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Hazardous Waste Management After Shell Oil

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COMMENT

**Hazardous Waste Management
After *Shell Oil***

LORI CARAMANIAN*

This article addresses the ramifications of the invalidation of RCRA's mixture and derived-from rules by Shell Oil Co. v. United States Environmental Protection Agency. The article discusses the effects of Shell Oil on state and federal environmental actions. It also examines the future of hazardous waste management in light of the rules' overregulation of hazardous waste. The author argues that EPA should repromulgate the rules while moving to adopt a more risk-based management strategy under which wastes will be exempt from Subtitle C regulation pursuant to their location along a proposed "continuum of control."

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I. Introduction

In 1991 the District of Columbia Circuit Court of Appeals created a crisis in the regulation of hazardous waste under the Resource Conservation and Recovery Act (RCRA). That case, *Shell Oil Co. v. United States Environmental Protection Agency*,¹ undermined the nation's hazardous waste program by invalidating the mixture and derived-from rules. The invalidation of these rules on the grounds of improper rulemaking procedure throws some elements of hazardous waste

1. 950 F.2d 741 (D.C. Cir. 1991).

management and the validity of pending cases under the rules into question. EPA must decide whether to simply reenact the rules according to proper rulemaking procedures or, instead, to redefine waste classification and disposal procedures.

Part II provides an introduction to RCRA, the mixture and derived-from rules, and an overview of the problem. The article then focuses on two main issues: Part III discusses the effects of *Shell Oil* on past and future enforcement actions and the possible rules promulgated as a result of the decision, and Part IV analyzes the case law and considers possible future rules that EPA might promulgate to regulate hazardous waste. The Hazardous Waste Identification Rule (HWIR), an alternative to the mixture and derived-from rules which was ultimately withdrawn by EPA, is discussed in detail because it is probable that HWIR in some form will be a part of any future hazardous waste management under RCRA.

II. Background: RCRA and the Mixture and Derived-from Rules

A. Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA)² was enacted to protect human health and the environment from the dangers of hazardous waste by regulating the generation, transportation, treatment and disposal of hazardous waste. The system encourages generators and storage facilities to manage hazardous wastes through conservation and reduction or elimination of the generation of solid and hazardous wastes.³ While these objectives are encouraged, the

2. Resource Conservation and Recovery Act §§ 1002-11012, 42 U.S.C. §§ 6901-6992k (1988 & Supp. III 1991).

3. Hazardous waste management is rooted in the early 1950's Public Health Service Act. This Act was the Government's first attempt to improve waste management practices at state and local levels. See S. REP. NO. 988, 94 Cong., 2d Sess. 5-6 (1976). Apparently the Act was not very successful, as a Senate Report indicates: "Although this early effort attempted to stimulate state and local improvements in the storage, collection, and disposal of solid wastes, by 1958 only 12 states had identifiable solid waste activities and 31 indicated no program at all." S. REP. NO. 988, 94th Cong., 2d Sess. 2 (1976).

regulatory program is aimed almost wholly at proper treatment and disposal.⁴ To that end, RCRA created a "cradle to grave" regulatory system to govern the generation, transportation, treatment, storage, and disposal of hazardous waste.⁵ RCRA's Subtitle C requires EPA to establish and maintain a comprehensive system for safely treating, storing, transporting and disposing of hazardous waste.⁶ There are four ways for a solid waste to enter the Subtitle C regulatory system as hazardous waste.⁷ A solid waste may be classified as a haz-

Following the Public Health Services Act, Congress enacted the Solid Waste Disposal Act of 1965, Pub. L. No. 89-272, 79 Stat. 992 (SWDA). SWDA was the first significant attempt by the government to create a national plan for solid waste management. HAZARDOUS WASTE MANAGEMENT: VOLUME I THE LAW OF TOXICS AND TOXIC SUBSTANCES 52 (George S. Dominquez & Kenneth E. Bartlett eds., 1986) [hereinafter HAZARDOUS WASTE MANAGEMENT]. SWDA had two major goals. The first goal was to stimulate development of waste minimization methods through recovery and utilization of waste. *Id.* The second goal was to provide both technical and monetary assistance to the states for the creation and implementation of waste disposal programs. *Id.* SWDA did not, however, provide the government with any regulatory powers over solid waste. *Id.*

In 1970, Congress finally recognized the need for a program that would govern wastes determined to be hazardous. *Id.* As such, it enacted the Resource Recovery Act of 1970, Pub. L. No. 91-512, 84 Stat. 1228 (RRA). Enactment of RRA marked a shift in governmental thinking away from disposal of wastes and toward recovery of reusable material and energy. *Id.* RRA also gave the federal government some regulatory powers. It allowed the Secretary of Health, Education and Welfare to issue guidelines on waste management practices that would be mandatory for federal agencies and advisory for others. *Id.* at 53. No independent RRA exists today; however, its goals have been incorporated into subsequent legislation. See 42 U.S.C. § 6901-6992k.

By 1976, hazardous waste seriously threatened the health of the country. CHARLES M. CHADD ET AL., AVOIDING LIABILITY FOR HAZARDOUS WASTE: RCRA, CERCLA AND RELATED CORPORATE LAW ISSUES A-3 (1991) [hereinafter AVOIDING LIABILITY FOR HAZARDOUS WASTE]. Chemical wastes which were haphazardly disposed of contaminated ground water, drinking water, air and land. Millions of tons of materials were being buried in landfills instead of being recycled. Although the Resource Conservation and Recovery Act (RCRA) was an amendment to SWDA, RCRA focuses specifically on the problems of dealing with the ongoing management of hazardous waste. *Id.*

4. RCRA, 42 U.S.C. §§ 6901-6992k.

5. HAZARDOUS WASTE MANAGEMENT, *supra* note 3, at 52.

6. *Id.* at 80.

7. A solid waste is "any discarded material" falling into any one of three categories: Abandoned materials, inherently waste-like materials, or secondary materials that have been recycled in specific ways. 40 C.F.R. § 261.2 (1992).

ardous waste (1) when it is a "listed waste,"⁸ or (2) when it is a "characteristic waste" exhibiting one of four characteristics: ignitability,⁹ corrosivity,¹⁰ reactivity,¹¹ or toxicity,¹² (3) when it is a waste mixed with either a listed or characteristic

Abandoned material is subject to regulation if it is (1) disposed of; (2) burned or incinerated; or (3) accumulated, stored or treated prior to (1) and (2). *Id.*

Inherently waste-like material is subject to regulation if it is: (1) ordinarily disposed of, burned or incinerated, or (2) contains toxic constituents listed in 40 C.F.R. § 261 (1992), Appendix VIII, which are not ordinarily found in raw materials or products for which the materials substitute; and (3) may pose a substantial hazard to human health and the environment. 40 C.F.R. § 261.2(d) (1992).

Secondary materials include: (1) spent materials; (2) pollution control sludges; (3) by-products; (4) discarded commercial chemical products listed in 40 C.F.R. § 261.33 (1992); and (5) scrap metals. They are subject to regulation when they are recycled as follows: (1) used in a manner constituting disposal; (2) burned for energy recovery, used to produce a fuel, or contained in fuel; (3) reclaimed; or (4) accumulated speculatively. 40 C.F.R. § 261.2(d) (1992).

8. JOHN-MARK STENSVAAG, HAZARDOUS WASTE LAW & PRACTICE 5-30 (1989) [hereinafter STENSVAAG]. Listed wastes are those wastes that are enumerated in EPA regulations. 40 C.F.R. § 261 (1992).

9. Ignitability is determined according to 40 C.F.R. § 261.21 (1992). Non-aqueous liquids are considered ignitable if they are less than 24 percent alcohol by volume and have a flash point of less than 60 degrees centigrade. Non-liquids are ignitable if they are capable, under standard temperature and pressure, of spontaneously causing fire through friction, absorption of moisture, or spontaneous chemical changes and when ignited burn so vigorously and persistently as to create a hazard.

10. Aqueous materials are considered corrosives if they have a pH less than or equal to 2 or greater than or equal to 12.5 as determined by specified test methods. Liquids may also be considered corrosive as determined by specified test methods. 40 C.F.R. § 261.22 (1992).

11. Under 40 C.F.R. § 261.23 (1992) a solid waste is considered a reactive hazardous waste if: (1) it normally is unstable and readily undergoes violent change without detonation; (2) it reacts violently with water; (3) it forms potentially explosive mixtures with water; (4) it generates toxic gas vapors or fumes in a quantity sufficient to present a danger to human health or the environment when mixed with water; (5) it is a cyanide or sulfur-bearing waste that can generate toxic gases, vapors or fumes when exposed to high or low pH conditions; (6) it is capable of detonation or explosive reaction when subject to an initiating source or heat under confinement; or (7) it is classified as a forbidden explosive or Class A or Class B explosive under Department of Transportation regulations.

12. Toxicity is defined at 40 C.F.R. § 261.24 (1992). A solid waste will be considered toxic if concentrations of specified contaminants in the waste extract (obtained by specified test methods) exceed listed regulatory levels.

waste,¹³ or (4) when a waste is derived from either a "listed" or "characteristic waste."¹⁴ Generally speaking, once a waste enters the system "a hazardous waste will remain a hazardous waste."¹⁵

Under RCRA, it is the waste generator's responsibility to determine whether a waste is hazardous;¹⁶ however, EPA regulations do not require the generator to specifically test every waste to determine hazardousness.¹⁷ EPA regulations allow the generator to base its judgment of the hazardous nature of a solid waste on the generator's "knowledge of the hazardous characteristic of the waste in light of the materials or the processes used."¹⁸ A mistake about the hazardousness of the material, regardless of the fact that it occurs in good faith, subjects the generator to liability.¹⁹ Criminal penalties may be imposed on the generator when its actual knowledge of the waste's hazardous nature is an issue.²⁰

B. The Mixture and Derived-From Rules

The mixture rule provides that the mixture of a listed hazardous waste with a solid waste material is a hazardous waste.²¹ The mixture rule further provides that a combination of a characteristic hazardous waste and a solid waste is a hazardous waste unless the resulting waste does not exhibit any of the four hazardous characteristics.²²

13. 40 C.F.R. § 261.3(a)(2)(iv) (1992).

14. 40 C.F.R. § 261.3(c)(2)(i) (1992).

15. 40 C.F.R. § 261.3(c)(1) (1992).

16. 45 Fed. Reg. 12,726-27 (1980). *See also* STENSVAAK, *supra* note 8, at 5-12 to 5-13.

17. *Id.*

18. 40 C.F.R. § 262.11(c)(2) (1992).

19. *See* HAZARDOUS WASTE MANAGEMENT, *supra* note 3, at 114.

20. 42 U.S.C. § 6928(d)(2)(A) (1988 & Supp. III 1991).

21. 40 C.F.R. § 261.3(a)(2)(iv) (1992). Specifically, a mixed waste is regulated as hazardous if:

[i]t is a mixture of solid waste and one or more hazardous wastes listed in subpart D of this part and has not been excluded from paragraph (a)(2) of this section under §§ 260.20 and 260.22 of this chapter

Id.

22. 40 C.F.R. § 261.3(a)(2)(iii) (1992).

The derived-from rule is intended to regulate products of the treatment, storage or disposal of hazardous waste.²³ It provides that solid wastes generated from the treatment, storage or disposal of hazardous waste are hazardous wastes.²⁴ The rule does not encompass the entire spectrum of derived-from wastes. Wastes that are derived from characteristic wastes but which do not exhibit a characteristic are exempt from the rule. Wastes derived from listed wastes remain subject to the rule.²⁵ Nevertheless, industry complains the rule is overinclusive in that it regulates too many waste mixtures and derivatives that are not hazardous.²⁶ EPA counters that without the rule owners and operators of treatment, storage and disposal facilities (TSDs) can evade regulation by manipulating the waste and asserting it no longer exhibits a hazardous characteristic. Even if such a residue does not exhibit a hazardous characteristic, it may continue to present other serious environmental or health hazards.²⁷

Delisting is offered by EPA as a way to escape RCRA's regulatory system. Delisting is the mechanism by which a particular waste may be removed from the list of hazardous wastes established by EPA under RCRA.²⁸ Delisting allows a person to file a petition with EPA to remove a specific listed waste from RCRA's purview by demonstrating that the waste does not pose a hazard.²⁹ The person managing the waste has the burden of proving that the waste is no longer hazardous.³⁰ Delisting is a rigorous process under which the EPA must follow formal rulemaking requirements.³¹ The criteria

23. 40 C.F.R. § 261.3(c)(2)(i) (1992).

24. *Id.* The derived-from rule specifically provides that "any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste." *Id.*

25. 40 C.F.R. § 261.3(d)(1) (1992). See also 21 Env'tl. L. Rep. (Env'tl. L. Inst.) 10,033, 10,039 (Jan. 1991).

26. *D.C. Court Overturns RCRA Mixture, Derived-From Rules on Technicalities*, 49 HAZARDOUS WASTE NEWS, Dec. 19, 1991.

27. 45 Fed. Reg. 33,096 (1980).

28. 40 C.F.R. § 260.22 (1992). See also 57 Fed. Reg. 21,453 (1992).

29. *Id.*

30. 40 C.F.R. § 260.22(a)(1) (1992).

31. 42 U.S.C. § 6921(f)(2) (1988 & Supp. III 1991).

for delisting are often more extensive than that under which wastes are originally listed.³² Costs in both time and money make delisting a very unattractive alternative for the generator and also consume valuable EPA resources.³³ Therefore, in reality, delisting is not a viable alternative, and many wastes which probably are not dangerous remain within the RCRA system.³⁴ According to the Chemical Manufacturers Association (CMA), such wastes include: low concentration diluted wastewaters; wastes contained in environmental media that are being cleaned up under RCRA or other statutes; and treatment residues that no longer contain hazardous constituents above a threshold level.³⁵ Furthermore, CMA believes that some listed wastes could be recycled.³⁶

Once a waste has been listed as hazardous, it remains within the purview of RCRA unless it is subsequently delisted. The mixture rule generally applies to listed wastes. Therefore, if an unlisted characteristic hazardous waste is mixed with a solid waste, the resulting mixture is not hazardous if it no longer exhibits a hazardous characteristic.³⁷ The mixture rule was intended to close a major loophole in RCRA regulation. Without the rule, generators could evade statutory requirements by diluting hazardous waste with nonhazardous waste to create a waste which would escape regulation. Such a waste, however, could still pose serious problems.³⁸ Many wastes are still toxic after they are managed or mixed and present the same hazard as when the waste was generated. Mixed wastes containing toxic materials can be introduced into the environment in various ways; they could be burned as fuel or processed into consumer and

32. William F. Pedersen, Jr., *The Future of Solid Waste Regulation*, 16 COLUM. J. ENVTL. L. 121-22 (1991).

33. Kenneth M. Kastner, *RCRA at a Crossroads—Whether To Regulate Hazardous Waste Based on Risk or Technological Controls*, [24 Analysis and Perspective] Env't Rep. (BNA) No. 5, at 246 (June 4, 1993).

34. *Id.*

35. *De Minimis Concept Gets Industry Support For Waste Exclusion*, PESTICIDE AND TOXIC CHEMICAL NEWS, Apr. 22, 1992, available in LEXIS, Envirn, Pubs.

36. *Id.*

37. 40 C.F.R. § 261.3(a)(2)(iii) (1992).

38. 57 Fed. Reg. 7,628 (1992).

commercial products.³⁹ Wastes mistakenly classified as non-hazardous could be disposed of in municipal or unregulated landfills.⁴⁰ Although the mixture and derived-from rules overregulate somewhat by governing wastes that may not pose a serious problem, the status of a mixed or treated waste, absent the rules, would be in question.⁴¹

Environmental groups, along with the Hazardous Waste Treatment Council, support retention of the mixture and derived-from rules. These groups are opposed to revising the rules because thus far proposed revisions utilize an "honor system" to ensure that hazardous waste generators and TSDs comply.⁴² The proposed revisions would require only a one-time notice to EPA, and do not allow for public involvement in the exemption process.⁴³ The danger is that under the revisions generators would be able to claim an exemption based solely on their own knowledge, without analytical testing of the hazardous waste.⁴⁴

Manufacturing groups, on the other hand, charge that the rules overregulate hazardous waste,⁴⁵ causing many wastes that do not pose a threat to be classified as hazardous. Industry alleges that the mixture and derived-from rules are responsible for misallocated resources resulting in unwarranted costs for permitting and manifesting, excessive delisting petitions, unnecessary capacity for treatment and disposal, needless federal and state oversight, and public anxiety about wastes improperly identified as hazardous.⁴⁶ Industry groups support an alternative to the rules which

39. *Id.* at 7,630.

40. *Id.* at 7,629.

41. *Id.*

42. *Treatment Council Charges EPA's Low-Risk Waste Proposal "Guts" RCRA*, INTEGRATED WASTE MGMT., May 27, 1992 at 7.

43. *Id.*

44. *Id.*

45. *EPA Asks for Rehearing, Clarification of Decision on Mixture, Derived-From Rules*, [22 Current Developments] Env't Rep. (BNA) No. 39, at 2175 (Jan. 24, 1992).

46. *Regulatory Options for Waste Exemption Sent to OMB, Targeted for Signature April 28*, [22 Current Developments] Env't Rep. (BNA) No. 52, at 2859 (Apr. 24, 1992).

would set risk-based standards along a continuum instead of the technology-based standards currently in place.⁴⁷

Numerous substantive challenges to the rules were made in the courts,⁴⁸ but none succeeded until 1991 when the District of Columbia Circuit Court of Appeals vacated RCRA's mixture and derived-from rules in *Shell Oil Co. v. EPA*.⁴⁹ While the case was a victory for industry groups, it did not completely vindicate industry claims that the rules are too stringent and overbroad.⁵⁰ The *Shell Oil* court never addressed the substance of the rules and instead invalidated them on procedural grounds. It held that EPA failed to give sufficient notice and opportunity for comment as required under the Administrative Procedure Act.⁵¹

There are two significant problems associated with the court's decision to vacate these rules. One concerns the effect of the *Shell Oil* decision on cases which were in litigation at the time the decision was handed down. The other problem pertains to the future of the mixture and derived-from rules and the rules' impact on the future regulation of hazardous waste.

III. Effects of the Invalidation of the Mixture and Derived-from Rules

A. The *Shell Oil* Decision

EPA did not have to wait long for complaints about the mixture and derived-from rules. The first challenges were filed on May 20, 1980, the day after the rules were promul-

47. *Id.* Under the risk continuum, wastes that pose little or no hazard would exit the RCRA system easily with correspondingly more difficult exits for more hazardous wastes.

48. 57 Fed. Reg. 7,628 (1992).

49. 950 F.2d 741 (D.C. Cir. 1991).

50. See *EPA Asks for Rehearing, Clarification of Decision on Mixture, Derived-From Rules*, [22 Current Developments] Env't Rep. (BNA) No. 39, at 2175 (Jan. 24, 1992). Michael Steinberg, the attorney who represented Shell, complained that the rules "cast a net that swept in all mixtures and residues involved." He complained that "[t]here's only so many cubic yards of capacity [at hazardous waste facilities] out there and we are using it up." *Id.*

51. 950 F.2d at 741.

gated.⁵² Ten years later, *Shell Oil Co. v. EPA* was decided.⁵³ Although *Shell Oil* was a victory, the verdict did not completely satisfy industry groups⁵⁴ because the D.C. Circuit Court of Appeals based its decision to vacate on the fact that EPA failed to properly promulgate the rules.⁵⁵ However, the industry groups' victory is significant since the regulated community now has a chance to influence the way hazardous waste is defined when the regulations are repromulgated.

Under the Administrative Procedure Act, federal agencies must provide the public with notice and an opportunity to comment on proposed rulemaking.⁵⁶ The final rule must bear a reasonable relationship to the proposed rulemaking, although the two may vary. If the final rule is not a logical outgrowth of the proposed regulation, the rule will be invalidated because the "affected parties will not have had adequate notice and opportunity for comment."⁵⁷ "The test . . . [of whether a final rule is a logical outgrowth of a proposed

52. 45 Fed. Reg. 33,119-120 (1980).

53. 950 F.2d at 741.

54. Petitioners filed a consolidated brief on behalf of American Iron and Steel Institute, American Mining Congress, American Petroleum Institute *et al.*, Chemical Manufacturers Association, Cyprus Foote Mineral Company, Dawn Mining Company, Edison Electric Institute *et al.*, Ford Motor Co., Idarado Mining Co., Kennecott Corp., Magma Copper Co., Newmont Gold Co., Shell Oil Co., and on behalf of intervenors Cincinnati Gas & Electric Co. *et al.*, *Shell Oil*, 950 F.2d at 744-45 n.1.

55. *Id.* at 765.

56. Administrative Procedure Act, 5 U.S.C. § 553(b) (1988 & Supp.) [hereinafter APA]. Section 553(b) of the APA requires "general notice of the proposed rulemaking shall be published in the Federal Register, unless persons subject thereto are named and either personally served or otherwise have actual notice . . ." This notice must include: "(1) a statement of the time, place and nature of public rulemaking proceedings; (2) reference to the legal authority under which the rule is proposed; and (3) either the terms or substance of the proposed rule or a description of the subjects and issues involved." *Id.*

Section 553(b)(3)(B) provides that the agency may bypass this notice procedure if it finds "for good cause . . . that notice and public procedure thereon are impracticable, unnecessary or contrary to the public interest."

Section 553(d) states that publication must take place at least 30 days before the rule's effective date, unless (1) a substantive rule which grants an exemption or relieves a restriction; (2) the rule is interpretive or a statement of policy; or (3) as provided by the agency for good cause and published with the rule.

57. *Shell Oil*, 950 F.2d at 747.

rule] . . . is whether . . . [a generator] . . . should have anticipated that such a requirement might be imposed.”⁵⁸ While generators argue that dilution of hazardous waste may render it innocuous, the EPA argued that the rule was not a complete surprise in that generators should have known that dilution is not a solution.⁵⁹ EPA’s argument, however, ignored the requirement that the final rule must be a logical outgrowth of the proposed rule. The court held that the rule was not a logical outgrowth, despite EPA’s claims that because it gave implied notice industry groups should have known that the rules could be promulgated. The court stated that “an unexpressed intention cannot convert a final rule into a ‘logical outgrowth’ that the public should have anticipated. Interested parties cannot be expected to divine the EPA’s unspoken thoughts.”⁶⁰ The court agreed with industry’s claims that the mixture and derived-from rules were not part of the proposed regulations, appeared only in the final rules, and, as such, were not validly promulgated under the APA.⁶¹

EPA admitted that the mixture rule was “a new provision” and that it had no “direct counterpart in the proposed regulations.”⁶² The proposed mixture rule provided that a waste would be treated as a hazardous waste if it possessed any of the characteristics defined in 40 C.F.R. § 250.14 or if it met the definition of hazardous waste found in 42 U.S.C. § 6903(4).⁶³ By contrast, the final rule defined a solid waste as one that is either: listed in Subpart D and not excluded

58. *Small Refiner Lead Phase-Down Task Force v. US EPA*, 705 F.2d 506, 548-49 (D.C. Cir. 1983).

59. *Shell Oil*, 950 F.2d at 749-50. EPA opposes dilution as a solution to disposing of hazardous waste because it is contrary to the policy of RCRA to minimize generation of hazardous wastes. The Agency also opposes dilution for technical reasons. Where other alternatives to reducing toxicant concentrations are available, dilution is inappropriate because dilution results in the same mass of a toxicant being released to the environment as would be disposed of if the waste were undiluted. 57 Fed. Reg. 21,450, 21,485 (1992).

60. *Id.* at 751.

61. *Id.* at 747.

62. *Shell Oil*, 950 F.2d at 749 (citing 45 Fed. Reg. 33,095 (1980)).

63. 43 Fed. Reg. 58,955 (1978) (to be codified at 40 C.F.R. § 250.12(a)(b)) (proposed Dec. 18, 1978).

from the lists in that subpart; *is a mixture of solid wastes and one or more hazardous wastes listed in Subpart D and is not excluded*; or exhibits any hazardous characteristics.⁶⁴ The final mixture rule was significantly different and not a logical outgrowth of the proposed rule.

EPA claimed the rule was the only way to prevent disposal of listed waste through dilution, since it could not devise specific waste-treatment standards to distinguish processes which produce hazardous waste from those which do not.⁶⁵ Without the mixture rule, a generator could simply evade entering the RCRA system by mixing a listed hazardous waste with a nonhazardous solid waste to create a waste that did not exhibit a hazardous characteristic but which was hazardous for some other reason.⁶⁶ EPA argued that the court should not vacate the rule, because it merely explained the Agency's intent to require that listed wastes remain within the purview of RCRA until they are delisted.⁶⁷ Therefore, because industry should have known that a generator could not avoid RCRA regulation simply by diluting waste, "the rule cannot be seen as a 'bolt from the blue.'"⁶⁸

Shell Oil and the other industry groups also challenged the derived-from rule. EPA's arguments for retaining the derived-from rule were similar to those for retaining the mixture rule. As discussed in Part II, the derived-from rule provided that the products of the treatment, storage or disposal of listed hazardous wastes will continue to be regulated by RCRA.⁶⁹ EPA argued that those products generally continue to pose a threat to the environment, maintaining that the rules were defensible because the agency was unable to prescribe waste-specific treatment standards that would identify which processes generated hazardous waste and which did not.⁷⁰ Although EPA conceded that the rule was a new provi-

64. *Shell Oil*, 950 F.2d at 748 (citing 43 Fed. Reg. 58,955 (1978) and 45 Fed. Reg. 33,119 (1980)) (emphasis added).

65. 950 F.2d at 749.

66. *Id.* at 749 (citing 45 Fed. Reg. 33,095 (1980)).

67. 950 F.2d at 749.

68. *Id.* at 749-50.

69. *Id.* at 750 (citing 45 Fed. Reg. 33,120 (1980)).

70. 950 F.2d at 750 (citing 45 Fed. Reg. 33,096 (1980)).

sion, it stated that the rule was nevertheless, "added both in response to comment and as a logical outgrowth of [40 C.F.R. § 261.3(b)]."⁷¹

Even though it vacated the rules, the court recognized the dangers posed by a discontinuity in the regulation of hazardous waste. Specifically, while the court concluded that the "mixture and derived-from rules must be set aside and remanded to the EPA," it noted that "[i]n light of the dangers that may be posed by a discontinuity in the regulation of hazardous wastes . . . the agency may wish to consider reenacting the rules, in whole or part, on an interim basis under the 'good cause' exemption of 5 U.S.C. § 553(b)(3)(B),"⁷² the APA.⁷³ The *Shell Oil* court was concerned about the effects of a gap in regulation.⁷⁴ Thus, the court stated the notice requirement of the APA could be relaxed because controlling the dangers of hazardous waste constituted "good cause." Notice and public procedure were impracticable since those affected could not be reached immediately and irreparable harm could be inflicted on the environment.⁷⁵ Consequently, EPA repromulgated the rules on an interim basis on March 3, 1992.⁷⁶

B. Implications of the *Shell Oil* Decision

EPA contended that the *Shell Oil* decision was not intended to affect enforcement actions pending at the time *Shell Oil* was decided.⁷⁷ EPA asked the D.C. Circuit Court of Appeals to clarify whether its decision in *Shell Oil* was intended to apply retroactively, but the court declined to do

71. *Id.*

72. The code provides an exception to the notice requirement "when the agency for good cause finds . . . that notice and public procedure . . . are impracticable, unnecessary, or contrary to public interest." 5 U.S.C. § 553(b)(3)(B) (1988 & Supp.).

73. *Id.* at 752.

74. 950 F.2d at 750.

75. *Inadequate Notice Cited for Mixtures / Derived*, 23 GROUND WATER MONITOR, Nov. 17, 1992.

76. 57 Fed. Reg. 7,628 (1992).

77. 57 Fed. Reg. 7,630 (1992).

so.⁷⁸ However, the court's suggestion that the interim rules be enacted appears to support EPA's position that the interim rules prevented a gap in enforcement.⁷⁹ Although EPA's position has not yet found support in case law, it is the most reasonable interpretation of the *Shell Oil* decision and provides the greatest protection against a gap in regulation. Conversely, if subsequent cases insist on applying *Shell Oil* retroactively, the dangers of such gaps that concerned the D.C. Circuit will most likely come to pass.

1. Criminal Enforcement: *United States v. Goodner Brothers Aircraft*

The dangers posed by a gap in regulation became apparent soon after the *Shell Oil* decision. Although *Shell Oil* warned of the hazards of these gaps, the Eighth Circuit, in *United States v. Goodner Brothers Aircraft*,⁸⁰ held that the rules could not apply to any case that began before December 6, 1991, the date *Shell Oil* was decided.⁸¹ The court held that EPA could not rely on the mixture rule in past criminal and civil enforcement.⁸²

At trial, the jury convicted Goodner Brothers of criminal violations of RCRA.⁸³ Goodner Brothers was in the business of repainting airplanes.⁸⁴ Solvents were sprayed on the airplanes to remove old paint prior to repainting.⁸⁵ The waste paint and spent solvents were dumped into a ravine at the Goodner Brothers' farm.⁸⁶ In 1988, a neighbor notified the authorities after she noticed "two men dumping creamy beige, toxic-smelling waste into a ravine" on the Goodner Brothers property.⁸⁷ Goodner Brothers Aircraft and Junior

78. *Shell Oil Co. v. E.P.A.*, No. 80-1532, et al. (D.C. Cir. Mar. 5, 1992) (order denying motion for clarification).

79. 57 Fed. Reg. 7,630 (1992).

80. 966 F.2d 380 (8th Cir. 1992) *cert. denied*, 113 S. Ct. 967 (1993).

81. *Id.* at 384.

82. *Id.*

83. *Id.* at 383.

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.*

Goodner, the owner and operator, were indicted on several counts of violations of RCRA and CERCLA.⁸⁸ Five counts were violations of RCRA § 3008(d)(2)(A) which provides criminal penalties for knowingly treating, storing or disposing of hazardous wastes without a permit. One of the jury instructions stated that in order to find Goodner Brothers guilty, the jury must determine that the wastes were listed or exhibited a hazardous characteristic.⁸⁹ Since it was unclear whether the jury convicted because the waste was a listed waste or a hazardous waste pursuant to the mixture rule, Goodner Brothers Aircraft and Junior Goodner's convictions were subsequently reversed on the grounds that the mixture rule was void.⁹⁰

The Eighth Circuit held that the D.C. Circuit Court of Appeals intended the invalidation of the rules to apply retroactively.⁹¹ The court reasoned that its decision was consistent with the Supreme Court holding in *James B. Beam Distilling Co. v. Georgia*.⁹² The Court held that "full retroactivity is the normal rule in civil cases" but that an exception to the normal rule applies when a law changes to make acts criminal that were not criminal earlier.⁹³ The Eighth Circuit rejected the government's argument that the *Shell Oil* decision was only intended to apply prospectively because the D.C. Circuit used the language "vacate" and "set aside."⁹⁴ The court reasoned that because vacate means to annul, cancel, deprive of force, validity or authority, that language supersedes the court's discussion of the dangers posed by a gap in regulation.⁹⁵ The court reasoned that the latter is merely a comment which could possibly refer to the "practical effect of the invalidation . . . with respect to the compliance prac-

88. *Id.* RCRA §§ 1002-11012, 42 U.S.C. §§ 6901-6992k (1988 & Supp. III 1991), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §§ 101-405, 42 U.S.C. §§ 9601-9675 (1988 & Supp. III 1991).

89. *Goodner Brothers*, 966 F.2d at 384.

90. *Id.*

91. *Id.*

92. 111 S. Ct. 2439 (1991).

93. *Id.*

94. *Goodner Brothers*, 966 F.2d at 384.

95. *Id.*

tices of the regulated industry rather than referring to the legal force of the mixture rule.”⁹⁶ Finally, because the court applied the invalidation of the rule to the parties before it, under *James B. Beam Distilling*, the Eighth Circuit found that the mixture rule was void *ab initio* and the *Shell Oil* decision thus applied retroactively.⁹⁷

2. Civil Enforcement: *In re Hardin County*

In *In re Hardin County*,⁹⁸ an EPA administrative law judge (ALJ) held that the *Shell Oil* decision did indeed apply retroactively and consequently dismissed an EPA complaint that alleged violations of RCRA by Hardin County at an unpermitted landfill.⁹⁹ Although EPA cited the *Shell Oil* court’s warning of the dangers of discontinuity,¹⁰⁰ the ALJ dismissed the language as *dicta*, and followed *Goodner Brothers* in holding that the mixture and derived-from rules were “of no authority or validity” as of the date of the *Shell* decision.¹⁰¹

EPA appealed the decision, and asked the EPA’s Environmental Appeals Board (EAB) to determine that *Shell Oil* did not invalidate the mixture rule retroactively.¹⁰² Again, EPA contended that the rule was invalidated only prospectively, and since it reissued the rules on an interim basis there was no gap in enforcement.¹⁰³ The EAB refused to con-

96. *Id.*

97. *Id.* at 385. Although the Eighth Circuit reversed the RCRA convictions, it upheld Goodner’s conviction under CERCLA for failure to report releases of hazardous substances to EPA. Goodner appealed his conviction to the Supreme Court, claiming that the waste product, solvent mixed with dried paint, did not create a hazardous waste because it was not specifically listed by RCRA and did not exhibit a hazardous characteristic. Goodner claims that by upholding jury instructions that said that the substance was a hazardous waste because it contained methylene chloride, the appellate court erred by applying the mixture rule to the substance even though the rule had been invalidated. The Supreme Court denied the petition. 113 S. Ct. 967 (1993).

98. No. RCRA-V-W-89-R-29, 1992 RCRA LEXIS 23, at *15 (USEPA July 10, 1992).

99. *Id.* at *15.

100. *Id.* at *6.

101. *Id.* at *10.

102. *In re Hardin County*, No. RCRA-V-89-R-29, 1992 RCRA LEXIS 102, at *5 (USEPA Nov. 6, 1992).

103. *Id.*

sider the issue on the grounds that the complaint inaccurately alleged violations of the federal mixture rule.¹⁰⁴ The EAB indicated that the complaint should have alleged violations of the state mixture rule since some of the violations may have occurred while Ohio was authorized to administer and enforce RCRA under section 3006.¹⁰⁵ If so, those violations would be covered by the Ohio mixture rule and the question of whether *Shell Oil* applies only prospectively need not be resolved.¹⁰⁶ Because the dates of the violations were not alleged, it was unclear whether the violations were governed by the federal or state mixture rule and the issue of the retrospectivity of *Shell Oil* was not before the Board.¹⁰⁷

In 1993, in the latest ruling in *In re Hardin County*, the ALJ finally addressed the question of whether EPA was authorized to enforce Ohio's mixture rule.¹⁰⁸ The ALJ held that EPA did not have authority to do so.¹⁰⁹ EPA argued that even if it could not enforce the federal rule, it could still en-

104. *Id.* at *6-*7. Under RCRA § 3006, EPA may authorize any state to administer and enforce a hazardous waste program. To obtain EPA authorization, the state program must be the equivalent to the federal program and consistent with the hazardous waste programs applicable in other states. RCRA § 3006(b). In addition, the state must provide adequate enforcement. *Id.* at *7. Section 3008(a)(1) of RCRA specifically allows EPA to bring an enforcement action in an authorized state for violations of the state's hazardous waste regulations. *Id.* at *7-*8. In this case, the State of Ohio received its interim authorization under RCRA § 3006(c) on July 15, 1983, thus enabling EPA to enforce the requirements of Ohio's hazardous waste program commencing on that date. *Id.* at *10.

105. *Id.*

106. *Id.* at *13-*14. The Board noted that the validity of state mixture rules, and by implication, derived-from rules, is not at issue because they would have been promulgated under procedures different from those used by the EPA to promulgate the federal rule. *Id.* at *13-*14 n.6. The Board noted that since the Ohio rule is identical to the federal rule EPA's failure to cite the Ohio regulations in the complaint was harmless error as far as the evidentiary phase of the proceeding is concerned. *Id.* at *15-*16, n.8. The Ohio mixture rule is codified at OHIO ADMIN. CODE, § 3745-51-03(A)(2)(f). The Ohio EPA had determined that the wastes in the Hardin County landfill were hazardous. *In re Hardin*, 1992 RCRA LEXIS at *15-*16. The suit was brought by the Region V office of the EPA. *Id.*

107. *Id.* at *16.

108. *In re Hardin County*, RCRA-V-W-89-R-29, 1993 RCRA LEXIS 109 (May 27, 1993) (order denying motion for leave to file amended complaint).

109. *Id.* at *1.

force the state rule because the Ohio regulations were in effect during most of the time when the Hardin County landfill violations occurred.¹¹⁰ EPA maintained that RCRA § 3009 authorizes it to enforce state regulations that are more stringent than federal regulations.¹¹¹ EPA acknowledged that it could not enforce regulations broader in scope than federal regulations, but it maintained that the Ohio regulations were only more stringent, not broader than federal regulations.¹¹² Thus, EPA concluded that its failure to cite Ohio regulations in the complaint was harmless error since the federal regulations were identical to Ohio state regulations.¹¹³

EPA stated that it uses two criteria to determine whether regulations are more stringent or broader in scope than federal regulations.¹¹⁴ First, EPA considers whether the state regulation expands the size of the regulated community beyond that community which is federally regulated.¹¹⁵ If it does not increase the size, EPA looks to see whether the state requirement has a direct federal counterpart.¹¹⁶ EPA maintained that the scope of the regulated community is defined by the listing of hazardous waste, not by regulations that govern its management.¹¹⁷ Therefore, since listed wastes would still be within the limits of RCRA following their mixture, the regulated community is the same.¹¹⁸ EPA next argued that a direct federal counterpart to the state program is the federal listing of the waste as hazardous.¹¹⁹ Since the state and federal listings for the wastes at issue in *In re Hardin County* are identical, EPA asserted that the state mixture rule only clarified management of the waste.¹²⁰

110. *Id.* at *6.

111. *Id.* at *8-9.

112. *Id.* at *8.

113. *Id.* at *7.

114. *Id.* at *9.

115. *Id.* at *10.

116. *Id.*

117. *Id.* at *11.

118. *Id.*

119. *Id.* at *12.

120. *Id.*

Conversely, Hardin County argued that the ALJ should affirm the order dismissing the complaint since the federal mixture rule did not exist during the relevant period of alleged violations, having been invalidated by *Shell Oil*.¹²¹ Hardin County countered EPA's argument that it could enforce the state regulations because they are more stringent, alleging that EPA does not have the statutory authority to do so.¹²² Hardin County asserted that, while Congress authorized states to adopt more stringent standards, it did not extend the authority to enforce them to EPA.¹²³ Hardin County pointed out that RCRA § 3008(a)(1)¹²⁴ specifically authorizes the Administrator to proceed when a person "has violated or is in violation of any requirement of this subchapter,"¹²⁵ but does not mention authorization of EPA to prosecute more stringent state requirements.¹²⁶ Further, the fact that § 3009 allows states to impose more stringent requirements along with the language of 40 C.F.R. § 271.1(i)(1) stating that a *state* may adopt and enforce more stringent standards, necessarily exclude EPA from asserting jurisdiction.¹²⁷

Although the ALJ questioned the continued validity of the state mixture rule, the decision presumed that it was valid.¹²⁸ The ALJ, however, rejected the Agency's motion to file an amended complaint. Reading the legislative history, the ALJ held that EPA's claim that the rule did not increase the size of the regulated community "doesn't pass muster."¹²⁹ As the ALJ saw it, the mixture rule "clearly increased the size of the regulated community." Without the rule, generators could escape regulation by mixing listed wastes with non-hazardous wastes. Thus, the size of the regulated community would be smaller.¹³⁰

121. *Id.* at *14.

122. *Id.* at *15.

123. *Id.* at *15-17.

124. *Id.* at *16. *See also* RCRA § 3008(a)(1), 42 U.S.C. § 6929(a)(1).

125. RCRA § 3008(a)(1), 42 U.S.C. § 6929(a)(1).

126. *Hardin* at *16.

127. *Id.* (emphasis added).

128. *Id.* at *20.

129. *Id.* at *24.

130. *Id.*

Even if EPA could satisfy the first prong of its jurisdictional test by showing that the rule does not expand the size of the regulated community, the ALJ held that it could not meet the second prong because since the vacatur of the federal mixture rule necessarily meant that there could be no state counterpart.¹³¹ Thus, EPA had no jurisdiction over Hardin County since the state rule is broader in scope than the federal program.¹³² The ALJ flatly rejected EPA's contention that the original listing of hazardous waste is the federal rule and thus conferred jurisdiction because of identity with its state counterpart, stating merely that the claim was "erroneous."¹³³ Therefore, since the EPA could not prevail, even if it were allowed to amend its complaint, the ALJ denied EPA's motion.¹³⁴

3. Current Status of the Rules

Industry is currently governed by the interim rules EPA promulgated at the suggestion of the *Shell Oil* court.¹³⁵ Dissatisfied with the interim rules, Mobil Oil Corp.¹³⁶ asked a federal appeals court to vacate and remand the interim mixture and derived-from rules on substantive grounds.¹³⁷ Mobil claimed that because "EPA has recently and repeatedly admitted that the 'mixture' and 'derived-from' rules cause materials that do *not* meet the statutory definition of 'hazardous waste' to be regulated as hazardous wastes,' the rules exceeded EPA's grant of authority under RCRA."¹³⁸ Mobil's challenge to the interim rules before they were permanently repromulgated was a preemptive strike intended to get rid of the rules entirely. Mobil's challenge failed, however, when the D.C. Circuit Court of Appeals denied Mobil's petition say-

131. *Id.* at *28.

132. *Id.*

133. *Id.*

134. *Id.* at *29.

135. *Shell Oil*, 950 F.2d at 753.

136. *Mobil Oil Corp. v. EPA*, No. 92-1211 (D.C. Cir. 5/11/92).

137. *Mobil Asks Appeals Court to Vacate, Remand Reinstate RCRA Mixture, Derived-From Rules*, [23 Current Developments] Env't Rep. (BNA) No. 5, at 429 (May 29, 1992).

138. *Id.*

ing that the issue was moot since President Bush had signed legislation in October, 1992, mandating that the interim rule remain in effect until EPA repromulgates the mixture and derived-from rules.¹³⁹

Originally, when EPA issued the interim mixture and derived-from rules, it self-imposed a sunset deadline of April 28, 1993, for repromulgation. If it failed to repromulgate the rules by then they would have lapsed. Congress, however, removed the April deadline in an appropriations bill signed by President Bush and provided that the rules would not be terminated until the revisions take effect.¹⁴⁰ The EPA is expected to repromulgate some form of the mixture and derived-from rules. It should revise the rules to account for industry concerns that the rules are overinclusive.

IV. Analysis

A. Criticism of the *Shell Oil* Decision in Light of Other Legal Principles

1. Retroactivity

The Eighth Circuit erroneously based its decision in *United States v. Goodner Brothers* on the *James B. Beam* decision.¹⁴¹ *James B. Beam* stands for the narrow proposition that when the court applies a rule of law to the litigants in one case it must do so with respect to all others similarly situated who are not barred by procedural requirements or *res judicata*.¹⁴² A decision to vacate on grounds that the proper procedure was not followed, however, cannot fairly be termed a rule of law. A rule of law is defined as "[a] legal principle, of general application . . . usually expressed in the form of a maxim or logical proposition."¹⁴³ The *Shell Oil* court's vacatur of the rules cannot be described as a rule of law or a legal

139. *U.S. Appeals Court Rejects Request to Stop Interim Use of RCRA Rules*, 30 Air Water Pollution Rep. (1992).

140. *Court Refuses to Summarily Reject Interim Mixture, Derived-From Rules*, HAZARDOUS WASTE NEWS, Nov. 10, 1992.

141. *James B. Beam Distilling Co. v. Georgia*, 111 S. Ct. 2439 (1991).

142. *James B. Beam*, 111 S. Ct. at 2443.

143. BLACK'S LAW DICTIONARY 1332 (6th ed. 1990).

principle. Because the court merely decided to vacate the rules, there is no issue as to whether to apply the old or new rule of law since the court did not create a new rule of law. As such, *James B. Beam* is inapplicable, and the Eighth Circuit should have followed the D.C. Circuit's expressed intent to guard against the dangers of discontinuity in the rules.

Even if the usage of *James B. Beam* is a correct application of the law, it clearly bars parties found civilly liable from relitigating. The Supreme Court stated that "retroactivity in civil cases must be limited by the need for finality . . . once suit is barred by res judicata or by statutes of limitation or repose, a new rule cannot reopen the door already closed."¹⁴⁴

Under the Eighth Circuit's *Goodner Brothers* decision that the rules were void *ab initio*, however, every criminal conviction based on the mixture and derived-from rules would have to be relitigated. The Supreme Court recognized in *United States v. Johnson*¹⁴⁵ that full retroactivity must be applied to a "ruling that a trial court lacked authority to convict or punish a criminal defendant in the first place."¹⁴⁶ If the Eighth Circuit's supposition that the rules had no force or effect is correct, then a trial court would have no authority to apply the rules to any criminal defendant. Thus, *Shell Oil* would be fully retroactive as applied to criminal defendants.

Relitigation of hundreds of criminal cases¹⁴⁷ merely because EPA failed to follow the correct notice and comment period clearly is not what the *Shell Oil* court intended. That court worried about the dangers of a discontinuity in the law. The subject of the court's concern was the gap in regulation between the time of the invalidation of the original rule and the promulgation of the new rules. Consequently, the court recommended promulgation of interim rules. Thus, the D.C.

144. *Id.* at 2446 (citations omitted).

145. *United States v. Johnson*, 457 U.S. 537 (1982).

146. *Id.* at 550.

147. *Many Reversals of RCRA Convictions Seen Coming from Appellate Ruling*, 25 Air Water Pollution Rep., June 22, 1992. An industry source cited in the article noted that because many defendants settled their cases without confessing guilt, they would not be entitled to appeal.

Circuit must have reasoned that the original rules were void only prospectively and not retroactively.

2. Was *Goodner Brothers* Correct?

The Eighth Circuit's ruling in *Goodner Brothers* circumvents the D.C. Circuit's effort to prevent violators of RCRA to escape conviction due to a technicality. At this point, industry cannot claim that it did not know about the mixture and derived-from rules; the rules were in effect for over ten years. Thus, any violation of the rules was willful and deliberate. Yet the Eighth Circuit's ruling will now allow violators to argue that the rules were void from the beginning and therefore did not apply to them. The court's argument that the D.C. Circuit might have intended the language regarding discontinuity to refer to the practical effect on industry rather than the legal effect of the rule is not well reasoned. The D.C. Circuit obviously was concerned about the legal effect of the rule since it invited the agency to repromulgate the rule on an interim basis. The practical effect of invalidating the rules cannot be so easily separated from the legal effect. Rather, the two are symbiotic: if the rules have no legal effect, they have no practical effect on industry. The fear of discontinuity, therefore, is rooted in the premise that the rules must have legal effect.

B. Implications of *Shell Oil* on State Mixture and Derived-from Rules

Under RCRA § 3006 states may administer and enforce authorized hazardous waste programs.¹⁴⁸ The program must be approved by the Administrator of EPA, and must be consistent with the federal program.¹⁴⁹ State programs may not be any less stringent than the federal laws, however, a state may impose more stringent requirements if it wishes.¹⁵⁰ Further, a state may operate a program which has broader cover-

148. RCRA § 3006(b), 42 U.S.C. § 6926(b).

149. *Id.*

150. RCRA § 3009, 42 U.S.C. § 6929. *See also* 40 C.F.R. § 271 (h)(i)(1).

age than the federal program.¹⁵¹ Thus, even without the federal mixture and derived-from rules a state still has the authority to promulgate and enforce standards which are exactly the same as the mixture and derived-from rules.

The 1993 ruling in *In re Hardin County* still does not answer the question of whether the retroactive application of the *Shell Oil* decision will invalidate state mixture and derived-from rules since the decision merely assumed, without deciding, the validity of the Ohio rules.¹⁵² Subsequent to the invalidation of the federal rules, industry groups, along with the Office of Management and Budget (OMB), argued that because state mixture and derived-from rules would provide complete hazardous waste regulation the federal rules should merely be allowed to lapse with no interim action taken.¹⁵³ EPA argued the opposite position, contending that invalidation of the federal mixture and derived-from rules left similar state rules vulnerable to legal challenge.¹⁵⁴

Neither position is entirely correct. Leaving the state rules as the sole mechanism to regulate mixed and derived wastes would create a gap in enforcement in states that do not have an approved RCRA program or identical or substantially similar rules. EPA's contention that invalidation of the federal rules opened the way for challenges to similar state rules is unfounded. Although many state mixture and derived-from rules are wholly or in part the same as the federal rules, the state rules should not be invalidated. *Shell Oil* cannot be the basis for a state determination that the rules are substantively invalid because the federal rules were vacated on procedural, not substantive, grounds. Assuming that each state followed valid procedures for promulgating the rules, challenges to state rules on substantive grounds must be based on independent evidence that would convince

151. 40 C.F.R. § 271.1(h)(i)(2).

152. *In re Hardin County*, RCRA-V-W-89-R-29, 1993 RCRA LEXIS 109 (May 27, 1993) (order denying motion for leave to file amended complaint). See also *Shell Oil Case May Tie Enforcers' Hands*, NAT'L L.J., Oct. 19, 1992, at 18.

153. *EPA Issues Interim RCRA Rules, Sets Aggressive Schedule*, 7 ENVIRONMENT WEEK (Feb. 20, 1992).

154. *Id.*

the court that they are substantively void. In order to succeed, a petitioner would have to demonstrate that the state agency abused its discretion in promulgating the rules.¹⁵⁵ Such a challenge would be extremely unlikely to find favor with the courts, as state agencies would undoubtedly be able to demonstrate rational reasons for promulgating the rules.

The position that the state rules are not vulnerable to substantive attack is supported by the case law to date. *In re Hardin County* does not deny the authority of states to enact more stringent rules or rules broader in scope than the federal rules. Nothing in the decision indicates that Ohio EPA would be barred from enforcing its own mixture and derived-from rules. Although the *Hardin County* decision did not decide the substantive validity of the mixture rule, that issue was squarely addressed by the Pollution Control Hearings Board (PCHB) in the case of *Penberthy Electromelt, International v. Washington Department of Ecology*.¹⁵⁶

That case involved a thermal treatment unit which produced glass during the process of treating dangerous wastes.¹⁵⁷ Penberthy Electromelt International contended that the Department of Ecology could not apply the state mixture rule because it was derived from the federal rule vacated by *Shell Oil*.¹⁵⁸ The PCHB rejected the argument, noting that Washington has its own hazardous waste program, which may be more stringent than federal regulations.¹⁵⁹ Thus, the PCHB reasoned, "the state regulations continue to remain in effect" despite the vacatur of the federal rules.¹⁶⁰

The Washington PCHB's reasoning is correct and should be followed by other courts which have state hazardous waste programs. There is simply *no* legitimate argument that supports the position that identical state mixture and derived-

155. See generally Administrative Procedure Act, 5 U.S.C. § 706 (1988 & Supp. 1993).

156. *Penberthy Electromelt Int'l v. Washington Dep't of Ecology*, PCHB No. 90-136, 1992 WL 45377 (Feb. 12, 1992).

157. *Id.* at *5.

158. *Id.*

159. *Id.*

160. *Id.*

from rules should be invalidated merely because the federal rules were. States are clearly permitted to enact regulations that are more stringent than federally promulgated rules pursuant to RCRA § 3009. Although there may still be a gap in regulation in states without counterparts to the federal mixture and derived-from rules, state agencies should have no problem enforcing state rules in the aftermath of *Shell Oil*.

Finally, it appears that pursuant to the 1993 decision in *In re Hardin County*, EPA will be unable to enforce state mixture and derived-from rules. At least one court has agreed to follow *Hardin* by conditioning its decision on the outcome of *Hardin*,¹⁶¹ and it is possible that others will follow. In the 1993 incarnation of *In re Hardin County* EPA asserted that it has traditionally interpreted RCRA § 3009 as authorizing it to enforce state regulations that are more stringent than federal regulations.¹⁶² EPA conceded that it could not enforce regulations that exceed the scope of RCRA since without a federal counterpart state rules do not become part of Subtitle C.¹⁶³ Given that admission, EPA's assertion that state mixture rules fall under their jurisdiction because they are not broader in scope than the federal rules is a shaky legal proposition.

The ALJ's ruling that the Ohio mixture rule expands the regulated community and thus is broader than the federal program is persuasive. If the mixture rules are in effect more generators are subject to RCRA because they cannot mix their wastes to escape regulation. Thus the regulated community is larger. EPA should, therefore, rely on state environmental agencies to enforce their own rules. If a state does not adequately enforce its own regulations then EPA always

161. *In re Amoco Oil Co.*, No. RCRA-III-225, 1993 WL 426068 at *3 (Sept. 15, 1993).

162. *In re Hardin County*, RCRA-V-W-89-R-29, 1993 RCRA LEXIS 109 (May 29, 1993).

163. *Id.* at *9, relying on Memorandum by Lee M. Thomas, then Assistant Administrator for Solid Waste and Emergency Response, Subject: "Determining Whether State Hazardous Waste Management Requirements Are Broader in Scope or More Stringent Than the Federal Program," dated May 21, 1984 (PIG-84-1). *Id.* at fn.5.

has the option of withdrawing authorization from the state program.¹⁶⁴

C. Improving the Mixture and Derived-from Rules: An Overview of the Options

The problem of what to do to improve the rules is of even greater importance than the question of retroactive application of *Shell Oil*, because the repromulgation of the rules will set the course of hazardous waste regulation for the future. In March, 1992, EPA published a notice of proposed rulemaking for new mixture and derived-from rules.¹⁶⁵ In soliciting comments on the rules the agency noted that it was "considering alternative ways of addressing the problems posed by waste mixtures and by the waste streams and residual materials associated with treating hazardous waste."¹⁶⁶ One option EPA mentioned was a concentration-based determination of whether a waste is hazardous: if a waste mixture or residue was below the specified concentration, it would no longer be considered hazardous.¹⁶⁷ Another proposal mentioned in the notice of proposed rulemaking would exempt wastes that no longer exhibited a hazardous characteristic.¹⁶⁸

In May, 1992, EPA issued its hazardous waste identification rule (HWIR) proposal which set forth several options for replacing the mixture and derived-from rules.¹⁶⁹ This proposal was subsequently withdrawn in October, 1992, after coming under heavy criticism from state agencies and environmental groups.¹⁷⁰ EPA's official position was that it withdrew the proposal because many parties commented on technical and policy issues raised by the rule which the agency felt could not be addressed in the context of the proposed rule.¹⁷¹ EPA stated that a new proposal was necessary

164. RCRA § 3006(e), 42 U.S.C. § 6926(e).

165. 57 Fed. Reg. 7,636 (proposed Mar. 3, 1992). Public comments were accepted through Apr. 2, 1992. *Id.*

166. *Id.*

167. *Id.*

168. *Id.*

169. 57 Fed. Reg. 21,450.

170. 57 Fed. Reg. 49,280 (1992) (withdrawal of proposed rule Oct. 30, 1992).

171. *Id.*

to address the issues raised.¹⁷² EPA noted, however, that its intent was to create a "more risk-based RCRA program."¹⁷³

Unofficially, environmental groups, state officials, members of Congress, and the waste treatment industry, charged that HWIR was "the Bush Administration's proposal to dismantle the hazardous waste system allowing the disposal of untreated hazardous waste into trash landfills."¹⁷⁴ Those opposing the proposal had planned to hold a press conference to announce their opposition, but the agency preempted them by withdrawing the regulations.¹⁷⁵ According to critics of the proposal, Bush administration officials learned of the press conference and decided to withdraw the rule in order to avoid bad press coverage. Although the rule has now been withdrawn, Sylvia Lowrance, then director of EPA's Office of Solid Waste, said that "it does not mean the agency will not proceed."¹⁷⁶ The agency's position has not markedly changed under the Clinton Administration. It seems clear that the mixture and derived-from rules do not work as efficiently as they should, and it is probable that an HWIR-type, risk-based system will replace them. In fact, EPA seems to have learned its lesson; this time it invited interested groups to participate in a series of "roundtable" discussions which will allow each party to contribute to the redefinition of hazardous waste management.¹⁷⁷

172. *Id.*

173. *Id.*

174. *Proposed HWIR Rule Withdrawn By EPA, Huge Number of Negative Comments Cited*, [23 Current Developments] Env't Rep. (BNA) No. 23, at 1491 (Oct. 2, 1992).

175. *Id.* Former Sen. Al Gore called the decision "an election-year flip-flop that reflects the phony environmentalism that has marked the Bush-Quayle Administration." *Id.* The NEW YORK TIMES reported that, according to two top White House officials, James Baker, Bush's campaign manager, decided to withdraw the proposed rule so that it would not become a campaign issue for Bill Clinton. *Slants & Trends*, 39 HAZARDOUS WASTE NEWS, Oct. 6, 1992.

176. *Proposed HWIR Rule Withdrawn by EPA; Huge Number of Negative Comments Cited*, [23 Current Developments] Env't Rep. (BNA) No. 23, at 1491 (Oct. 2, 1992).

177. Ronald Begley, *RCRA Rules Reworked by Dissatisfied Stakeholders*, CHEMICAL WEEK, at 28, Aug. 18, 1993.

In publishing the proposed hazardous waste management system rule, EPA included an extensive background section in which it discussed the rule as it relates to the mixture and derived-from rule.¹⁷⁸ The agency noted that although the intent of the mixture and derived-from rules was to close major loopholes in the management system, one of the side effects has been overregulation of low hazard wastes.¹⁷⁹ When Congress amended RCRA in 1984, it banned all land disposal of hazardous waste until it was treated with the best demonstrated available technology (BDAT).¹⁸⁰ As treatment of hazardous wastes increased, so too did the level of residual waste derived from the treatment.¹⁸¹ Even though the residuals often have low concentrations of hazardous constituents, they must be classified as hazardous because they are mixed with or derived from hazardous wastes.¹⁸² EPA acknowledges that millions of tons of mixture and derived-from residuals that are currently regulated "may actually pose quite low hazards."¹⁸³

D. Hazardous Waste Identification Rule (HWIR)

Under former President Bush, EPA favored an approach that linked waste management requirements to the degree of risk posed by a particular waste.¹⁸⁴ There is a wide spectrum along which a waste might be found. A waste may pose no risk at all, it may pose serious risk, or it may pose a risk only under certain circumstances.¹⁸⁵ Under the "continuum of control" envisioned by EPA, high hazard wastes would require a high level of management while less hazardous wastes would require correspondingly lower levels of regulation.¹⁸⁶ EPA's goal was to reduce regulatory barriers by en-

178. Hazardous Waste Management System; Identification and Listing of Hazardous Waste, 57 Fed. Reg. 21,450-53 (proposed May 20, 1992).

179. *Id.* at 21,451.

180. *Id.*

181. *Id.*

182. *Id.*

183. *Id.*

184. *Id.* at 21,452.

185. *Id.*

186. *Id.*

couraging more recycling of hazardous waste.¹⁸⁷ The program would have ensured that the recycling is environmentally safe by tailoring the requirements to fit the actual risk posed by the waste.¹⁸⁸

There are three basic approaches under this proposal that would exempt mixtures and derivatives from RCRA. The first approach will exempt wastes if they meet established numeric concentration-based exemption criteria (CBEC).¹⁸⁹ The second approach, known as the Expanded Characteristics Option (ECHO), will set standards for entering and exiting RCRA based on characteristic levels established by EPA.¹⁹⁰ A third option is the contingent management approach which would allow wastes with higher concentrations than allowed by CBEC to be exempted from Subtitle C if managed according to specific guidelines.¹⁹¹ Under ECHO wastes which are above characteristic levels would also be contingently exempt if managed according to set conditions.¹⁹²

1. The CBEC Approach

Under the CBEC approach, EPA would set consistent concentration-based levels for all listed wastes and contaminated wastes that meet the criteria for hazardousness.¹⁹³ Wastes that contain toxics at concentration levels below the exemption levels would no longer be subject to some of the management requirements of Subtitle C.¹⁹⁴ The CBEC approach would be self-implementing for wastes and contaminated media. The mixture and derived-from rules would still determine whether a waste would enter the RCRA regulatory

187. *Id.*

188. *Id.*

189. *Id.* at 21,455.

190. *Id.*

191. *Id.*

192. *Id.*

193. *Id.* at 21,456.

194. *Id.*

system, but the CBEC approach would define whether and when the waste could exit the system.¹⁹⁵

The CBEC levels would be set either according to a risk-based number or a technology-based number or a combination of both.¹⁹⁶ The EPA would determine exemption levels for hazardous constituents of listed wastes, and, if the waste is below the exemption level, it would be exempt from Subtitle C regulation.¹⁹⁷ Risk-based exemptions would be set pursuant to levels determined to be the Maximum Contaminant Levels (MCLs) under RCRA.¹⁹⁸ If MCLs have not been set for a particular waste, the exemption levels would be set as Risk Specific Doses (RSDs) for carcinogens and as Reference Doses (RfDs) for systemic toxicants.¹⁹⁹ Leachate levels below the exemption level for specific listed wastes would be excluded from Subtitle C.²⁰⁰

EPA considered three primary methods for setting exemption levels. For all three options, EPA evaluated the risk through consideration of the danger to human health from groundwater contamination by toxic constituents leaching from a waste.²⁰¹ The first option would set the exemption level at 100 times the health-based number (HBN).²⁰² Waste that leaches toxic constituents at levels up to 100 times the HBN would escape regulation as hazardous waste.²⁰³ This approach sets levels by the same method used to determine toxicity characteristics (TC).²⁰⁴ Under this option up to 15%

195. *Id.* at 21,452. How to set the concentration level presents still more options. The EPA mentions three: 1) "set a single exemption multiple above risk-based concentration levels"; 2) "vary the multiple for each hazardous constituent to reflect the different chemical properties of the constituent"; or 3) "set technology-based concentration levels." *Id.*

196. *Id.*

197. *Id.* at 21,456.

198. *Id.*

199. *Id.* at 21,457.

200. *Id.*

201. *Id.* The Agency considered the long- and short-term effects of a toxicant on an individual where the groundwater is a source of the individual's drinking water. *Id.*

202. *Id.* This option was also proposed by the Chemical Manufacturers Association (CMA) in a 1989 rulemaking petition. *Id.*

203. *Id.*

204. *Id.*

of drinking water wells near unlined landfills could be contaminated.²⁰⁵

The second option would set the numeric exemption at 10 times the HBN.²⁰⁶ EPA estimates the second option would have little practical effect on the amount of waste exempted from RCRA.²⁰⁷ A third option for setting exemption levels is to set them equal to the specific toxic's HBN.²⁰⁸ This proposal, however, would exempt only very dilute waste mixtures from regulation.²⁰⁹ EPA also considered setting exemption levels using standards developed for land disposal which were set using best demonstrated available technology (BDAT).²¹⁰ The Agency itself noted, however, that BDAT levels alone are inadequate protection because BDAT does not consider risk.²¹¹ A fifth proposal is to set levels using BDAT in combination with HBN.²¹² For some wastes there may be no technology which sufficiently treats the waste so that the risk is eliminated. For such wastes the risk-based level would be set as some multiple of HBN.²¹³

EPA proposed that the generator seeking a CBEC exemption be required to sample and analyze the waste, and would also have the burden of ensuring that its waste sampling and analysis is accurate.²¹⁴ The sampling and analysis plan under the proposal would require that the waste be a representative sample and the frequency of sampling would be set by regulation, while a change in production process would require the generator to meet a higher standard of testing.²¹⁵

To qualify for the exemption EPA proposed that the generator submit a formal notification of its claim that its wastes

205. *Id.*

206. *Id.*

207. *Id.* at 21,458.

208. *Id.*

209. *Id.*

210. *Id.*

211. *Id.*

212. *Id.*

213. *Id.*

214. *Id.* at 21,486.

215. *Id.*

are exempt pursuant to the CBEC criteria.²¹⁶ In order to continue the exemption the generator would have to resubmit the notification and certification annually for the first two years. Subsequently, notification and certification would occur only once every three years or if there were processing changes.²¹⁷ The Agency requested comments on the issue of whether generators should be required to submit their testing and analysis date prior to the waste exemption becoming effective.²¹⁸

For all three options, CBEC, ECHO, and contingent management, EPA suggested that compliance monitoring would take place primarily through review of notifications.²¹⁹ Facility inspections would be the main method of oversight,²²⁰ with EPA or the state performing inspections on a biennial basis.²²¹ The EPA has the authority to require submission of management information such as sampling and analysis plans.²²² Failure to comply with any of the ECHO, CBEC or contingent management requirements would subject the generator to an enforcement action.²²³ The burden in any enforcement action would be on the defendant to prove eligibility for the exemption.²²⁴

There are serious problems with the CBEC approach, including the fact that no agency review or approval of sampling plans or waste analysis data is required.²²⁵ Generators need only test the waste and submit a notification and certification to the agency providing information on the waste, the waste generation process and the generators' waste management practices.²²⁶

216. *Id.*

217. *Id.*

218. *Id.*

219. *Id.*

220. *Id.* at 21,493.

221. *Id.*

222. *Id.* at 21,494. *See also* RCRA § 3007, 42 U.S.C. § 6927.

223. *Id.*

224. *Id.*

225. *See generally* 57 Fed. Reg. 21,450 (1992).

226. 57 Fed. Reg. 21,450 (1992).

The benefits of CBEC, however, outweigh its negative aspects. CBEC offers an exemption level which is based on risk from contaminated groundwater. Taking health-based risks into account in setting the criteria is essential to ensuring that human health is protected. Further, given that all new municipal solid waste landfills must be constructed with a composite liner, and that landfill designs must consider the surrounding hydrogeologic characteristics, climatic factors and the volume and physical and chemical characteristics of the leachate,²²⁷ the EPA's first option is the best choice. Setting exemption criteria at 100 times the health based risk number is reasonable and poses only an estimated 15% risk of exposure to drinking water wells closest to unlined municipal landfills.²²⁸ In addition, establishing a single set of criteria is an excellent method for determining exemption criteria as it removes any opportunity for the generator to make a subjective evaluation of whether a waste is hazardous. EPA should, however, require submission of analysis and testing plans which it would evaluate prior to approving an exemption in order to ensure the integrity of the system. In addition, EPA should require more frequent testing of waste subsequent to initial approval, at least in the first two years. In sum, the advantages of CBEC outweigh its detriments and it should be adopted by EPA in conjunction with a repromulgation of the mixture and derived-from rules.

2. The ECHO Approach

The ECHO approach would establish characteristic levels for listed wastes, waste mixtures, derivatives and contaminated media. Wastes not exhibiting a characteristic would be exempted from RCRA management.²²⁹ ECHO would set consistent characteristic levels for both entry to

227. 40 C.F.R. § 258.40. A composite liner consists of two components: an upper membrane flexible liner and an lower level of at least a two-foot thick layer of compacted soil with hydraulic conductivity of no more than 1×10^{-7} cm/sec. *Id.*

228. 57 Fed. Reg. 21,457. The risk may be even lower since the data used for the analysis was at least six years old and management practices have improved since then. *Id.*

229. *Id.* at 21,450.

and exit from Subtitle C management across all waste streams.²³⁰ This method would allow generators to test their wastes or rely on their knowledge of the waste to determine whether it exhibited a hazardous characteristic. The mixture and derived-from rules would not apply for listed wastes whose constituents are included in the expanded characteristics.²³¹

Under the ECHO approach EPA states that it could reallocate resources from listing wastes to focusing on oversight of generator testing of waste.²³² EPA maintains that the ECHO approach will give generators an incentive to develop more information about their waste streams.²³³ Finally, the Agency asserts that the ECHO approach will achieve a significant level of cost savings.²³⁴

The foundation of this approach would be a dramatic expansion of the toxicity characteristic (TC) from 39 hazardous constituents to as many as possible.²³⁵ The characteristic level would be a multiple of the health-based limit; this is currently the way TC is determined.²³⁶ The level would be set either as a multiple of the health-based limit or as a constituent specific multiple set for each toxicant.²³⁷

As with the CBEC approach, the generator would be responsible for determining whether its wastes are exempt.²³⁸ It is important to realize that this would not be a change from what is currently required.²³⁹ If EPA chooses the ECHO approach, it will require generators of wastes previously characterized as listed to test their wastes for Appendix VIII constituents²⁴⁰ and to submit a one-time notification and certification to the Administrator that their wastes do not ex-

230. *Id.* at 21,458.

231. *Id.* at 21,450.

232. *Id.* at 21,459.

233. *Id.*

234. *Id.*

235. *Id.*

236. *Id.*

237. *Id.*

238. *Id.*

239. *Id.*

240. *Id.*

hibit a hazardous characteristic.²⁴¹ If the CBEC approach is implemented instead, the agency proposes that a “series of sampling and analytical requirements be imposed upon persons seeking CBEC exemptions”²⁴²

The ECHO approach is flawed and should be rejected. The major problem with the approach is that ECHO would determine both entry and exit of a waste into the Subtitle C system. Although generators now have the responsibility for determining whether their wastes exhibit a characteristic, giving the responsibility for deciding which wastes enter the system places entirely too much reliance on the regulated community. Although it may exempt more waste, ECHO is driven by the efforts of generators and inherently assumes that generators will be diligent in testing their wastes accurately. The nation’s hazardous waste program should not depend on generator testing and oversight. Some generators may be unsophisticated and unable to accurately assess hazardousness. Rather, it is EPA’s duty to maintain control over the program by listing wastes even though it may be more costly. The potential cost savings do not justify assuming the risk posed by ECHO.

3. Contingent Management

The third approach proposed by EPA is the contingent management approach. The theory behind this approach is that if a waste is disposed of in a “protectively designed landfill” the risk posed by the waste is decreased.²⁴³ If the waste

241. *Id.* The agency proposed that the notification include the following information:

(1) The name, address, and RCRA ID number of the facility; (2) the EPA hazardous waste code applicable to the waste; (3) the characteristics and constituents for which the waste was evaluated under the ECHO criteria; and (4) the constituent concentrations in the waste which form the basis for the claim that the waste is not characteristically hazardous.

Id. at 21,488.

242. *Id.* The generator would be required, any time there is a process or other change that might alter the character of the waste, to re-characterize the waste to ensure that it still meets exemption levels before it disposes of the waste of as nonhazardous. *Id.*

243. *Id.* at 21,459.

is managed more carefully, the criteria for exempting it from regulation can be less burdensome.²⁴⁴

The Agency currently uses a model to evaluate the risk of environmental releases from landfills.²⁴⁵ The model simulates the dangers posed by hazardous waste when it is disposed of in an unlined municipal solid waste landfill.²⁴⁶ When precipitation falls on the landfill it causes leaching of hazardous constituents from the landfill to the groundwater and from there to drinking water wells.²⁴⁷ Using this model, EPA believes it can develop contingent management options to prevent the danger of drinking water contamination by leachate.²⁴⁸

By regulations already promulgated, the first factor impacting contingent management requires lining of landfills pursuant to specific performance and design criteria.²⁴⁹ A second variable affecting safe management of waste is the amount of precipitation that falls in the landfill.²⁵⁰ The greater the amount of precipitation, the greater the volume of leachate.²⁵¹ If the landfill is sited in an area that receives low amounts of precipitation, there is correspondingly lower risk of leachate migration.²⁵² The size of the landfill is a third factor to be considered.²⁵³ A fourth factor is the hydraulic conductivity²⁵⁴ of the soil. For example, clay dominated soils, which have low levels of hydraulic conductivity, could effectively halt leachate flow for significant time periods.²⁵⁵ The last factor considered by EPA is the distance of drinking

244. *Id.*

245. *Id.* at 21,460.

246. *Id.*

247. *Id.*

248. *Id.*

249. *Id.* See also 40 C.F.R. § 258.40.

250. *Id.* at 21,460.

251. *Id.*

252. *Id.*

253. *Id.*

254. *Id.* Hydraulic conductivity describes the rate at which water can move through a permeable medium such as soil. See C.W. FETTER, JR., *APPLIED HYDROGEOLOGY* 473 (1980).

255. *Id.*

water wells from the facility.²⁵⁶ If the generator could demonstrate that there are no drinking water wells within a specific distance from the facility, wastes could be managed at the landfill at higher concentrations than allowed under CBEC or ECHO.²⁵⁷

EPA posed three methods for setting the exemption criteria.²⁵⁸ The first would set criteria based on disposal contingent on the landfill meeting specific design requirements, and these standards would apply nationally.²⁵⁹ The second option would also apply nationally and would set threshold levels above which waste would be characteristically hazardous even if the landfill met specific design criteria.²⁶⁰ Lastly, EPA requested comment on whether it should create a site-specific contingent management approach dependent on specific hydraulic conditions and distance to private drinking water wells.²⁶¹

EPA suggested a hybrid option combining aspects of both CBEC and contingent management.²⁶² Two sets of exemption levels would be set: Tier 1 management would be more stringent and would not require subsequent management of the waste. Tier 1 levels would be set at 10 times the HBN for each toxicant.²⁶³ The Agency considers a factor of 10 to be fully protective of drinking water wells.²⁶⁴ Tier 2 would require subsequent contingent management of the waste, but the exit requirements would be less stringent.²⁶⁵ Under Tier 2 the risk-based exemption criteria would be contingent on waste management practices.²⁶⁶ As a first phase, only listed

256. *Id.* at 21,461.

257. *Id.*

258. *Id.*

259. *Id.*

260. *Id.*

261. *Id.*

262. *Id.*

263. *Id.* Setting the level at 10 times HBN is slightly below the most conservative levels for delisted wastes. *Id.*

264. *Id.*

265. *Id.*

266. *Id.*

hazardous wastes meeting land disposal treatment requirements would be eligible for contingent management.²⁶⁷

The final significant proposal set forth by EPA was ECHO modified by contingent management.²⁶⁸ ECHO would set uniform entry and exit levels from Subtitle C management; contingent management would allow additional wastes to exit the system if they were disposed of pursuant to contingent management standards.²⁶⁹ Factors such as landfill design, size and the amount of precipitation it receives would determine exit thresholds.²⁷⁰

Contingent management is a viable alternative which enhances a rational hazardous waste management plan. Combined with CBEC standards it is an excellent solution which allows the nation to move towards a more risk-based management strategy. EPA should consider, however, setting Tier 1 exemption levels at less stringent levels than 10 x HBN. Given that new municipal solid waste landfills must be constructed with liners and pursuant to stringent standards, EPA should evaluate whether setting exemption levels at 100 x HBN would suffice to protect the integrity of the drinking water supply. EPA should set national standards in order to ensure that all landfill requirements are equally stringent. If standards were set facility by facility, a local facility constructed with stringent technical requirements could effectively become a "pollution haven" where waste could be disposed without proper treatment. Such "pollution havens" may be created in geographical areas with more favorable waste handling conditions. This effect is potentially two-fold; not only could "pollution havens" develop, but existing landfill capacity may not be used effectively. In addition, such site specific standards would pose too great a strain on EPA's resources. EPA's contingent management proposal is a great stride forward in terms of adopting a risk-based management system, and should be a part of any new hazardous waste management strategy.

267. *Id.*

268. *Id.* at 21,462.

269. *Id.*

270. *Id.*

4. Implementation Options

Of course, EPA will not simply implement one of these new options and then rely on the generator to truthfully report. All approaches would be subject to compliance monitoring and enforcement.²⁷¹ Monitoring would be done primarily through inspections.²⁷² RCRA section 3007 requires biennial inspection of TSDs.²⁷³ Inspectors would use the generator facility's notifications that wastes are no longer hazardous under subtitle C to target facilities for inspection.²⁷⁴ If the generator failed to comply with any of the exemption conditions it could be subject to immediate enforcement action for violating Subtitle C.²⁷⁵

5. HWIR Analysis

Exactly how much waste would be exempted from RCRA under a HWIR-type system is hotly disputed.²⁷⁶ EPA admits, as do environmental groups, that the mixture and derived-from rules overregulate hazardous waste.²⁷⁷ Environmental groups and the Hazardous Waste Treatment Council claim that HWIR allows generators to make their own determinations about which wastes are hazardous.²⁷⁸ They express a legitimate concern which the EPA should not ignore. Although generators are now, and have been, responsible for determining which wastes exhibit a characteristic, some aspects of HWIR would give generators even greater rein over which wastes they manage. The ECHO option, while allowing greater opportunity for cost savings, also allows for

271. *Id.* at 21,493.

272. *Id.*

273. *Id.*

274. *Id.*

275. *Id.* at 21,494.

276. *Mixed, Derived-From Wastes Could Escape Subtitle C Regulation Under Proposed Option*, [1992] 16 Chem. Reg. Rep. (BNA) No. 6, at 251 (May 8, 1992). According to the Hazardous Waste Treatment Council, the rule would exempt 90 percent of listed hazardous wastes from Subtitle C regulation. This figure is contradicted by EPA, which claimed that only 3 to 22 percent of listed hazardous wastes would be exempted.

277. *Id.* at 251.

278. *Id.*

greater opportunity for abuse. Generators would determine not only which wastes exited RCRA, but also which wastes enter it. The CBEC option is a more reasonable approach because it greatly reduces the opportunity for abuse by setting numeric standards. Finally, no matter which approach the Agency ultimately promulgates, contingent management should be an integral part of it. EPA has the capability to set standards for solid waste landfills which will allow wastes that have higher concentrations of toxic constituents to be safely managed, and it should exploit that capability in order to reduce the cost of managing wastes.

The United States spends about \$32 billion annually to manage all types of waste, and EPA estimates that HWIR would save industry up to \$270 million a year without any deterioration in protection of human health and the environment.²⁷⁹ Although HWIR is unlikely to be incorporated into the revision of the mixture and derived-from rules in its present state, some version of it should be promulgated in coordination with the mixture and derived-from rules.

The conflict over the mixture and derived-from rules stems from the fact that industry contends that the rules are too broad while environmentalists worry that changing the rules could send hazardous wastes to nonhazardous solid waste landfills. Both concerns are valid. Industry is spending money to treat, store and dispose of waste which truly does not pose a significant health risk. However, unless EPA can come up with a better rule, the dangers of underregulation clearly outweigh the burdens of overregulation. Absent the mixture and derived-from rules, industry would be underregulated. Potentially, wastes which pose a threat to the environment could wind up in municipal landfills because they no longer meet the definition of a listed waste or do not exhibit a hazardous characteristic.

There is also a chance that Congress will take it upon itself to create a better rule. EPA opposes a legislative solution to fixing the rules because it calls for Congress to substi-

279. *Toxic Waste Plan Dropped in Blow to Industry*, 242 Chem. Marketing Rep. 3 (1992).

tute its judgment for the expertise of EPA.²⁸⁰ EPA maintains that defining solid and hazardous waste is a "regulatory matter best left to the Executive Branch."²⁸¹

Defining solid waste should not be left to Congress, nor should it be entirely left to EPA. The continuing dialogue among environmentalists, state regulators, industry groups and EPA ensures that everyone's concerns are heard. The group should continue to develop a new approach to hazardous waste management that redefines the way wastes exit the Subtitle C system. The mixture and derived-from rules themselves should be retained, as suggested by HWIR, to determine how a waste enters RCRA regulation. The old rules result in inefficient use of resources by forcing industry to treat, store and dispose of waste that is not hazardous or which poses a low risk to health and the environment. Any new approach must employ a risk-based evaluation of wastes in order to be a viable alternative. EPA should undertake to determine, if possible, which wastes pose a high risk and continue along the continuum to wastes that pose little or no risk. Wherever possible, CBEC numeric exemption levels for exiting the regulatory system should be set since setting numeric standards eliminates the possibility that generators will make erroneous subjective determinations regarding a waste's hazardous nature. If it is not possible for EPA to classify all types of wastes it should allow the generator to make the determination, with heavy criminal and civil penalties for those who make mistakes in classification whether or not the mistake is in good faith. Finally, the new rule should be a national treatment standard as opposed to a local treatment standard in order to ensure that wastes are treated equally no matter where they are.

V. Conclusion

The vacating of the mixture and derived-from rules and their subsequent impending revision have significant consequences for the future of hazardous waste regulation and liti-

280. ENVTL. L. UPDATE, (BNA) (Sept. 4, 1992).

281. *Id.*

gation. The most important aspect of *Shell Oil* is the fact that EPA now must repromulgate the rules in some form. The mixture and derived-from rules are essential to hazardous waste regulation because they prevent improper disposal of potentially dangerous wastes derived from hazardous waste or mixed with hazardous waste. However, the mixture and derived-from rules do result in overregulation at great expense to industrial concerns who must pay to handle, store, treat and dispose of the potentially relatively benign waste as if it were hazardous.

The mixture and derived-from rules worked exactly as they were intended by closing loopholes in hazardous waste regulation which might have allowed generators to dilute or minimally treat waste and then dispose of it as if it were not hazardous. Dilution is not the solution because it does not reduce the total load of waste in the system. One of the goals of RCRA is to reduce hazardous waste. Dilution not only thwarts that goal, it also may endanger the environment, because at some point the total carrying capacity of the environment will be exhausted. The rules also had the presumably unintended effect of regulating some wastes posing no real threat; however, that burden was greatly outweighed by the inclusion of many previously unregulated wastes that were extremely dangerous.

It has been more than ten years since the rules were promulgated, and EPA now has a chance to redress the legitimate concerns of industry. Therefore, while the substance of the rules should be retained, particularly with respect to their requirement that hazardous wastes not escape the RCRA system simply because the generator or treatment facility has diluted them or because the wastes no longer possess hazardous characteristics, the rules should be supplemented by an approach which allows for an easier exit from Subtitle C regulation.

The best approach available to EPA is one that combines the loophole-free spirit of the mixture and derived-from rules with a risk-based classification system similar to the CBEC/contingent management approach proposed and subsequently withdrawn by EPA. Under such an approach, wastes

would be evaluated according to the level of risk they pose to human health and the environment. High risk wastes would be required to meet a high standard prior to their exit from Subtitle C regulation; lower risk wastes would be subject to a correspondingly lower standard. EPA should set the exemption level at 100 x HBN; since new landfill requirements are more stringent than those used by EPA to evaluate the risk, such an exemption level should prove adequate to protect the nation's drinking water supply. In addition, EPA should adopt contingent management standards for landfills which allow wastes to exit the RCRA system because they are being safely managed, even though they may exceed CBEC exemption criteria.

While such an approach is viable, as originally proposed by EPA it did not include a monitoring scheme. In order to ensure that generators are complying with the procedures for testing waste to determine whether it still exhibits a characteristic the EPA should require generators to submit sampling plans and waste analysis data to EPA for review prior to approving an exemption. Failure to properly test wastes which the generator claims do not exhibit a characteristic should be punishable both civilly and criminally. The implementation of this type of system would eliminate the loopholes that the mixture and derived-from rules closed while allowing industry to avoid the overregulation of low risk wastes.

Another concern posed by the *Shell Oil* decision is the status of past and pending litigation. The vacating of the mixture and derived-from rules in *Shell Oil*, followed by the determination by the *Goodner Brothers* and *Hardin County* courts that the invalidation of the rules must be applied retroactively, has placed the past and future of hazardous waste regulation into an uncertain state.

While relitigation of final civil decision is barred by the rules of *res judicata*, it is possible that criminal convictions under the vacated rules will now be challenged and possibly overturned in new trials. This must not be allowed to occur. The defendants who were criminally convicted had notice that they were subject to the rules and had full reason to

know their actions were illegal. Holding them liable for their violations would not be inequitable, especially in light of the fact that the rules were invalidated on a mere procedural technicality.

If the *Shell Oil* decision is applied retroactively, it is also likely to cause major repercussions in pending litigation, as many of these cases charging violations of the mixture and derived-from rule are likely to be dropped. However, the same arguments that apply to those convicted before the rules were vacated also apply to those cases that are currently pending. Therefore, it is not inequitable to hold any violators involved in pending cases liable for failure to adhere to the rules which were in place at the time of their misconduct.

State mixture and derived-from rules should not be affected by the *Shell Oil* decision. States are authorized by RCRA to promulgate more stringent standards than the federal requirements, and unless a state rule also contained some procedural flaw, there is no ground for vacatur. A state rule could not be vacated on substantive grounds since a state could undoubtedly demonstrate valid reasons for promulgating the rule. It appears, however, following the 1993 decision of *In re Hardin County* that the EPA lacks jurisdiction to enforce state rules which were identical to federal rules. EPA will have to rely, therefore, on state agencies to diligently prosecute these actions.

Ultimately, the goal of RCRA is to protect human health and the environment from the dangers posed by hazardous waste. The invalidation of the mixture and derived-from rules allows EPA an opportunity to protect that aim while still addressing the problem of overregulation raised by industry. *Shell Oil* marks a crossroads in the future of hazardous waste regulation; EPA should take advantage of the opportunity presented by completely repromulgating mixture and derived-from rules in conjunction with the promulgation of a CBEC/contingent management approach to exiting Subtitle C in order to reflect the economic realities of the burden to industry along with the changing technology that makes a risk-based strategy possible.