the previous regulations required.<sup>151</sup>

The generator must prepare sufficient copies of the manifest so that each party involved in transporting, treating or storing the waste can keep a copy and the ultimate TSD facility can complete a final copy for the generator. Before transporting hazardous waste, the generator must sign the manifest certification by hand, get a handwritten signature from the initial transporter of the hazardous waste, and retain a copy of the manifest.<sup>152</sup> The transporter takes all other copies, keeps a copy signed by the next entity in the chain, and gives all remaining copies to that entity.

The regulations require the generator to designate one TSD facility to receive the waste and one alternate facility. If the transporter cannot deliver to the designated facility, the transporter must use the alternate. If the transporter cannot deliver to either, he must contact the generator, who must name an additional site or require delivery back to the generator. The EPA assumes, by this regulation, that the generator will have either a contract with the TSD facility, or will have arranged for acceptance of the shipment. The burden to so arrange is clearly on the generator, and only the generator can authorize a different course of action from that set out in the manifest.

The regulations specify a different procedure for certain bulk rail and water shipments. The generator must send three copies of the manifest to the treatment, storage and disposal facility. The regula-

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149. The proposed form is simultaneously being proposed by the Department of Transportation. See 47 Fed. Reg. 9336 and 9345 (1982). The effective date is to be 180 days after publication of the final rule. See 47 Fed. Reg. 9337 (1982).

150. *Id.* The rule forbids states from requiring additional information on the manifest, although it does not forbid states from requiring additional information to be provided, in a separate document, to the TSD facility. See *id.* at 9338-39.

151. The only additional information required on the form is the telephone number of the TSD facility to which the waste is to be delivered. See 47 Fed. Reg. 9337, 9341 (1982).

152. See 40 C.F.R. § 262.23 (1983). See also *id.* § 262.40(a).

tions do not require signatures between intermediate shippers unless a nonrail or water shipper is involved. The TSD operator must sign and return a manifest to the generator when the waste arrives.<sup>153</sup>

### 3. Pre-Transportation Requirements

While the manifest is the basic shipping and tracking document, the actual waste must be properly prepared and packaged before it can begin its journey. The regulations specify that the waste must be packaged to meet the standards of the Department of Transportation for transporting hazardous materials,<sup>154</sup> and must be labeled and marked to meet Department of Transportation standards.<sup>155</sup> In addition, if the waste is in a container of 110 or fewer gallons, a specific notice must be placed on the container package.<sup>156</sup>

### 4. The Ninety-Day Accumulation Period

The realities of waste generation and shipping usually prevent a generator from transporting wastes off-site on the day they are generated. Recognizing normal delays, EPA allows a generator to accumulate wastes for up to ninety days without the necessity of obtaining a permit as a waste storage facility.<sup>157</sup> The ninety-day period for a particular waste container begins with the first accumulation of waste in that container. Within ninety days, that container and its waste must be shipped off-site, even though the last waste added to the container followed the container's initial waste by eighty-nine days. The generator must mark each container with the date the first waste was put in it. The container must meet the standards for transporting hazardous wastes, must be properly labeled and must be handled according to the standards for a licensed storage facility.<sup>158</sup>

153. 45 Fed. Reg. 86970-74 (1980).

154. See 40 C.F.R. § 262.30 (1983). See also 49 C.F.R. §§ 173.1-1300, 178.0-179.500 (1982).

155. See 40 C.F.R. §§ 262.31-32 (1983). See also 49 C.F.R. §§ 172.1-.558 (1982).

156. The label appears as follows:

HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address \_\_\_\_\_.

Manifest Document Number \_\_\_\_\_.

40 C.F.R. § 262.32(b) (1983).

157. See 40 C.F.R. § 262.34 (1983).

158. For TSD standards, see 40 C.F.R. §§ 264.1-351 (1983).

In 1982, the EPA modified the regulations to allow each Regional Administrator discretion to grant a thirty-day extension of the ninety-day period.<sup>159</sup> The extension is available only for "unforeseen, temporary, and uncontrollable circumstances."<sup>160</sup> EPA established the extension period to eliminate the need for generators to register as TSD facilities when a strike, transporter delay, or a TSD facility's refusal to accept waste causes the generator temporarily to exceed the accumulation period.<sup>161</sup>

The regulations require a storage permit when storage lasts over ninety days, unless the generator qualifies for an extension. If any treatment occurs during the ninety-day period, there is no exemption and the generator must obtain an EPA treatment permit.

In early 1983 the EPA proposed an amendment to the accumulation period rule to authorize generators to accumulate up to fifty-five gallons of waste in "satellite" areas throughout their facility.<sup>162</sup> The wastes must be stored in containers in good condition, compatible with the wastes, and appropriately marked with a warning.<sup>163</sup> The regulation creates no limit on the number of such accumulation sites. Once accumulated waste at a particular site exceeded fifty-five gallons, however, the full management and accumulation period obligations would arise.<sup>164</sup> The proposed amendment does not cover acutely hazardous waste, which would continue to be subject to the ninety-day accumulation rule.<sup>165</sup>

The EPA justifies the proposed rule as one which recognizes the reality of how hazardous wastes accumulate in industrial settings. There is no need to require shipping off-site within ninety days of accumulation because the quantities at each location are small and the personnel in contact with the wastes are fully trained to handle them. Further, corrosion or leakage is unlikely and recordkeeping is difficult because the waste is usually moved to a central storage area

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159. See 47 Fed. Reg. 1251 (1982).

160. 40 C.F.R. § 262.34(b) (1983).

161. See 47 Fed. Reg. 1249-50 (1982).

162. 48 Fed. Reg. 118 (1983). Although proposed in early 1983, no final rule has yet been adopted. It is unlikely that the final rule will be adopted before late 1984. Telephone interview with David Homer, EPA Region V, Division of Waste Management, Jan. 25, 1984.

163. *Id.*

164. *Id.*

165. *Id.*

within a few days.<sup>166</sup>

## 5. Recordkeeping

Generators have certain recordkeeping obligations. First, they must retain, for three years from the date of acceptance by the initial transporter, the signed manifest received from the treatment, storage or disposal facility.<sup>167</sup> Second, the generator must keep copies of required Reports and all Exception Reports for three years after they were due.<sup>168</sup> Third, the generator must keep the results of all tests, waste analysis and determinations for three years from the date such waste was sent for treatment, storage or disposal.<sup>169</sup> If there is an unresolved enforcement action, or a request from EPA, the holding period is longer.<sup>170</sup>

## 6. Annual Reports

Until 1981, each generator who shipped hazardous waste off-site was expected to file an Annual Report for its off-site shipping activities.<sup>171</sup> The report included the EPA identification numbers for all transporters used by the generator, and the number of the TSD facility. It also included details about the types and quantities of waste generated.

The EPA suspended that requirement for the 1980, 1981, and 1982 Annual Reports. The EPA reinstated the 1981 requirement, with reports due by January 10, 1983.<sup>172</sup> In October 1982, the EPA an-

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166. *Id.*

167. 40 C.F.R. § 262.40(a) (1983).

168. *See id.* § 262.40(b).

169. *Id.* § 262.40(c).

170. *Id.* § 262.40(d).

171. *Id.* § 262.41. The report was filed on form 8700-13 with the Regional Administrator by March 1 for the previous calendar year.

172. EPA suspended the Annual Report requirement for both 1980 and 1981. *See* 46 Fed. Reg. 8395 (1981); 47 Fed. Reg. 7841-42 (1982). The EPA explained its action as caused by its enormous workload and by the goal of reducing unneeded paperwork and reporting from industry. On October 12, 1982, EPA announced its proposed rule to establish a biennial survey to replace the Annual Report, but also established January 10, 1983 as the deadline for the 1981 Annual Report. *See* 47 Fed. Reg. 44,932-39 (1982). EPA reinstated the 1981 Annual Report obligation apparently in response to the filing of a lawsuit, *Environmental Defense Fund v. EPA*, No. 82-1346, (D.D.C., filed Aug. 6, 1982) challenging the 1981 suspension. *See* 48 Fed. Reg. 3977 (1983). *See also* 13 ENV'T REP. (BNA) 804 (1983).

nounced that, in place of annual reports, it expected to institute a biennial survey of ten percent of the generators covered by RCRA.<sup>173</sup> It anticipated no site visits to check the accuracy of the answers, but it planned to contact generators who failed to reply to the questionnaire. The EPA reserved the right to take enforcement action against non-cooperating generators.<sup>174</sup>

In January, 1983, the EPA changed its strategy again and announced that it would adopt a requirement that generators file an annual report for odd-numbered years beginning with 1983. The filing date for the first such report would be March 1, 1984.<sup>175</sup> The reports would cover only activities in the odd-numbered years. They would otherwise be similar to the Annual Reports the EPA has required in the past.<sup>176</sup>

The Reagan administration proposals for fewer reports were one of many attempts to reduce costly "non-essential" reporting requirements for industry. Given the exemption and exclusion in the Act and regulations, however, annual information seems to be essential for determining the level of waste generation and tracking improperly disposed wastes. The Annual Reports could supply valuable information about hazardous waste generation, for determining the appropriate level for the small generator exclusion, and for redefining the recycling exclusion. For example, the EPA analysis of 1981 Annual Reports, completed in 1983, discovered that almost four times as much hazardous waste is generated as the EPA had estimated, and that it is mainly disposed of on site.<sup>177</sup>

## 7. Exception Reports

If, within forty-five days of the date the waste was given to the initial transporter, a generator does not receive a copy of the manifest signed by the TSD facility operator, the generator must file an excep-

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173. See 47 Fed. Reg. 7841-42 (1982). See also 47 Fed. Reg. 44932-39 (1982); 13 ENV'T REP. (BNA) 804-05 (1983); New York Times, Mar. 15, 1982, at A1 col. 4.

174. 47 Fed. Reg. 44,934 (1982). See also 13 ENV'T REP. (BNA) 804 (1983); New York Times, Mar. 15, 1982, at 1, col. 4.

175. See 13 ENV'T REP. (BNA) 1585, 1759 (1983).

176. *Id.* at 1759.

177. A total of 150 million metric tons of waste was reported to EPA while EPA had estimated that 40 million metric tons were being generated. See 14 ENV'T REP. (BNA) 715-16 (1983).

tion report with the Regional Administrator.<sup>178</sup> This report must include a legible copy of the manifest and a cover letter explaining the actions the generator has taken to trace the waste, and the result of such actions. The generator must initiate his search and contact the transporter and the TSD facility operator within thirty-five days after the initial shipping date.<sup>179</sup> The generator must file the report even if the generator discovers that the waste properly arrived, but the manifest was lost.

This provision attempts to create a self-enforcing system for managing hazardous waste. It also provides the EPA with information concerning problems within the system, including improper transportation and disposal, and accident information the EPA might not be able to gather given its limited budget and staff.

## 8. International Shipping

RCRA does not forbid shipping hazardous wastes into or out of the United States. Nevertheless, a person who imports hazardous wastes is a generator of such waste subject to all the regulations discussed above.<sup>180</sup> If waste is shipped out of the country, the EPA acknowledges that it cannot force the recipient in another country to sign the manifest or to comply with other RCRA requirements. The last transporter within the United States, however, must sign the manifest, certify that the shipment has left the country, and return the signed copy to the generator.<sup>181</sup>

## 9. Generators Who Store, Treat or Dispose of Waste On-Site

A generator is not required to ship wastes off-site for treatment, storage or disposal. If, however, the generator stores, treats, or disposes of waste on site, the generator must comply with Title 40 of the Code of Federal Regulations, parts 264 and 265. Also, the generator must have an interim permit and apply for a permanent permit under RCRA.

### D. *Liability of a Generator for Improper Waste Disposal*

While RCRA and the regulations establish a detailed scheme for

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178. 40 C.F.R. § 262.42(b) (1983).

179. *Id.* § 262.42(a).

180. *See id.* § 262.50(a).

181. *See id.* § 263.20(g).

the behavior of generators, both are unclear regarding whether a generator is liable for wastes once they are beyond the generator's control.<sup>182</sup> While some aspects of the potential continuing liability question seem decided, other important aspects still lack definitive interpretation.

If the generator disposes of the hazardous waste on its own property, either where generated or elsewhere, liability continues indefinitely.<sup>183</sup> The fact of disposal, as much as the fact that the generator is involved, supports this liability.<sup>184</sup>

When the generator ships waste off-site, the generator is liable for the waste if it failed to comply with RCRA regulations concerning packaging and labeling and injury results from this noncompliance.<sup>185</sup> If the generator fails to exercise due care in selecting the transporter or the disposal facility,<sup>186</sup> or is negligent in instructing the disposer or transporter,<sup>187</sup> continuing liability results. Further, liability extends to the generator if it is aware of improper disposal

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182. It is estimated that 20-30% of businesses which generate hazardous wastes dispose of at least some of the wastes off-site. See *Hazardous and Toxic Waste Disposal Joint Hearings on S.1341 and S.1480 Before the Subcomm's on Environmental Pollution and Resource Protection of the Senate Committee on Public Works* (Part 3), 96th Cong., 1st Sess., at 72 (Statement of Kathleen Q. Camin, EPA Administrator, Region VII).

183. See, e.g., *United States v. Price*, 688 F.2d 204 (3rd Cir. 1982) (U.S. unsuccessfully sought to require former and present landfill owners to remedy hazards from chemicals disposed of in 1971 and 1972 through preliminary injunction); *United States v. Solvents Recovery Service of New England*, 496 F. Supp. 1127 (D. Conn. 1980) (defendants held liable for storage and disposal ending in 1967 and 1979); *United States v. Vertac Chemical Corp.*, 489 F. Supp. 870, 888 (E.D. Ark. 1980) (present owner of a manufacturing and disposal site found liable for a preliminary injunction under the RCRA "imminent hazard" provision (42 U.S.C. § 6973) and original owner acknowledged an obligation to "pay its fair share of clearing and protective operations on that part of the premises where it buried waste materials).

184. See cases cited *supra* in note 176. See also Duke, *Using RCRA's Imminent Hazard Provision in Hazardous Waste Emergencies*, 9 *ECOLOGY L.Q.* 599, 614-17 (1981).

185. See 40 C.F.R. § 262.10(e) (1983). See also Note *Liability of Generators of Hazardous Waste: The Failure of Existing Enforcement Mechanisms*, 69 *GEO. L.J.* 1047, 1052-53 (1981).

186. See S. REP. NO. 172, 96th Cong., 1st Sess. 5 (1979). See also Note, *supra* note 177, at 1052-53.

187. S. REP. NO. 172, 96th Cong., 1st Sess. 5 (1979). See also Duke, *supra* note 177, at 617.

activities.<sup>188</sup>

If a nonnegligent generator properly packages waste and ships it with a proper transporter to a reputable TSD facility where it is properly treated (to the extent possible) and disposed, but years later, the waste leaches to the injury of some party or in violation of the imminent hazard section of RCRA, the generator's liability is less clear. There is authority which finds no liability, and authority which argues for liability.

In *United States v. Wade*,<sup>189</sup> the government attempted to apply the RCRA imminent hazard provision to a group of waste generators who had nonnegligently generated waste and hired an independent company to transport it to an independent disposal facility. The district court held that a nonnegligent generator was not liable under RCRA for the leaching of materials it had generated. The court found no legislative language or history to support an extension of liability. Indeed, the court found that Congress could not have intended to expand the liability for properly treated wastes to generators without an explicit statement, because the potentially liable generators constitute such a large class of additional defendants.<sup>190</sup> Nevertheless, the court recognized that there is "one faint hint" of legislative intent in a subcommittee report to impose generator liability.<sup>191</sup> The court stated, however, that the full Senate Committee added the qualifying requirement to the subcommittee's proposal that the generator have "knowledge of illicit disposal or failed to exercise due care in selecting or instructing the entity actually conducting the disposal."<sup>192</sup> Thus, the court found a clear separation of the genera-

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188. See *United States v. Wade*, 546 F. Supp. 785 (E.D. Pa. 1982). See also Duke, *supra* note 177, at 617.

189. 546 F. Supp. 785 (E.D. Pa. 1982).

190. *Id.* at 790. The court stated:

Were I to accept the government's logic, I might be constrained to impose liability, through Section 7003, upon the original manufacturers or miners of the chemicals which [the generator] uses in its manufacturing processes. Because there is no logical limit, given the breadth of the statutory language, to the number and type of persons who might be construed to be "contributing to" the disposal of hazardous waste, a court must look for clear legislative guidance before reading section 7003 to confer substantive liability upon so vast a class of potential defendants as off-site generators.

*Id.*

191. *Id.* at 791.

192. *Id.* at 791 n.15, quoting S. REP. No. 172, 96th Cong., 1st Sess. 5 (1979), reprinted in 1980 U.S. CODE CONG. & AD. NEWS 5019, 5023.



tor and its duties from those of TSD facilities, and held that the present RCRA language does not impose liability on a nonnegligent generator where problems arise after disposal or at the disposal site. Given the separation of duties, there would be no liability for a generator who acted either after or before the effective date of RCRA.

In *United States v. Waste Industries*<sup>193</sup> and in *United States v. A & F Materials Company*,<sup>194</sup> the courts reached results similar to the *Wade* court's result. In *Waste Industries*, the court found that acts which took place before the effective date of RCRA<sup>195</sup> create no liability for any party under the imminent hazard provision of RCRA.<sup>196</sup> In *A & F Materials*, the court found no generator liability for dormant sites.<sup>197</sup>

Other decisions, however, support generator liability whether the waste was generated before or after the effective date of RCRA and without regard to generator fault. In *United States v. Price*,<sup>198</sup> the Third Circuit found that RCRA applied to even a dormant waste site if the site poses a present threat to public health or the environment.<sup>199</sup> In *United States v. Hardage*,<sup>200</sup> the district court found the imminent hazard provision "to confer liability upon any person contributing to the handling, storage, treatment, transportation or disposal of a solid or hazardous waste . . . without regard to fault. It would be improper to read a negligence standard into the statute, not only because of the plain language of the statute, but also because of the hazardous nature of the activity involved."<sup>201</sup> Because courts

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193. 556 F. Supp. 1301 (E.D. N.C. 1982) (presently on appeal to the 4th Circuit, No. 83-1320).

194. No. Civ. 83-3123 (S.D. Ill. 1984).

195. See 556 F. Supp. at 1311-1314. In dictum, the district court notes that Superfund, 42 U.S.C. § 9607(a) (Supp. V 1981), covers the situation of abandoned dumpsites, including liability for those "who arranged for the transport of the hazardous substance," the generator. See 556 F. Supp. at 1316.

196. 42 U.S.C. § 6973 (Supp. V 1981).

197. No. Civ. 83-3123 slip op. at 16-17 (S.D. Ill. 1984).

198. 688 F.2d 204 (3rd Cir. 1982).

199. On remand, the district court found that the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9606, 9607 (Supp. V 1981), clearly established liability for a pre-statute off site generator and so declined to decide whether RCRA applied to a pre-statute generator. See *United States v. Price*, 19 Env't Rep. Cas. (BNA) 1638 (1983).

200. 13 ENVTL. L. REP. (ENVTL. L. INST.) 20,188 (W.D. OKLA. 1982).

201. *Id.* 20,188-89.

have interpreted "any person contributing" to include generators,<sup>202</sup> the *Hardage* decision would apply the imminent hazard provision to generators regardless of fault when the hazardous waste was generated, or whether a third party transported or disposed of the waste.

In addition, the United States argues forcefully for extended generator liability in briefs it has filed in *United States v. Conservation Chemical Co.*<sup>203</sup> and *United States v. Chem-Dyne Corp.*<sup>204</sup> In both cases, the federal government asserts that generators are liable under RCRA for hazardous waste which was generated and disposed of before the effective date of RCRA. The government asserts a strict liability theory for all hazardous wastes regardless of who transported or disposed of the waste.<sup>205</sup>

While it is too early to know what the courts ultimately will decide, Congress should clarify the appropriate sections of RCRA by amending the Act.<sup>206</sup> Because, however, even the *Wade*, *Waste Industries*, and *A & F Materials* courts recognize that Superfund creates generator liability,<sup>207</sup> RCRA interpretations are not likely to allow generators to escape liability because most hazardous waste suits now include a Superfund count.

## V. TRANSPORTERS

In most circumstances, the transporter is the middleman in the

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202. See *United States v. Price*, 688 F.2d 204 (3rd Cir. 1982); *United States v. Hardage*, 13 ENVTL. L. REP. (ENVTL. L. INST.) 20,188 (W.D. Okla. 1982); *United States v. Reilly Tar and Chemical Co.*, 546 F. Supp. 1100, 1108 (D. Minn. 1982). See also Reed, *Conservation Chemical: Generator Liability for Imminent Hazards on the Docket*, 13 ENVTL. L. REP. (ENVTL. L. INST.), 10,208-15 (1983); Note, *Hazardous Wastes and Strict Liability: A Case for Holding the Producers of Hazardous Wastes Responsible for their Actions*, 59 N.D. L. REV. 605 (1983).

203. No. C-1-82-8410, ENVTL. L. REP. (ENVTL. L. INST.) 65,763 (S.D. Ohio, complaint filed August 26, 1982) (pending litigation).

204. No. 82-0983-CV-W-5, ENVTL. L. INST. REP. (ENVTL. L. INST.) 65,785 (W.D. Mo., complaint filed Nov. 22, 1982). See also *United States v. Petroprocessors*, No. 80-358-B (M.D. La., filed July 15, 1980).

205. See Reed, *supra* note 202, at 10,209-11.

206. RCRA is currently before Congress for reauthorization and amendment. See 14 ENV'T REP. (BNA) 973, 1243, 1283 (1983). The House passed a RCRA Reauthorization Act in 1983, but the House statute does not clarify the issue. See *id.* at 1283.

207. See 546 F. Supp. at 793; 556 F. Supp. at 1316-1318. Accord *United States v. Outboard Marine Corp.*, 556 F. Supp. 54 (N.D. Ill. 1982); *United States v. Price*, 19 Env't Rep. Cas. (BNA) 1638 (D.N.J. 1983) (on remand); *United States v. A & F Materials Co.*, No. Civ. 83-3123 slip op. at 12-13 (S.D. Ill., 1984).

"cradle-to-grave" hazardous waste control system established under RCRA. The EPA envisions the transporter's role as taking properly packaged, manifested hazardous waste from a waste generator, and delivering it safely to a properly licensed TSD facility within a reasonable time period. Under the EPA regulations, a transporter who does not conform to this model may qualify as either a generator or a TSD facility and, thus, be subject to the various additional regulations and controls imposed on those actors.

There is a level of mistrust within the regulatory scheme, which results in prohibiting the transporter from making any changes in the manifest instructions given by the generator. The mistrust comes from the "midnight dumper," one who simply unloads a truckload of highly dangerous wastes along a country road.<sup>208</sup> This was one of the primary problems on which Congress focused in its consideration of RCRA.

The EPA regulations apply to intrastate transporters as well as interstate transporters. The regulations adopt the standards of the Department of Transportation for shipment of hazardous materials by all transporters.<sup>209</sup>

#### A. *Defining "Transporter"*

As with the term "generator," Congress did not define "transporter" in the RCRA. Instead, Congress directed the EPA to establish regulations applicable to transporters of hazardous waste.<sup>210</sup> The EPA now defines transporter as a "person engaged in the off-site transportation of hazardous waste by air, rail, highway or water."<sup>211</sup>

The EPA intends the definition to be inclusive. Virtually anyone who transports hazardous waste from the site of its generation is a transporter. There are only a few exemptions. Even if the waste is being moved only a short distance over a public right of way, the mover is a "transporter" under the regulation.

Some movers of waste are free from the obligations of transporters.

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208. The archetype of the "midnight dumpers" are Robert Ward and Robert Burns, who, with two other men, were convicted of dumping PCB-laced oil along 210 miles of rural North Carolina roads in 1978. *See United States v. Ward*, 676 F.2d 94 (4th Cir. 1982). *See also* 12 ENV'T REP. (BNA) 1552 (1982).

209. *See* note at 40 C.F.R. § 263.10 (1983).

210. *See* Resource Conservation and Recovery Act of 1976, § 3003, 42 U.S.C. § 6923 (1976).

211. 40 C.F.R. § 260.10 (1983).

First, persons moving waste within the site on which it was or is to be stored, treated or disposed are not transporters. The waste can be moved *across* a public right of way on its way to another part of the same site. Any other movement of the waste on the public right of way is prohibited.

Second, the regulations do not apply to one moving waste that does not require a manifest. Waste might not require a manifest because it comes from a generator who has qualified for the small quantity exemption, or because it is to be reused or recycled, or because it has been exempted by the RCRA or the EPA regulations.<sup>212</sup>

### B. *Obligations of the Transporter*

The RCRA and the regulations<sup>213</sup> impose a series of obligations on the transporter.

#### 1. The Identification Number

A transporter must secure an EPA identification number.<sup>214</sup> A transporter may accept wastes from a generator who does not have an identification number,<sup>215</sup> because the small quantity exemption frees ninety-one percent of all generators from most regulation.<sup>216</sup> A generator, however, must not use a transporter who does not have an identification number.

#### 2. The Manifest System

Under the manifest system, all regulated hazardous wastes must be accompanied by a manifest properly completed and signed by the generator.<sup>217</sup> When the transporter receives the waste covered by the manifest, the transporter signs one copy of the manifest and returns it to the generator.<sup>218</sup> The transporter should receive from the generator enough copies of the manifest for him to keep one copy and to enable each person later in the transportation chain and the ultimate

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212. See text accompanying notes 107-130.

213. RCRA § 3003; 40 C.F.R. §§ 263.10-.31 (1983).

214. 40 C.F.R. § 263.11 (1983).

215. See *id.* § 261.5.

216. See 45 Fed. Reg. 33102-04 (1980).

217. The manifest system is described in detail *supra* at text accompanying notes 139-47.

218. 40 C.F.R. § 263.20(b) (1983).

TSD facility to have a copy, plus an additional copy for the TSD facility to return to the generator. The manifest must remain with the waste through its entire trip.<sup>219</sup> When the transporter delivers the waste either to another transporter or to a TSD facility, he must date the delivery, obtain the handwritten signature of the recipient on the manifest, keep one copy of the manifest and pass the other copies to the recipient.<sup>220</sup>

There is, in effect, a time limit on the transporter. A generator must begin a search for hazardous waste thirty-five days after the initial transporter picks up the shipment if the manifest has not been returned to him.<sup>221</sup> Further, a generator must file an exception report with the EPA if the manifest is not returned within forty-five days.<sup>222</sup> It is possible that a transporter regularly named in such exception reports would be subject to special scrutiny for violations of RCRA and the regulations to determine if the transporter had become either a generator or a TSD facility. A transporter, however, may maintain a transfer facility at which waste may be stored for up to ten days while awaiting further shipping, without qualifying as a TSD facility.<sup>223</sup>

A transporter must deliver all the waste the transporter receives and must follow the directions on the manifest. He must deliver the waste to the primary TSD facility named in the manifest, or to the next transporter named. If an emergency, strike, or other problem prevents delivery to the primary TSD facility, the alternate facility named on the manifest must be used.<sup>224</sup> If the transporter is unable to deliver the waste as specified in the manifest, he must contact the generator for further instructions and change the manifest to comply with the new instructions.<sup>225</sup> If he cannot get further instructions, the transporter must return the waste to the generator.

When a transporter receives a shipment for transportation out of the United States, a different rule applies. The EPA acknowledges that it cannot require the ultimate recipient in another country to sign the manifest. The last transporter within the United States, however,

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219. *See id.* § 263.20(c).

220. *Id.* § 263.20(d).

221. *Id.* § 262.42(a).

222. *Id.* § 262.42(b).

223. *Id.* § 263.12.

224. *Id.* § 263.21(a)(2).

225. *Id.* § 263.21(b).

must sign the manifest, certify that the shipment has left the United States, and return the signed copy to the generator.<sup>226</sup>

Different rules apply to a bulk railroad or water shipper. Recognizing the sophisticated computerized tracking and information systems in use, the EPA eliminated the requirement that each intermediate rail or water shipper sign the manifest<sup>227</sup> and now authorizes the use of shipping documents other than the manifest. The initial railroad transporter must sign the manifest upon receipt of the waste and ensure that a shipping paper or manifest with appropriate information accompanies the waste. If it received the waste from a transporter, it must forward the manifest to the TSD facility, the next nonrail carrier, or the final rail carrier, if the railroad is to deliver the waste to the TSD facility. Only the initial and final rail transporters must sign and return copies of the manifest or shipping document.<sup>228</sup>

### 3. Compliance with Department of Transportation Regulations

The EPA has adopted the Department of Transportation regulations for the transportation of hazardous materials<sup>229</sup> as the packaging and labeling standards transporters must meet. Transporters must comply with the standards in all shipments they handle.

### 4. Recordkeeping

As with the generator, the transporter has a recordkeeping obligation. Each transporter must keep all manifests of wastes carried for a period of three years from the date the initial transporter accepted the waste.<sup>230</sup> The period is longer if the EPA so requests or during an unresolved enforcement action.<sup>231</sup> All transporters, including the initial and final bulk rail or water shippers and any transporter who ships waste outside the United States, incur this obligation.

#### *C. When a Transporter Becomes a Generator or a Treatment, Storage and Disposal Facility*

A transporter may unintentionally become a generator or a TSD

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226. *Id.* § 263.20(g).

227. *Id.* § 263.20(e)-.20(f).

228. *Id.* § 263.20(f).

229. 49 C.F.R. §§ 171-79 (1982).

230. 40 C.F.R. § 263.22(a) (1983).

231. *See id.* § 263.22(e).

facility. If a transporter brings hazardous waste into the United States from abroad,<sup>232</sup> or if he mixes hazardous wastes of different Department of Transportation shipping descriptions into one container,<sup>233</sup> he qualifies as a generator.

Further, the EPA now treats the person who removes hazardous wastes that have accumulated in a transport vehicle or vessel or in a product or raw material pipeline as a generator.<sup>234</sup> Since a transporter is likely to accumulate such materials in tank trucks, tanks, and other property, the transporter will become a generator when cleaning the property. Of course, the small quantity exemption may apply, but transporters should be prepared to meet the requirements for generators.<sup>235</sup>

In addition, as analyzed in detail above,<sup>236</sup> the owner of a tank truck or other property is a generator when waste is removed from his vehicle at a central cleaning facility, even though a third party owns the facility and another party owns the material. Parties may define by private agreement who is to act as generator, but the EPA reserves the right to take enforcement action against all parties if none fully carries out the obligations of the generator.

A transporter may also qualify as a TSD facility. The transporter may store wastes for up to ten days at a transfer facility<sup>237</sup> if the waste has a manifest and remains in containers that meet the Department of Transportation packaging requirements. If, however, the waste is held longer than ten days, or if the transporter actually stores waste in his transport vehicles, the regulations of Title 40 of the Code of Federal Regulations, parts 264 and 265, apply.

#### D. *Spills and Other Discharges by the Transporter*

As stated earlier, Congress was particularly concerned about the "midnight dumper" when it enacted the RCRA.<sup>238</sup> Congress was

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232. *Id.* § 263.10(c)(1).

233. *Id.* § 263.10(c)(2).

234. *See id.* § 261.4(c).

235. These requirements are set forth in 40 C.F.R. §§ 262.10-.51 (1983).

236. *See supra* notes 99-106 and accompanying text.

237. A "transfer facility" is defined as "any transportation-related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation." 40 C.F.R. § 260.10 (1983).

238. *See supra* note 191 and accompanying text.

also concerned about accidental discharges of hazardous waste during the transportation process. As a result, there are several key obligations placed on transporters whenever an accidental or deliberate discharge occurs.<sup>239</sup> First and foremost, the transporter must clean up the discharge.<sup>240</sup> He must take immediate action to protect human life and the environment. This includes notifying local authorities and diking the discharge area. Because of the importance to the EPA of minimizing health dangers and environmental damage, the regulations authorize local authorities at the scene to suspend aspects of RCRA and arrange for transporters lacking EPA identification numbers to receive the waste without the preparation of a manifest.

Without an exemption, a transporter's clean-up obligation would cause him to become a TSD facility and thus require an appropriate permit. To clean up the waste, the transporter must often neutralize the waste material and other material affected by the spill, or use other treatment techniques. Nevertheless, the regulations<sup>241</sup> exempt these immediate activities from the requirements of parts 264 and 265 when a "spill" is involved.<sup>242</sup> The exclusion applies only to the "immediate response" to the spill,<sup>243</sup> and not to longer-range actions the transporter takes.

Further, the transporter may qualify as a generator because of the spill. If so, the transporter must comply with the generator obligations.<sup>244</sup> In addition to cleaning up the spill, the transporter must notify the National Response Center by telephone and report the spill in writing to the Department of Transportation.<sup>245</sup> Finally, the trans-

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239. See 40 C.F.R. §§ 263.30-31 (1983). The definition of "discharge" or "hazardous discharge" is: "the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of hazardous waste into or on any land or water." *Id.* § 260.10 (1983).

240. *Id.* § 263.31 (1983). The Department of Transportation cannot and does not impose this requirement under the Hazardous Materials Transportation Act. See 49 U.S.C. §§ 1801-12 (1976). See also 40 C.F.R. § 263.31 (1983).

241. 45 Fed. Reg. 76,626-30 (1980) (codified at 40 C.F.R. §§ 264.1-265.430 (1983), as amended).

242. 45 Fed. Reg. 76,629 (1980). A spill is "the accidental spilling, leaking, pumping, emitting, emptying or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or on any land or water." 40 C.F.R. § 260.10 (1982).

243. 45 Fed. Reg. 76,629 (1980).

244. *Id.*

245. See 49 C.F.R. § 171.15 (1982) (requiring notice by telephone. See also 33



porter itself must transport in accordance with part 263 standards any part of the spill it cleans up and must take it to a facility with an RCRA permanent or interim permit.<sup>246</sup>

E. *Memorandum of Understanding Between EPA and the Department of Transportation*<sup>247</sup>

The EPA, under the RCRA, and the Department of Transportation, under the Hazardous Materials Transportation Act,<sup>248</sup> have overlapping jurisdiction over hazardous waste. To avoid duplicate efforts, the two agencies have entered an agreement under which the Department of Transportation will have primary responsibility for inspections of transporters. The Department of Transportation will "[i]mmediately advise the appropriate EPA regional office of any possible violations of RCRA or regulations. . . ."<sup>249</sup> The EPA, however, will act against transporters who actually dispose of or treat material, as in the case of "midnight dumpers."<sup>250</sup> Generally, where one agency has begun an enforcement action against a transporter, the other will not act against the transporter, but will cooperate with the enforcing agency.<sup>251</sup> The agencies also agreed to share information, work together, and jointly enforce the regulations under both statutes.

## VI. TREATMENT, STORAGE OR DISPOSAL FACILITIES

### A. *Authority to Regulate*

The authority to regulate the treatment, storage and disposal of hazardous wastes is found in sections 3004 and 3005 of the Resource Conservation and Recovery Act of 1976.<sup>252</sup> These sections are general and brief. They do little more than provide the statutory basis for the exercise of broad regulatory discretion by the EPA and quali-

C.F.R. § 153.203 (1982). Send notice to Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, D.C. 20590. A copy of the manifest must accompany the written report.

246. 45 Fed. Reg. 76,629 (1980).

247. 45 Fed. Reg. 51,645-51,646 (August 4, 1980).

248. 49 U.S.C. §§ 1801-12 (1976).

249. 45 Fed. Reg. 51,646 (1980).

250. *Id.* at 51,645.

251. *Id.* at 51,646.

252. 42 U.S.C. §§ 6924-6925 (1976).

fied state regulatory agencies.<sup>253</sup> Section 3004 requires the Administrator of EPA to promulgate performance standards for TSD facilities.<sup>254</sup> Section 3005 requires both generators that store, treat or dispose of wastes in on-site or off-site facilities and facilities that receive wastes generated elsewhere for treatment, storage or disposal to have a permit.<sup>255</sup> Section 3005 covers both new and expanded or modified on and off-site facilities.

The Act contemplates two levels of permits: Part A and Part B permits. The EPA issues an interim (Part A) permit before issuing a final (Part B) permit. Interim status for facilities in full operation on or before November 19, 1980 is easy to obtain. Interim permits for existing facilities are based simply on notification to the EPA that the site handles a listed hazardous waste.<sup>256</sup> There is an arduous procedure for an operator to change from interim to final status or for a new facility to obtain a permit. As Congress contemplated, the RCRA process for obtaining a permit is open and "evolving."

Once a facility obtains interim status, it has a right to maintain the level of operation it exhibited when it received interim status, gener-

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253. See also *id.* § 6926 for federal guidelines concerning state hazardous waste programs.

254. The statute authorizes standards for:

- (1) maintaining records of all hazardous wastes identified or listed under this chapter which is treated, stored, or disposed of, as the case may be, and the manner in which such wastes were treated, sorted, or disposed of;
- (2) satisfactory reporting, monitoring, and inspection and compliance with the manifest system referred to in section 6922(5) of this title;
- (3) treatment, storage, or disposal of all such waste received by the facility pursuant to such operating methods, techniques, and practices as may be satisfactory to the Administrator;
- (4) the location, design, and construction of such hazardous waste treatment, disposal, or storage facilities;
- (5) contingency plans for effective action to minimize unanticipated damage from any treatment, storage, or disposal of any such hazardous waste;
- (6) the maintenance of operation of such facilities and requiring such additional qualifications as to ownership, continuity of operation, training for personnel, and financial responsibility as may be necessary or desirable; and
- (7) compliance with the requirements of section 6925 of this title respecting permits for treatment, storage, or disposal.

42 U.S.C. § 6924 (1976).

255. 42 U.S.C. § 6925(a) (1976 & Supp. V 1981). The actual language of the statute refers to ". . . regulations requiring each person owning or operating a facility for the treatment, storage or disposal of hazardous waste . . . to have a permit . . ." *Id.* 42 U.S.C. § 6925(a) (1976 & Supp. V 1981).

256. 42 U.S.C. § 6930(a) (1976 & Supp. V 1981).

ally November 20, 1980. Interim status, however, is unlike the status accorded preexisting uses in zoning. A Part A permit does not create a vested right to permanent operation at the interim status level. A facility operator must comply with substantive operation and design standards during the interim status period. The facility must also obtain a Part B permit. The first Part B applications were expected to be completed in July of 1983 but EPA's progress has been slow. Few permits were issued by the end of 1983. For example, EPA region V, which covers the major midwest industrial states, has issued only 18 permits.<sup>257</sup> To further complicate matters, the EPA's initial regulations issued pursuant to the RCRA failed to specify precise design standards for new or existing facilities, so the final Part B standards are unknown.<sup>258</sup> Interim status may therefore be the functional equivalent of a long amortization period, but the facility operator should understand that this was not the initial EPA conception of interim status. Interim status can best be officially described as a "breathing period" for the facility to formulate plans to come up to Part B permit standards.

Although the EPA has decided to apply substantive standards to interim status sites, section 3005(e) makes no mention of the interim standards the EPA is to apply. The EPA reasoned that facilities would not receive final permits for several years. Hence, the enforcement of interim standards is confusing for a facility operator because the operator has a duty to comply with interim standards for general administrative and nontechnical operating requirements, even if a Part A submission has not been completed. Further, compliance with interim standards does not immunize the operator from direct enforcement actions brought pursuant to section 7003 of the RCRA.<sup>259</sup>

The interim status requirements deal with design and operation matters such as waste analysis, security of the facility, personnel training, postclosure procedures, financial responsibility, and performance standards for specific facilities such as waste piles, landfills, surface impoundments and waste water treatment units.<sup>260</sup> The EPA will upgrade the interim standards with guidelines that represent the

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257. Telephone interview with Jane Schulteis, U.S. EPA, Region V, Jan. 17, 1984.

258. The standards are expected sometime in 1982. [1981] 12 ENV'T. REP. (BNA) 104.

259. 42 U.S.C. § 6973 (Supp. V 1981).

260. See 40 C.F.R. §§ 264.13-.18 (1983).

EPA's "best engineering judgment" (BEJ) on a particular management option. The progressive nature of BEJ means the standards are not as specific as the two-tiered technology levels in the Clean Water Act<sup>261</sup> (Best Practical Technology and Best Available Technology) because BEJ is more ad hoc.<sup>262</sup>

To qualify for interim status, the TSD facility must have been in existence on November 18, 1980. "In existence" contains the typical vested rights standards found in zoning ordinances and other cut-off date statutes. To qualify, either the owner or operator must have obtained all relevant federal, state and local permits necessary to begin physical construction and must have commenced a continuous on-site physical construction program or have entered into a nonrescindable, nonmodifiable contract that would result in the construction of the facility within a reasonable time.<sup>263</sup>

### B. RCRA Regulations

After much delay, the EPA began issuing final TSD regulations in 1980 and 1981. Nevertheless, the concept of final is meaningless for two reasons. First, the EPA's regulations contemplate an evolving regulatory process. Specifically, the regulations contemplate more

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261. See 33 U.S.C. § 1311(b) (1976 & Supp. V 1981).

262. The EPA has explained the possible difference as follows:

Essentially the BEJ approach relies on basic performance standards. Permitting authorities (EPA or the States) would then use these performance standards and technical factors as a structure for exercising their discretion on the acceptability of particular facilities, based on a thorough knowledge of the wastes managed at the facility, the facility design and the environment in which the facility is located.

46 Fed. Reg. 2,805 (1981).

263. Recent proposed rules would require that facilities which failed to achieve interim status but were allowed to continue operation under a compliance order under § 3008 or an Interim Status Compliance Letter meet standards applied to Interim Status facilities, Part 267, until final disposition of the facility's permit application. 48 Fed. Reg. 2516 (January 19, 1983). As a result of litigation over the Consolidated Permit Regulations, Natural Resources Defense Council, Inc. v. EPA, No. 80-1607 (D.C. Cir. 1980), EPA has adopted informal procedures to cure defective interim status applications which the agency "believes . . . meet applicable due process tests." 48 Fed. Reg. 21099 (May 10, 1983). An applicant is entitled to notice of the proposed agency action, an opportunity to contest it through written comments and an informal public hearing and an agency response to the comments and a decision on the administrative record. See 40 C.F.R. § 124.1-21 (1983). For a case holding that similar procedures under Section 404 of the Clean Water Act do not violate a permit applicant's constitutional right to due process, see *Buttrey v. United States*, 690 F.2d 1170 (5th Cir. 1982).

wastes being classified as hazardous and the technical engineering standards for facilities evolving through guidelines issued from time to time. Second, the change in presidential administrations has led to a profound change in the EPA's regulatory philosophy and practice. Therefore, most regulations proposed by the Carter Administration were reevaluated in 1981 and 1982, within both the Agency and by the Bush Task Force.<sup>264</sup> In 1982, the EPA issued but quickly repealed several major liberalizations of prior regulations, such as one allowing container storage in landfills. In July 1982, the Agency finally issued its first major TSD regulations for landfills. The basic regulations are: 1) Hazardous Waste Consolidated Permit Regulations,<sup>265</sup> 2) Hazardous Waste Management System,<sup>266</sup> and 3) Regulations for Land Disposal Facilities.<sup>267</sup>

### C. *Facilities Covered*

The regulations require that all storage,<sup>268</sup> treatment,<sup>269</sup> and disposal<sup>270</sup> facilities apply for a permit.

### D. *Exclusions and Exemptions*

Certain activities are exempt from the Consolidated Permit Pro-

264. *See supra* note 12.

265. 40 C.F.R. pt. 122 (1983).

266. *Id.* pts. 260-63 (1983).

267. *Id.* pt. 267 (1983).

268. "Storage" is defined as "the containment of hazardous waste, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such hazardous waste." 42 U.S.C. § 6903(33) (1976).

269. The Statute defines "treatment" as:

any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume.

*Id.* § 6903(34) (1976).

270. "Disposal" is defined as:

the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

*Id.* § 6903(3).

The regulations do not define reclamation, and thus it is possible that some activities that produce chemicals of commercial value may nonetheless be classified as treatment facilities under the regulations.

gram established May 19, 1980.<sup>271</sup> The regulations provide that three classes of activities will be deemed to have an RCRA permit if they comply with otherwise applicable regulations.<sup>272</sup> These include: 1) ocean disposal activities that have a permit authorized by the Marine, Protection, Research and Sanctuaries Act,<sup>273</sup> 2) injection wells regulated by the Safe Drinking Water Act,<sup>274</sup> and 3) publicly owned treatment works with an NPDES permit treating waste that meets all federal, state and *local* pretreatment requirements.<sup>275</sup>

There are other categories of exemptions. These include: 1) a generator's on-site accumulation of hazardous waste for up to ninety days,<sup>276</sup> 2) farmers who dispose of pesticides in compliance with EPA regulations,<sup>277</sup> 3) owners or operators of a "totally enclosed treatment facility" where the treatment of a hazardous waste is directly connected to an industrial process that attempts to prevent the release of hazardous wastes into the environment,<sup>278</sup> and 4) transporters storing manifested wastes for less than ten days.<sup>279</sup>

### E. *Interim Status and Final Regulations*

Interim status and final regulations generally apply to all TSD facilities.<sup>280</sup> Specific standards, however, may apply to only one

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271. 45 Fed. Reg. 33,516-588 (1980) (codified at 40 C.F.R. §§ 122.1-125.124 (1983)).

272. 40 C.F.R. § 122.26 (1983).

273. *Id.* § 122.26(a).

274. *Id.* § 122.26(b).

275. *Id.* § 122.26(c).

276. If the wastes are held for more than 90 days, the generator may qualify for interim status as a storage facility if:

- 1) the storage area was in existence on or before November 19, 1980, and the generator was accumulating waste by that date, and the waste accumulated was the same before and after that date;
- 2) the facility owner or operator complied with the notification requirement informing the EPA of its hazardous waste activities;
- 3) the generator files a Part A permit application within 30 days of losing its regulatory exemption.

Those not accumulating hazardous wastes on or before November 19, 1980, cannot qualify for interim status, but must get a permit. 40 C.F.R. § 122.23 (1983).

277. 40 C.F.R. § 264.1(g)(4) (1983). The regulation generally governing farmers is 40 C.F.R. § 262.51 (1982).

278. *Id.* § 264.1(g)(5).

279. *Id.* § 264.1(g)(9).

280. *See id.* § 265.1(b). Note that most of the requirements for interim status fa-

function.

### 1. EPA Identification Number

All facilities must have an EPA identification number to be eligible to receive hazardous wastes.<sup>281</sup>

### 2. Notice

Notices must be given to the EPA or others in various situations. Two of the more important situations include notice to the EPA Regional Administrator of the receipt of wastes from any foreign source, and, if ownership of the facility is transferred, written notice to the new owner disclosing the RCRA requirements applicable to the facility.<sup>282</sup> In effect, the latter requirement precludes the sale of a facility that does not have interim status because the new facility operator must obtain a RCRA permit before commencing operations.

### 3. Waste Analysis

The regulations impose two important duties with respect to testing the wastes a facility handles. First, a detailed chemical and physical analysis of the waste must be made before it is treated, stored or disposed. Second, the operator must have a waste analysis plan to determine how it can ensure that the identity of the waste matches the manifest.<sup>283</sup>

### 4. Facility Security and Effective Operation

A hazardous waste facility is now more like a nuclear generating plant than the traditional vision of a sanitary land-fill. Unless the operator can demonstrate that unauthorized entry will not cause damage to human life, livestock, or the environment,<sup>284</sup> a facility must either have a permanent barrier<sup>285</sup> or a twenty-four hour surveillance system.<sup>286</sup> Facilities, especially tanks that are likely to leak,

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ilities in § 265 have parallel provisions in § 264. Section 264 applies to permitted facilities. *See id.* §§ 264.1-.351 (1983).

281. *Id.* § 122.22(b) (1983). *See* 46 Fed. Reg. 2,348 (1981).

282. 40 C.F.R. § 265.12(b) (1982). *See also id.* § 122.23(c).

283. *See id.* § 265.13(a)-.13(c).

284. *Id.* § 265.14(a)(1)-(2).

285. *Id.* § 265.14(b)(2)(i)-(ii).

286. *Id.* § 265.14(b)(1).

must be inspected pursuant to an EPA facility inspection plan.<sup>287</sup> The regulations further require facility personnel to have sufficient expertise to carry out their assigned tasks safely.<sup>288</sup> The regulations do not specify the level of expertise; rather, they require either classroom or on-the-job training within six months of the effective date of the regulations or employment.

All facilities must have a contingency plan<sup>289</sup> in case of fire, explosion or release of hazardous wastes that could threaten human health or the environment.<sup>290</sup> In addition, facilities must maintain certain equipment to deal with such incidents. The plan must specify who within the plant will assume control of contingency plans and it must describe prearranged assistance from local fire and police departments. The equipment requirements, unless proven unnecessary, are 1) internal alarms, 2) a device capable of summoning emergency help from police and firefighters, 3) fire and spill control equipment, and 4) decontamination equipment.<sup>291</sup>

## 5. Required Reports

The facility operator has two basic reporting duties. First, it must help enforce the transport manifest system by reporting any significant discrepancy between the waste received and the manifest to the EPA within fifteen days,<sup>292</sup> second, it must maintain an operating record until the facility is closed.<sup>293</sup>

The operator must file two reports. One is an annual report that must be filed by March 1 for the preceding calendar year and in-

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287. *Id.* § 265.15.

288. *Id.* § 265.16.

289. *Id.* § 265 (Subpart D).

290. *Id.* § 265.51(b).

291. *Id.* § 265.52(e).

292. *Id.* § 265.72(b).

293. *Id.* § 265.73. The operating records include:

- 1) the type and quantity of each hazardous waste received and the method used to store, treat or dispose of it;
- 2) a location map that shows where each waste is stored or disposed;
- 3) the waste analysis results;
- 4) incidents that required resort to the emergency contingency plan;
- 5) records and results of inspections;
- 6) all monitoring, testing or analytical data;
- 7) closure and post-closure cost estimates.

*See id.* § 265.73(b)(1)-(7).



cludes data of the quantity of waste received and the manner of its disposal.<sup>294</sup> The other report is similar to the manifest discrepancy report. If the operator accepts any unmanifested waste, it must file a report with the Regional Administrator within fifteen days after receipt.<sup>295</sup> Although small generators are exempt from the manifest requirement, a facility operator who accepts wastes from a small generator must either obtain a certificate of exemption or file an unmanifested waste report.<sup>296</sup>

## 6. Groundwater Monitoring

Landfill leachate is at the heart of public fears about hazardous waste disposal.<sup>297</sup> Thus, all operators of surface impoundments, landfills and land treatment facilities must, as of November 19, 1981, have a groundwater monitoring program that can determine the facility's impact on the affected aquifer.<sup>298</sup> The 1982 final landfill regulations define the operator's monitoring duties.<sup>299</sup>

### F. Closure and Post-Closure Procedures and Standards

Hazardous wastes' "Waterloo" is Love Canal.<sup>300</sup> A major purpose of the EPA's regulations is to prevent another incident of this kind.<sup>301</sup> EPA attempts principally to accomplish this through closure plans,<sup>302</sup> post-closure requirements<sup>303</sup> and liability standards.<sup>304</sup> The operator's closure and post-closure requirements must be integrated with

294. *See id.* § 265.75.

295. *See id.* § 265.76.

296. *See* Comment following 40 C.F.R. § 265.76 (1983).

297. *See RCRA Oversight Hearings before the Subcomm. on Resource Protection of the Senate Committee on Environment and Public Works*, 95 Cong., 2d Sess. 2 (1978) (statement of Sen. Culver).

298. 40 C.F.R. § 265.90 (1983).

299. *See infra* notes 333-35 and accompanying text.

300. *See* M. BROWN, *LAYING WASTE: THE LOVE CANAL AND THE POISONING OF AMERICA* (1980).

301. The RCRA regulations deal with problems presented by existing sites. The Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601 (Supp. IV 1980), more commonly known as Superfund, focuses on past dumping practices or abandoned dumpsites.

302. *See* 40 C.F.R. §§ 265.112-.115 (1983).

303. *See id.* § 265.117-.118.

304. *See id.* §§ 265.140-.150 (1983).

the administration of Superfund. Closure may occur before or after an owner or operator obtains a final, Part B, permit.

### 1. Closure During Interim Status

If a facility is closed before a permit is issued, the operator must take specified steps and prepare a plan that will enable him to perform monitoring and maintenance functions for a thirty-year period following closure.<sup>305</sup>

To close a facility, landfills must be covered, storage and treatment facilities must be decontaminated and the hazardous wastes must be removed from the facility. All operators must have a closure plan that describes 1) how and when the facility will be partially or completely closed,<sup>306</sup> 2) an estimate of the largest inventory of hazardous waste in the facility at any time during its life,<sup>307</sup> 3) a description of the steps needed to decontaminate facility equipment that will be used<sup>308</sup> and 4) a schedule for final closure.<sup>309</sup> The plan must be submitted to the EPA Regional Administrator for approval at least 180 days before the operator begins actual closure.<sup>310</sup> A public hearing and written comments may be allowed at the Administrator's discretion.<sup>311</sup> Unless extended by the Administrator, all hazardous wastes must be removed within ninety days after closure begins and closure must be completed within six months after receipt of the last shipment of hazardous waste.<sup>312</sup>

### 2. Post-Closure Requirements

The regulations require facility operators to have post-closure plans.<sup>313</sup> The plans must describe groundwater monitoring activities<sup>314</sup> and planned maintenance activities for ensuring the integrity of final ground cover or containment structure.<sup>315</sup> Plans must also

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305. *See id.* § 265.117 (1982).

306. *Id.* § 265.112(a)(1).

307. *Id.* § 265.112(a)(2).

308. *Id.* § 265.112(a)(3).

309. *Id.* § 265.112(a)(4).

310. *Id.* § 265.112(c).

311. *Id.* § 265.112(d).

312. *Id.* § 265.113.

313. *Id.* § 265.118(a).

314. *See id.* § 265.118(a)(1) (1982).

315. *See id.* § 265.118(a)(2).

provide the name and address of the person who should be contacted during the post-closure period.<sup>316</sup> Additionally, the plans must incorporate several important notice requirements.<sup>317</sup> Finally, the operator must present evidence of financial responsibility.<sup>318</sup>

### 3. Post-Closure Liability

Building on the general tort law principle that a landowner who maintains a dangerous condition may be liable for some period of time after the land has been transferred, the regulations require the operator of an interim status TSD facility to estimate the annual cost of compliance with the post-closure monitoring and maintenance plan.<sup>319</sup> Annual estimates must be adjusted for inflation.

An operator may, under proposed regulations, be required to maintain either 1) a trust fund,<sup>320</sup> 2) surety bonds,<sup>321</sup> or 3) bank letters of credit to cover the costs of post-closure damage prevention.<sup>322</sup> In brief, regulations allow a trust fund to be built up over the life of the facility or twenty years whichever is shorter. The other two alternatives must be payable directly to the EPA Regional Administrator and unlike the trust fund, cannot be built up over a period of years. Surety bonds and letters of credit are more complicated than trust funds because a stand-by trust fund must be created in the institution that actually makes payment. This prevents any funds paid to the EPA from reverting immediately to the United States Treasury and being used for general purposes as opposed to post-closure costs.

In addition to financial guarantees, operators must obtain liability

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316. *See id.* § 265.118(a)(3).

317. There are three important notice requirements:

(1) The post-closure plan must be submitted to the regional administrator for his approval 180 days prior to the planned closure. *Id.* § 265.118(c).

(2) Both the EPA regional office and the "local zoning authority or the authority with jurisdiction over the local land use" must be given a survey plat. *Id.* § 265.119.

(3) The most important notice requirement is deed notation. *See id.* § 265.120. Although the regulations do not put it quite this way, post-closure status is now in effect an easement or restrictive covenant that runs with the land on the hazardous waste facility. Thus, the operator must place, pursuant to the applicable state recording act, a restriction in the deed to the property sufficient to inform subsequent purchasers that the facility is under post-closure.

318. *See id.* §§ 265.140-.150 (1983).

319. *Id.* § 265.144.

320. *Id.* § 265.145(a).

321. *Id.* § 265.145(b).

322. *Id.* § 265.145(c).

insurance.<sup>323</sup> This insurance is, in part, a substitute for the personal and property damage claims not covered by Superfund. The larger industries oppose it. How the insurance will work is not certain.

### G. *Container and Tank Requirements*

Along with closure and post-closure standards, perhaps the most important (and constantly changing) standards are those applicable to the operation and maintenance of specific TSD facilities. These interim standards are basically designed to bring existing facilities up to an acceptable level of safety. More sophisticated, higher technology facilities and all new facilities will be subject to the BEJ standards the agency promulgates. Following are some of the more important specific facility requirements.

#### 1. Containers<sup>324</sup>

A container is any "portable device in which a material is stored, transported, treated, disposed of, or otherwise handled."<sup>325</sup> The regulations mandate a level of care appropriate for the hazard stored in the container. Obviously no container should be handled so that it will leak or rupture. A difficult situation may arise during closure, when all containers must be removed. The operator, thus, may become a "generator" subject to Part 262 standards.<sup>326</sup>

#### 2. Tanks<sup>327</sup>

A tank is a "stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials. . . ."<sup>328</sup> The tank must accommodate the hazardous waste during the useful life of the tank. Tests must be conducted any time the tank holds substantially different wastes. The inspection requirements for tanks are stringent and include a response mechanism and daily inspection of the monitoring equipment. Tanks must be removed after closure, therefore, the operator faces the part 262

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323. *Id.* § 265.147.

324. 40 C.F.R. §§ 265.170-.177 (1983).

325. *Id.* § 260.10.

326. *See supra* notes 102-06.

327. 40 C.F.R. §§ 265.190-.199 (1983).

328. *Id.* § 260.10.

problem other containers present.<sup>329</sup>

#### H. *Final Regulations for Land Disposal Management Facilities— Surface Impoundments, Waste Piles, Land Treatment, and Landfills*

##### 1. History and Approach

After two proposed rulemakings<sup>330</sup> and a court order mandating the promulgation of regulations by February 1982,<sup>331</sup> the EPA issued its final land disposal regulations on July 26, 1982.<sup>332</sup> Those regulations entirely superseded the Carter Administration's January 12, 1981 standards. The EPA examined five different approaches<sup>333</sup> and finally chose a mix of "technical performance standards in conjunction with environmental performance standards."<sup>334</sup> The Agency deemed this strategy to be the best for achieving the fundamental goal of the regulations: "to minimize the migration into the environment of the hazardous component of waste placed in land disposal units."<sup>335</sup> The regulations are designed to keep the waste management unit free from liquids and to remove liquids from the unit before they enter the subsurface environment. These regulations will be the heart of the TSD regulatory program because industry has historically chosen and continues to choose land disposal as the preferred management option because of low cost compared to alternatives such as incineration (when available).

These regulations stress flexibility. They are likely to cause anxiety among affected communities because landfills are inherently controversial and the regulations do not diminish the controversy. For example, they recognize a right to use surface and subsurface media to

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329. *See id.* § 265.192.

330. 43 Fed. Reg. 58,982 (proposed Dec. 18, 1978) and 46 Fed. Reg. 11,126 (proposed Feb. 5, 1981). The regulations have been challenged by a variety of trade associations. 13 ENV'T REP. (BNA) 927 (1982).

331. *Illinois v. Gorsuch*, 530 F. Supp. 337 (D.D.C. 1981); 530 F. Supp. 340 (D.D.C. 1981).

332. 47 Fed. Reg. 32,373 (1982) (codified at 40 C.F.R. pt. 123 (1983)). *See Bromm, EPA's New Land Disposal Standards*, 12 ELR 15027 (1982).

333. There were 1) design and operating standards, 2) technical performance standards, 3) a containment standard, 4) environmental standards, and 5) a risk assessment standard. 47 Fed. Reg. at 32,284.

334. *Id.*

335. *Id.*

dispose of wastes.<sup>336</sup> Furthermore, they are designed to alleviate only the most serious groundwater contamination risks.<sup>337</sup>

Part of the controversy stems from the Agency's recognition of the inherent problems of landfills and the discretion the Agency reserved to itself. The main containment technology is the liner, but the regulations reject the contention of the waste management industry that liners are a perpetual seal against any migration from waste management units. Instead, the Agency admits that all liners may leak. Accordingly, it views their principal role as a management strategy during the active life of the landfill, but not during postclosure, when capping is required.<sup>338</sup> Some states, such as Illinois, have moved beyond RCRA and prohibit landfills if a technically feasible and economically reasonable alternative exists.<sup>339</sup>

Management facilities are divided among surface impoundments, waste piles, land treatment units and landfills. All these facilities are subject to the primary environmental performance standard unless they are exempt.<sup>340</sup> Each facility must maintain a groundwater monitoring and response program.<sup>341</sup> If concentrations in the uppermost aquifer underlying the waste management area exceed EPA limits immediately outside the point of compliance, the Regional Administrator will issue a groundwater protection standard for the permit. The point of compliance is a horizontal plane extending downward from the hydraulically downgradient of the waste management area. Thus, once concentration levels are exceeded, the EPA presumes an imminent adverse effect on groundwater. Concentration levels are measured either by numerical concentration limits for individual contaminants or, if these performance standards are not available, by any statistically significant increase in background levels of constitu-

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336. At an oversight hearing on November 30, 1982, William Sanjour, Chief of EPA's Hazardous Waste Implementation Branch told the House Science and Technology Subcommittee on Natural Resources, Agricultural Research, and the Environment that federal regulations governing land disposal of hazardous waste are inadequate to protect public health and the environment because all hazardous waste landfills eventually leak contaminants. 13 ENV'T REP. (BNA) 1276-77 (1982).

337. The agency recognizes the possibility that some increases in the levels of particular constituents in ground water will not adversely affect current and future uses of ground water. 47 Fed. Reg. 32,286 (1982).

338. *Id.* at 32,284-85.

339. ILL. ANN. STAT. ch. 111 1/2, § 1022(h) (Smith-Hurd Supp. 1982).

340. 40 C.F.R. § 265.10 (1983).

341. *Id.* § 265.90.

ents in the groundwater below the facility.<sup>342</sup> Once numerical concentrations or the existing background level is exceeded, the manager must institute a corrective action program to remove or treat in place. This rule will provide incentives to locate facilities over existing polluted aquifers. The explanation parts, consistent with the Reagan Administration's revival of resource use zoning, suggest that it is only necessary to protect groundwater supplies dedicated to public or private water supply.<sup>343</sup>

## 2. Surface Impoundments

The basic regulatory design requires a liner to prevent migration of wastes out of the impoundment (but wastes may migrate into the liner), overtopping protection, and sufficient structural integrity to support the liner.<sup>344</sup> There are two variances: one for double liners<sup>345</sup> and the other for surface impoundments that "will prevent the migration of any hazardous constituents . . . into the groundwater or surface water at any time."<sup>346</sup> The first is the most controversial because the operator is exempt from groundwater monitoring requirements. The non-exempt operator is subject to monitoring, emergency repairs, contingency planning, and post-closure duties. The primary post-closure duty is the removal or decontamination of all waste residues in the soil and subsoil.<sup>347</sup> Remaining wastes must be stabilized to a bearing capacity sufficient to support the final cover.

## 3. Waste Piles

Waste piles design and operating standards are similar to those for surface impoundments. A similar liner, with a leachate collection and removal system, must be constructed above the liner.<sup>348</sup> Similar variances are available.<sup>349</sup> The operator must remove and decontaminate the soil and subsoil, but if that is not possible, the operator must

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342. *Id.* § 265.93-.94.

343. Aquifers above background levels may be established when some increases in hazardous constituents "can be tolerated without affecting current and future uses of ground water beyond the facility." 47 Fed. Reg. 32,286 (1982).

344. 40 C.F.R. § 264.221 (1983).

345. *Id.* § 264.222.

346. *Id.* § 264.221(b).

347. *Id.* § 264.228.

348. *Id.* § 264.251.

349. *Id.* § 264.252.

close the facility and follow post-closure landfill requirements.<sup>350</sup>

#### 4. Land Treatment

Land treatment is an experimental rather than state of the art technology. The regulations describe it as "open." Instead of liners and other containment devices, land treatment uses the natural physical, chemical and biological processes occurring in the upper layers of the soil to degrade, transform and immobilize hazardous wastes. Consistent with the purpose of land treatment, the operator must designate a treatment zone and demonstrate, by field tests or laboratory analysis, that hazardous constituents can be broken down and neutralized within the treatment zone.<sup>351</sup> Food chain crops can be grown in the zone if the operator can demonstrate that there is no substantial risk to human health. Required monitoring alerts the operator of the migration of hazardous substances from the treatment zone.<sup>352</sup> The post-closure duties include the continuation of activities to break down and neutralize the material, a run-off control system, continued monitoring in the unsaturated zone,<sup>353</sup> and providing an easily maintainable vegetative cover.<sup>354</sup>

#### 5. Landfills

The basic requirement for landfills is a liner capable of preventing the migration of wastes to adjacent soil and groundwater areas.<sup>355</sup> As previously discussed, an operator may be exempt from the liner requirement if he can show that alternative design and operating practices will be safe. The most controversial exemption, which is being increasingly criticized in Congress,<sup>356</sup> is the exemption from groundwater monitoring requirements for double-lined landfills. As the EPA admits, this exclusion "involves substituting inherently uncertain predictions for ground water monitoring."<sup>357</sup> The Agency has tried to build in "a safety factor" by a set of eight technical assump-

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350. *Id.* § 264.258.

351. *Id.* §§ 265.271-.273.

352. *Id.* § 265.278.

353. *Id.* § 265.280.

354. *Id.* § 265.280.

355. *Id.* § 265.301.

356. *See* 13 ENV'T REP. (BNA) 1383 (1982).

357. 47 Fed. Reg. 32,293 (1982).



tions that "tend to maximize the estimated rate of leachate migration."<sup>358</sup> Both the exemption and the groundwater monitoring standards are simultaneously highly technical and provide ample opportunity for the agency to choose among different margins of safety. Thus, the regulations cannot be fully analyzed before they are applied.

## VII. CONCLUSION

As can be seen from this review of RCRA and the EPA regulations, there are many unanswered questions, confusing regulations, unclear standards and obligations, and regulatory gaps under the hazardous waste regulatory scheme. Determining what constitutes a "hazardous waste" is a difficult process, especially where unlisted wastes are involved. Generators have obligations to place waste into the regulatory system and to track it to the ultimate disposal point, but apparently without continuing liability if they non-negligently select the transporter and TSD facility. The transporter is regulated under a cloud of suspicion and can unintentionally become either a generator or a TSD facility because of either an accident or normal cleaning and maintenance activities. Finally, the TSD facility is in an extremely difficult position due to the lack of final regulations concerning the obligations and standards under which such facilities should operate, as well as the current controversy over the adequacy of the July 1982 regulations to protect the public health.

RCRA and the regulations promulgated under it are an important first step along with Superfund to prevent the current problems caused by the neglect of past hazardous waste disposal practices. The RCRA and the regulations, however, may simply be a first step to more of the same. There is increasing concern that our entire hazardous waste policy is misdirected. A better focus, many urge, is to reorient our policy toward the minimization of waste streams through process modifications, recycling and non-land disposal treatment options such as incineration and fixation. Perhaps the RCRA regulations will help achieve this result in a way not intended by Congress and the EPA. Many states, spurred by the inadequacies of the RCRA regulations, are moving away from land disposal. Nevertheless, for the present, the RCRA regulations are the primary check on

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358. *Id.*

**unsafe design and operation practices for old and new TSD facilities  
and for the transportation of hazardous wastes.**