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Divisibility of Injury Under CERCLA: Reaching for the Unreachable Goal

I. INTRODUCTION

Intending to solve the United States' hazardous substance cleanup problem, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Notwithstanding the comprehensive coverage of its hazardous substance cleanup provisions, CERCLA's standards of liability are vague. However, courts have uniformly interpreted CERCLA's liability as strict, with joint and several liability being imposed, unless the defendant can prove divisibility of injury. Apportionment of harm in CERCLA cases is a two stage process: (1) a defendant can prove divisibility of the injury, and be held liable only for the amount caused, but if he is unable to do this, then (2) apportionment will occur in actions for contribution. However, as a practical matter, it is not possible for a CERCLA defendant to prove divisibility of injury because of the difficulty in establishing which portion of the harm he caused.

This comment discusses CERCLA's background, the scope of CERCLA liability, and three proffered methods of providing for divisibility of injury in CERCLA cases: the Gore amendments of H.R. 7020, the common law embodied in the Restatement (Second) of Torts, and the economic efficiency method recently proposed by Professors Lewis Kornhauser and Richard Revesz of New York University School of Law. This comment concludes that: (1) the Gore amendments were appropriately deleted from CERCLA as they added nothing to the common law approach, (2) the Second Restatement is inefficient and as a practical matter does not allow for divisibility of injury, and (3) Professors Kornhauser and Revesz were correct in concluding that injuries from joint polluters are not divisible. However, this comment disagrees with Professors Kornhauser and Revesz's proposed "efficient" method of apportionment in CERCLA cases. Moreover, this comment

2. See infra parts II, III.B.3.
3. Kornhauser & Revesz, Sharing Damages Among Multiple Tortfeasors, 98 Yale L.J. 831 (1989). Professors Kornhauser and Revesz's article has application outside of CERCLA, but CERCLA is the central theme for their work and is used as the basis for most of their examples. See id. at 835.
recommends that because of the practical impossibility of proving divisibility of injury, apportionment of harm should come in contribution actions in accordance with the proportion of the harm caused by each defendant.

II. BACKGROUND

In 1976, Congress enacted the Resource Conservation and Recovery Act (RCRA)\(^4\) to deal with this country’s solid waste problems.\(^5\) Although RCRA deals with all solid waste disposal,\(^6\) “Congress’ ‘over-riding concern’. . . was to establish the framework for a national system to insure the safe management of hazardous waste.”\(^7\) Hazardous waste management under RCRA is a “cradle-to-grave” approach which “regulates the generation, transportation and ultimate disposal of hazardous waste.”\(^8\) Although RCRA regulates hazardous waste from generation through disposal, it does not provide for cleanup of inactive and abandoned hazardous waste sites.\(^9\)

In 1979, the Environmental Protection Agency (EPA) found that “between 1,200-2,000 [of the estimated 30,000 to 50,000 inactive sites]

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5. Congress, in the Congressional findings section of RCRA, stated that the economic and population growth of the United States, including improvements in the standard of living, technological advances, and improvements in methods of manufacture, packaging, and marketing of consumer products erected a serious problem for disposal of solid wastes, especially for metropolitan and urban areas. See id. at § 6901(a)(1)-(3). Congress believed that, though the states should continue to control the collection and disposal of solid wastes, “Federal action [was required] through financial and technical assistance and leadership in the development, demonstration, and application of new and improved methods and processes to reduce the amount of work and unsalvageable materials and to provide for proper and economical solid waste disposal practices.” Id. at § 6901(a)(4).
6. Under RCRA, the key to determining if waste falls under RCRA regulation is if it is “discarded material, including solid, liquid, semi-solid, or contained gaseous material.” 42 U.S.C. § 6903 (27) (1988) (emphasis added).
9. H.R. REP. No. 1016, 96th Cong., 2d Sess., pt. 1, at 17, reprinted in 1980 U.S. CODE CONG. & ADMIN. NEWS 6119, 6120 [hereinafter H.R. REP. No. 1016]. “Since enactment of [RCRA] a major new source of environmental concern has surfaced: the tragic consequences of improperly, negligently, and recklessly hazardous waste disposal practices known as the inactive hazardous waste site problem.” Id. In an inactive disposal site, “the disposer or other responsible party has ceased disposal activities but retained ownership or occupation of the property.” Note, Inactive or Abandoned Hazardous Waste Disposal Sites: Coping with a Costly Past, 53 S. CAL. L. REV. 1709, 1710 (1980). “Abandoned disposal sites are also inactive, however, they are the sites in which the disposer or other responsible party is no longer identifiable.” Id.
present[ed] a serious risk to public health." In an effort to remedy this problem, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). CERCLA regulates hazardous substances, as opposed to the discarded hazardous wastes regulated under RCRA. An exhaustive list of hazardous substances promulgated by the EPA, pursuant to section 9602 of CERCLA, and a wide array of other substances are defined as hazardous substances under CERCLA. These include: any RCRA hazardous waste; any substance listed or designated pursuant to sections 1321(b)(2)(A) and 1371(a), respectively, of the Federal Water Pollution Control Act (FWPCA); any hazardous air pollutant listed under section 112 of the Clean Air Act (CAA); and any immediately hazardous chemical substance or mixture which the EPA has taken action pursuant to section 2606 of Title 15—Commerce and Trade.

Liability under CERCLA, or the "Superfund Act," can be imposed on responsible parties, i.e., those who are (1) current owners and operators, (2) past owners and operators, (3) disposers, and (4) transporters. The EPA can enforce this liability under section 9606 or sec-

10. H.R. Rep. No. 1016, supra note 9, at 18. By 1984, the EPA had "identified 19,187 potentially hazardous sites and estimated that the number could reach 22,000." 15 [Current Developments] Env't Rep. (BNA) 1531 (Jan. 25, 1985). The EPA had also "completed 'preliminary assessments' of 11,662 sites identified as potentially dangerous and ha[d] investigated 4,365 for possible inclusion on the National Priorities List." Id.
17. Under section 9607(a), a responsible party may be required to pay the costs of: (1) removal and remedial action, (2) contribution costs, (3) damages to natural resources, and (4) health studies made pursuant to section 9604(i) of CERCLA. 42 U.S.C. § 9607(a) (1988). Responsible parties under section 9607(a) are defined as:

(1) the owner and operator of a vessel or a facility,
(2) any person who at the time of disposal of any hazardous substance owned or cooperated any facility at which such hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
(3) any person who by contract, agreement, or otherwise arranged for disposal or treatment or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, and
(4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance . . . .

Id.
tion 9607 of CERCLA. Section 9606 liability is imposed when the "President determines that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility."\(^{18}\) Section 9607, "Superfund Liability," is imposed when the site is placed on the National Priorities List requiring remedial action,\(^{19}\) or when a responsible party undertakes a cleanup program and sues another responsible party for response costs.\(^{20}\) Potentially responsible parties do have some limited defenses to this liability.\(^{21}\)

III. **The Scope of CERCLA Liability**

A. **Strict Liability**

Prior to CERCLA's passage, Congress removed all references to strict liability.\(^{22}\) As a result, the only guidance for the standard of liability comes from the definition of liability in section 9601(32): "the


\(^{20}\) See Wickard Oil Terminals v. ASARCO, Inc. 792 F.2d 887, 890-92 (9th Cir. 1986).

\(^{21}\) 42 U.S.C. § 9607(b) provides:

There shall be no liability under [§ 9607(a)] for a person otherwise liable who can establish by a preponderance of the evidence that the release or threat of release of a hazardous substance and the damages resulting therefrom were caused solely by—

(1) an act of God;

(2) an act of war;

(3) an act or omission of a third party other than an employee or agent of the defendant, or than one whose act or omission occurs in connection with a contractual relationship, existing directly or indirectly, with the defendant (except where the sole contractual arrangement arises from a published tariff and acceptance for carriage by a common carrier by rail), if the defendant establishes by a preponderance of the evidence that (a) he exercised due care with respect to the hazardous substance concerned, taking into consideration the characteristics of such hazardous substance, in light of all relevant facts and circumstances, and (b) he took precautions against foreseeable acts or omissions of any such third party and the consequences that could foreseeably result from such acts or omissions; or

(4) any combination of the foregoing paragraphs.

\(^{22}\) All versions of the House and Senate bills made reference to strict and joint and several liability. The House introduced two bills which both died in the Senate: H.R. 85, 96th Cong., 1st Sess., 126 CONG. REC. 23,568 (1980) and H.R. 7020, 96th Cong., 2d Sess., 126 CONG. REC. 26,579 (1980). The Senate also introduced two bills: S. 1341, 96th Cong., 1st Sess., 125 CONG. REC. 14,857 (1979), which died in subcommittee; and S.1480, S.1480, 96th Cong., 2d Sess., 126 CONG. REC. 30,906 (1980) which after a few compromises became CERCLA. All of these bills made reference to strict and joint and several liability. For a comprehensive analysis of the various Senate and House Bills referring to joint and several liability under CERCLA, see Note, *Joint and Several Liability Under Superfund: The Plight of the Small Volume Hazardous Waste Contributor*, 31 WAYNE L. REV. 1057 (1985).
term ‘liable’ or ‘liability’ under [CERCLA] shall be construed to be the standard of liability which obtains under section 1321 of [Federal Water Pollution Control Act, FWPCA]." As stated in United States v. Northeastern Pharmacy and Chemical Co. (NEPACO), section 1321 of FWPCA has been "consistently construed . . . as a strict liability provision;" therefore, CERCLA "defendants can be held liable under a theory of strict liability."

B. Joint and Several Liability

Congress also left out any references to joint and several liability. Consequently, the judiciary has been left with the task of determining from the legislative history the scope of CERCLA liability. This task was to be particularly difficult because, as one court noted, "the legislative history is unusually riddled by self-serving and contradictory statements." In 1983, two federal district court cases, United States v. Chem-Dyne Corp. and United States v. Wade (Wade II), analyzed CERCLA's legislative history in an effort to discern Congress' intent regarding the scope of liability under CERCLA. Each court concluded that references to joint and several liability were deleted from CERCLA "in order to have the scope of liability determined under common law principles, where a court performing a case by case evaluation of the complex factual scenarios associated with multiple-generator waste sites will assess the propriety of applying joint and several liability on an individual basis."

The Chem-Dyne and Wade II courts noted that applying joint and several liability on an individual basis was in accord with the legislative history. Senator Randolph (D-W. Va), sponsor of the amendment which deleted reference to joint and several liability from CERCLA, stated that Congress intended to retain strict liability, and references to joint and several liability were deleted because of "the difficulty in prescribing in statutory terms liability standards which [would] be applicable in individual cases."

25. Id. at 844.
26. Id.
It is intended that issues of liability not resolved by this act, if any, shall be governed by traditional and evolving principles of common law. An example is joint and several liability. Any reference to these terms has been deleted, and the liability of joint tortfeasors will be determined under common or previous statutory law.  

Representative Florio (D-N.J.), sponsor of the House Superfund bill, commented:

Issues of joint and several liability not resolved by this [act] shall be governed by traditional and evolving principles of common law. The terms joint and several have been deleted with the intent that the liability of joint tortfeasors be determined under common or previous statutory law. . . . To insure the development of a uniform rule of law, and to discourage business[es] dealing in hazardous substances from locating primarily in States with more lenient laws, the bill will encourage the further development of a Federal common law in this area.

Thus, deleting the joint and several liability provisions of CERCLA was not meant to do away with the application of joint and several liability to CERCLA cases. The courts in Chem-Dyne and Wade II discounted Senator Helms’ (R-S.C.) belief that any references to joint and several liability were deleted because they were “especially pernicious.” The court in Chem-Dyne gave Senator Helms’ opinion little weight because he was an opponent of the bill. The court in Wade II further explained that an entire reading of the record did not support Senator Helms’ view but “reveal[ed] that deletion of the reference to joint and several liability was intended to avoid mandating application of that standard to a situation where it would produce inequitable results.”

Upon deciding that the scope of liability under CERCLA was to be determined by common law, the courts in Chem-Dyne and Wade II

34. Senator Helms stated that retention of
[joint and several liability for costs and damages [would have been] especially pernicious . . . not only because of the exceedingly broad categories of persons subject to liability and the wide array of damages available, but also because it was coupled with an industry-based fund. Those contributing to the fund [would] frequently be paying for conditions, they had no responsibility in creating or even contributing to. To adopt a joint and several liability scheme on top of this would have been grossly unfair. Chem-Dyne, 572 F. Supp. at 806 (quoting 126 Cong. Rec. H11787 (Dec. 3 1980)); accord Wade II, 577 F. Supp. at 1337.
35. Chem-Dyne, 572 F. Supp. at 806 (citations omitted).
were faced with the question of whether state or federal common law should be applied. After *Erie Railroad Co. v. Tompkins,* federal courts no longer had the power to fashion general common law. However, federal courts retained the power to make federal common law when “necessary to protect uniquely federal interests.” The *Chem-Dyne* and *Wade II* courts reasoned that “[b]ecause of the strong federal interest in the abatement of toxic waste sites and the need for a uniform liability standard . . . Congress intended the development of a federal common law.”

Once free to develop federal common law to govern the scope of CERCLA liability, the *Chem-Dyne* and *Wade II* courts tackled the joint and several liability issue. They adopted the Second Restatement of Torts rule, which classifies injuries as “distinct” or “non-distinct” with distinct harms being further classified as “divisible,” or “indivisible,” and placed the burden of proving divisibility upon the defendant. Under the Restatement, joint and several liability attaches only to harms which are non-distinct and indivisible. The problem, however, is that these courts gave little explanation of how a responsible party could prove divisibility of injury.

**IV. Proving Divisibility of Injury**

At least three possible approaches to proving divisibility of injury in CERCLA cases have been proffered. First, there are the Gore amendments of H.R. 7020, which allowed courts to apportion the harm, even if a defendant could not prove divisibility of injury; however, the amendments were correctly deleted from the final act because they added nothing to the common law. Second, there are the common law principles, articulated in the Restatement (Second) of Torts, which

37. See *Chem-Dyne,* 572 F. Supp. at 808; see also *Wade II,* 577 F. Supp. at 1338.

38. 304 U.S. 64 (1938).


41. See *Chem-Dyne,* 572 F. Supp. at 810; *Wade II,* 577 F. Supp. at 1338-39. *Prosser and Keeton on Torts* notes that some injuries, “by their very nature, are obviously incapable of any reasonable or practical division.” W. KEETON, D. DOBBS, R. KEETON & D. OWEN, *PROSSER AND KEETON ON TORTS* 347 (5th ed. 1984) [hereinafter *PROSSER AND KEETON*]. Death or a single wound are the clearest examples of indivisible injuries. See id. On the other hand, other injuries, “by their nature, are more capable of apportionment.” Id. at 348. The above commentary gives the example of a plaintiff being shot in the leg and in the arm by two defendants as an injury that is capable of apportionment. See id. However, other scholars take issue with the commentary’s two-wound example of a harm capable of apportionment. See infra text accompanying notes 108-10.

42. See infra text accompanying note 76.
are the current approach of proving divisibility of injury in CERCLA cases; however, as a practical matter such apportionment at this stage is unavailable. Third, there is the economic efficiency theory advocated by Professors Kornhauser and Revesz, which demonstrates that the Second Restatement approach to divisibility of injury is economically inefficient and that the harms from joint polluters are not divisible.

A. The Gore Amendments

Although the Gore amendments, along with the rest of H.R. 7020, were rejected, some courts grappling with the difficult question of divisibility have cited them favorably. However, courts which cite the Gore amendments with approval do so erroneously.

The Gore amendments constituted the most direct and comprehensive description of divisibility of harm in CERCLA’s legislative history. The amendments were aimed at the provisions of H.R. 7020, as reported, which completely eviscerated the joint and several liability provisions of that bill. These early provisions required the court to apportion damages among the defendants, even if the defendants could not establish a basis for apportionment. On the other hand, the Gore

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44. At least one court has completely misunderstood the Gore amendments and their role in establishing divisibility of injury. In United States v. Western Processing Co., 734 F. Supp. 930, 938 (W.D. Wash. 1990), the district court stated that the Gore Amendments were not to be used in establishing divisibility, but rather, that they were to be used in contribution. Such application of the Gore amendments is not in accord with their original purpose. The Gore amendments were to be used at the discretion of the federal district court in apportioning damages at the divisibility stage. See Staff of Senate Comm. and Public Works, 97th Cong., 2d Sess., 2 A Legislative History of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund) 296-302 (Comm. Print 1983) [hereinafter 2 Legislative History].
45. 2 Legislative History, supra note 44, at 439-40.
47. 2 Legislative History, supra note 44, at 184-85. H.R. 7020, as reported, provides, in pertinent part:
amendments did not require the court to apportion the harm beyond what was allowed by the common law; instead, the amendments provided equitable factors which the court could consider if, in its discretion, it determined the harm was further apportionable.\(^{48}\)

Notwithstanding the fact that Representative Gore sponsored the amendments to H.R. 7020, he preferred the common law approach which placed the burden of proof on the defendants to establish divisibility of injury in order to avoid the imposition of joint and several liability.\(^{49}\) He offered the amendments only because he was so strongly opposed to H.R. 7020, as reported, which required courts to apportion the harm in CERCLA cases.\(^{50}\) Representative Gore stated the following:

[The portion of the statute requiring courts to apportion damages] should be removed from the liability provision to allow a court to proceed under a true joint and several liability scheme. I reluctantly relaxed my efforts to completely delete this misguided subsection and in a spirit of compromise, I am instead offering an amendment to help ease its adverse effects.

My proposal would affirm the court's authority to apportion the remaining costs under [the common law approach], but would not require such apportionment. The language would permit the court to apportion the remaining damages among the remaining defendants, taking into account certain equitable factors. Apportionment would be solely at the discretion of the court.\(^{51}\)

Moreover, Representative Gore recognized that the "trick," where multiple tortfeasors are involved, "is to determine when an injury can in fact be considered indivisible and thereby permit employment of joint and several liability."\(^{52}\) Representative Gore further recognized that there are two sorts of indivisibility— theoretical and practical. Strikingly, he classified pollution by multiple defendants as usually being

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\(^{48}\) See infra text accompanying note 55.

\(^{49}\) 3 LEGISLATIVE HISTORY, supra note 46, at 296-302.

\(^{50}\) Id.

\(^{51}\) Id. at 302 (emphasis added).

\(^{52}\) Id. at 297.
practically indivisible. He classified injuries, such as death and total destruction of one's real or personal property, as theoretically indivisible.

The equitable factors articulated by Representative Gore and included in the House-passed version of H.R. 7020 were to be applied as follows:

(B) To the extent apportionment is not established under the [common law approach of] subparagraph (A) the court may apportion the liability among the parties where deemed appropriate based upon evidence presented by the parties as to their contribution. In apportioning liability under this subparagraph, the court may consider among other factors, the following:

   (i) the ability of the parties to demonstrate that their contribution to a discharge, release, or disposal of a hazardous waste can be distinguished;
   (ii) the amount of hazardous waste involved;
   (iii) the degree of toxicity of the hazardous waste involved;
   (iv) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste;
   (v) the degree of care exercised by the parties with respect to the hazardous waste concerning, taking into account the characteristics of such hazardous waste;
   (vi) the degree of cooperation by the parties with Federal, State, or local officials to prevent any harm to the public health or the environment.

The Gore amendments would have provided a method of apportioning harm in CERCLA cases based on equitable factors; however, they added nothing to the common law. The common law allows a party to prove divisibility of injury, and if it is unsuccessful, then the harm can be apportioned in an action for contribution. The first three Gore factors simply state what a party must show to establish divisibility of harm under the common law—the amount and degree of toxicity of the hazardous substance and the ability to discretely show their contribution to the harm. The last three factors can be considered by a court of equity in an action for contribution. Moreover, allowing the courts to apply the federal common law is what Representative Gore preferred. His amendments were simply offered in a spirit of compro-

53. Id. at 297-98.
54. Id.
55. 2 LEGISLATIVE HISTORY, supra note 44, at 439-40.
misure, and should be understood in accordance with his support of common law principles. However, as explained in the following section, the common law approach of proving divisibility of harm is impracticable.

B. The Common Law Approach of The Restatement (Second) of Torts

The Restatement (Second) of Torts provides for joint and several liability of multiple tortfeasors when there is an indivisible harm. If the harm is divisible, only several liability will be applied. However, where joint polluters are involved, the harm will almost never be divisible.

1. Traditional application of the common law to multiple polluters

Traditionally, the rule in all multiple defendant cases has been that a defendant is responsible only for damages he proximately causes, and the plaintiff bears the burden of proving damages. Moreover, joint and several liability arose only when there was joint action or each defendant owed a common duty to the plaintiff. For example, in Johnson v. City of Fairmont, a nuisance case, the independent acts of two defendants combined to pollute a stream and produced “offensive odors” on the plaintiff's premises. The court held that “acts of independent tortfeasors, each of which cause some damage, may not be considered to create a joint liability at law for damages.”

Over the years, however, courts began to hold each defendant liable for the total harm caused. In Michie v. Great Lakes Steel Division, National Steel Corporation, thirty-seven Canadian citizens filed a nuisance action against three corporations which operated plants in the United States. The plaintiffs individually claimed damages rang-

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57. Restatement (Second) of Torts § 875 (1977).
58. See id. at §§ 433A, 881.
60. 188 Minn. 451, 247 N.W. 572 (1933).
61. Id. at 452, 247 N.W. at 573.
62. Id.
63. W. Prosser, J. Wade & U. Schwartz, Cases and Materials on Torts 385 (8th ed. 1988). Prosser identifies two different legal means to hold each defendant liable: “(a) to find the injury was indivisible and therefore not apportionable as a matter of substantive law, and (b) to hold that the burden of proof is upon the defendants to show factual basis for apportionment with the result that apportionment is unavailable as a practical matter.” Id.; see, e.g., Landers v. East Texas Salt Water Disposal Co., 151 Tex. 251, 248 S.W.2d 731 (1952) (as a matter of law, defendants are jointly and severally liable for harm caused by pollution where harm is not reasonably apportionable); Maddux v. Donaldson, 362 Mich. 425, 108 N.W.2d 33 (1961) (burden of proof is on defendant where harm is indivisible).
65. Id. at 215.
ing from $11,000 to $35,000 from all three companies jointly and severally.\textsuperscript{66} On interlocutory appeal, defendants moved to dismiss the case, alleging that each plaintiff had individually failed to meet the $10,000 amount in controversy for diversity jurisdiction.\textsuperscript{67} The Sixth Circuit believed the issue to be whether, under Michigan law, multiple defendants could be held jointly and severally liable.\textsuperscript{68} The court stated that

if there is competent testimony, adduced either by plaintiff or defendant, that the injuries are factually and medically separable, and that the liability for all such injuries and damages, or parts thereof, may be allocated with reasonable certainty to the impacts in turn, the jury will be directed accordingly and mere difficulty in doing so will not relieve the trier of the facts of this responsibility. This merely follows the general rule that "where independent concurring acts have caused distinct and separate injuries to the plaintiff, or where some reasonable means of apportioning the damages is evident, the courts generally will not hold the tort-feasors jointly and severally liable."

\textbf{. . . "Where the negligence of two or more persons concur in producing a single indivisible injury, then such persons are jointly and severally liable, although there was no common duty, common design, or concert action."\textsuperscript{69}}

Although the court did not decide whether the defendants were to be held jointly and severally liable, it did hold that each plaintiff, who had alleged damages of $10,000 or more against the three defendants jointly and severally, had satisfied the amount in controversy requirement for diversity jurisdiction and that each defendant could be held liable for the $11,000.\textsuperscript{70} The court also held that putting the burden on the plaintiff to prove which defendant "was responsible and to what degree" was unjust.\textsuperscript{71}

\textit{Michie} illustrates the trend away from holding a defendant only responsible for the damages which he proximately caused. Furthermore, the case illustrates that a defendant in a multiple defendant pollution case is likely to be held jointly and severally liable for the entire amount of the damage.

\textsuperscript{66} \textit{Id.}

\textsuperscript{67} \textit{Id.} at 214. Currently, the case in controversy amount is $50,000. 28 U.S.C. § 1332 (1988).

\textsuperscript{68} 495 F.2d at 215.

\textsuperscript{69} \textit{Id.} at 216-17 (quoting Maddux v. Donaldson, 362 Mich. 425, 432-33, 108 N.W.2d 33, 36 (1961)).

\textsuperscript{70} \textit{Id.}

\textsuperscript{71} \textit{Id.}
2. **Restatement (Second) of Torts**

The Restatement (Second) of Torts classifies harms as "distinct" or "non-distinct." Distinct harms are "by their nature more capable of apportionment" than non-distinct harms. Non-distinct harms are further classified as either "divisible" or "indivisible." Divisible harms, "while not so clearly marked out as severable into distinct parts, are still capable of division upon a reasonable and rationale basis and of fair apportionment among the causes responsible." Indivisible harms are those which are "incapable of any logical, reasonable, or practical division." Under the Second Restatement, joint and several liability attaches only to harms which are indivisible.

Interestingly, the Second Restatement describes stream pollution as a divisible harm. Comment d of section 443A states:

> [A]pportionment is commonly made in cases of private nuisance, where the pollution of a stream, or flooding, or smoke or dust or noise, from different sources, has interfered with the plaintiff's use or enjoyment of his land. Thus where two or more factories independently pollute a stream, the interference with the plaintiff's water may be treated as divisible in terms of degree, and may be apportioned among the owners of the factories, on the basis of evidence of the respective quantities of pollution discharged into the stream.

This example of apportionment in a nuisance case is a carry-over from the First Restatement. Under the First Restatement all nuisance actions were apportioned, regardless of the "indivisibility" of the injury. However, as seen in Michie, courts are no longer so willing to apportion damages in nuisance pollution cases. Moreover, the harm in this example is not divisible at all—the interference with plaintiff's water use is one indivisible injury. As one author pointed out, "[t]he apportionment occurs in the causation. It is easier to tell how much each defendant contributed to the cause of the harm . . . than to the

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72. See *Restatement (Second) of Torts* § 433A (1977).
73. *Id.* at comment b. The Restatement (Second) of Torts gives, as an example of distinct harms, the following situation:
   If two defendants independently shoot the plaintiff at the same time, and one wounds him in the arm and the other in the leg, the ultimate result may be a badly damaged plaintiff in the hospital, but it is still possible, as a practical matter, to regard the two wounds as separate injuries, and as distinct wrongs.

75. *Id.* at comment i.
76. See *id.* at §§ 875, 881.
77. *Id.* at § 443A comment d (emphasis added).
78. See *Restatement of Torts* § 881 (1934).
79. See *supra* text accompanying notes 64-71.
harm itself." Although causation can be practically apportioned, the harm itself is neither theoretically nor practically divisible.

3. Application of the Restatement (Second) to CERCLA cases

As mentioned earlier, Chem-Dyne and Wade II propounded the Second Restatement as the appropriate standard for determining the scope of liability under CERCLA. In United States v. Monsanto Co., the Fourth Circuit reaffirmed the Second Restatement as the "correct and uniform federal rules applicable to CERCLA cases." Therefore, in order to apply the Second Restatement's principles, a "court's initial focus should be on whether the harm at the . . . site was indivisible." However, a defendant may not prove divisibility of injury by arbitrary or theoretical means.

A defendant desiring to prove divisibility should concentrate on his contribution to the harm and more importantly on the nexus between that contribution and the harm itself. Although proof of "respective quantities dumped" is sufficient under the Second Restatement example, such proof has proven insufficient in CERCLA cases. In United States v. Ottati & Gross, Inc., defendants Lily, General Electric, and Lewis Chemical proved the approximate number of drums of waste they dumped at the cleanup site. Nevertheless, because the chemicals had mixed together contaminating the ground and surface water, the harm was considered indivisible and the defendants were held jointly and severally liable. Thus, where chemicals have mixed, merely establishing the "respective quantities dumped" is insufficient to prove divisibility of injury in CERCLA cases.

In Monsanto, the Fourth Circuit described what a defendant must prove to show the nexus between his contribution and the harm at the

81. See supra text accompanying note 41.
82. 858 F.2d 160 (4th Cir. 1988).
83. Id. at 172.
86. See Prager, supra note 77, at 203-04.
88. Id. at 1396. Lily shipped approximately 670 drums of waste; General Electric shipped approximately 458 drums of waste; and Lewis Chemical shipped between 732 and 900 drums of waste. Id.
89. Id.
site. The Fourth Circuit stated that a defendant must

[show] a relationship between waste volume, the release of hazardous substances, and the harm at the site. Further, in light of the commingling of hazardous substances, the district court [can] not . . . reasonably [apportion] liability without some evidence disclosing the individual and interactive qualities of the substances deposited there. Common sense counsels that a million gallons of certain substances would be mixed together without significant consequences, whereas a few pints of others improperly mixed could result in disastrous consequences.90

The Fourth Circuit also noted that “evidence disclosing the relative toxicity, migratory potential, and synergistic capacity of the hazardous substances at the site would be relevant to establishing divisibility of harm.”91

The elements that a defendant must show to prove divisibility, when taken collectively, almost require the defendant to “fingerprint” his wastes, something the government is not even required to do when proving causation.92 The difficulty in proving divisibility of injury presents defendants with a near unsurmountable task. As Prosser noted, “[w]hen the burden of proof is upon the defendants to show factual basis for apportionment; . . . apportionment is unavailable as a practical matter.”93 Thus, it is not surprising that no section 9607 CERCLA case has found the injury divisible.

C. The Economic Efficiency Method

Professors Kornhauser and Revesz take an economic approach to divisibility of injury and apportionment of harm.94 Their analysis is based on a theoretical model in which multiple parties contribute to a landfill site. The damage from a release is considered to be the cost of cleaning up the landfill and the surrounding affected areas.95 The expected damage from a release at the site is considered a loss to society, unless there is a legal provision shifting the liability to the dumpers.96

91. Id. at n.26.
94. Kornhauser & Revesz, supra note 3.
95. Id. at 835.
96. Id. at 835. In the absence of a legal provision, the loss falls on those who suffer from the contaminated site and on the federal government who is responsible for the cleanup. Id. at 836 &
The goal of the model is to allow a socially efficient amount of waste to be dumped at a site. The problem, as identified by the model, is that the economically rational dumper does not make her decision based on what is a socially efficient amount to dump, rather she makes her decision based on "the benefit that she derives . . . minus whatever share of the social loss the legal regime allocates to her."

This comment agrees with Professors Kornhauser and Revesz's contention that proving divisibility of injury (stage one apportionment) in CERCLA cases is an impractical objective and that joint and several liability should attach. Professors Kornhauser and Revesz, however, discuss the issue of divisibility of injury in the context of actions based on negligence where "the characterization of the harm is important because it determines whether the negligent actors must pay for the damage attributable to non-negligent actors." Nevertheless, their analysis of distinct and non-distinct harms illustrates the impracticability of establishing divisibility of injury under the traditional common law rules.

Professors Kornhauser and Revesz also suggest that, under the traditional rules of apportionment, economic efficiency calls for the application of negligence rather than strict liability to CERCLA. However, rather than suggesting that the standard of liability in CERCLA be changed to negligence, they propose a method of apportionment that would produce an efficient outcome under strict liability. They suggest an apportionment scheme "which attach[es] significance to whether an actor is taking the socially optimal amount of care." Their approach, however, is flawed because it requires the courts to determine the socially optimal amount of waste for a dumper to dump. A task that, in light of the complexities of hazardous wastes, is too onerous for

n.22.

97. See id. at 837.
98. Id.
99. Id. Professors Kornhauser and Revesz state that the social loss born by each dumper is dependant on two factors: (1) the liability rule and (2) the apportionment rule. Id. at 836. They consider the liability rules of negligence and strict liability. Their analysis of apportionment rules considers how "joint tortfeasors divide the loss among themselves" and what portion of the loss the victim must bear. Id. at 836-37. Punitive damages were not considered as they are generally based on intentional wrongdoing. Id. at 833.
100. Id. at 858; see also id. at 841, 851-56.
101. See supra text accompanying notes 105-16.
102. Kornhouser & Revesz, supra note 3, at 833.
103. See id. at 833, 858-60.
104. Id. at 833.
the courts to bear. This section of the comment will discuss Professors Kornhauser and Revesz's approach to divisibility and apportionment of harm and will conclude with a criticism of their approach to apportionment.

I. Divisibility of injury

For purposes of efficiency, Professors Kornhauser and Revesz redefine the Second Restatement categories of harm (i.e., distinct, non-distinct but divisible, and non-distinct and indivisible).\(^{105}\) They classify harms as either distinct (divisible) or non-distinct (indivisible), with joint and several liability only attaching to non-distinct harms.\(^{106}\) A distinct harm occurs when “the damage caused by one actor is independent of the harm caused by the other actors.”\(^{107}\) A non-distinct injury would occur “where the damage caused by one actor increases the damage caused by the other.”\(^{108}\) Professors Kornhauser and Revesz do away with the Second Restatement’s distinction between non-distinct but divisible and non-distinct and indivisible harms since division of the injury in CERCLA cases is practically impossible.\(^{109}\)

Professors Kornhauser and Revesz’s definition of a distinct injury is similar to the Second Restatement approach. In fact, in support of their definition of distinct harms, they cite the Second Restatement:

If two defendants independently shoot the plaintiff at the same time, and one wounds him in the arm and the other in the leg, the ultimate result may be a badly damaged plaintiff in the hospital, but it is still possible, as a logical, reasonable, and practical matter, to regard the two wounds as separate injuries, and as distinct wrongs. The mere coincidence in time does not make the two wounds a single harm, or the conduct of the two defendants one tort.\(^{110}\)

\(^{105}\) Professors Kornhauser and Revesz note that in defining the three categories, the Restatement contemplates that a harm can be apportionable in four different senses. A distinct harm is one that is “more” capable of apportionment; a non-distinct but divisible harm is one that is somewhat less capable of apportionment; and a non-distinct and indivisible harm is presumably even less capable of apportionment. But even if a harm is non-distinct and indivisible, the defendant held jointly and severally liable may have a right of contribution, with the amount of such contribution determined by reference to the “equitable shares” of each of the defendants. This division is, then, another way of apportioning the damage. Not surprisingly, great confusion surrounds the question of when the tortfeasors should be held jointly and severally liable.

\(^{106}\) Id. at 852.

\(^{107}\) Id.

\(^{108}\) Id.

\(^{109}\) See id. at 852-55.

\(^{110}\) Id. at 853-54 (quoting RESTATEMENT (SECOND) OF TORTS § 433A comment b
However, they disagree with the Second Restatement’s conclusion that a rough estimate can be made “which will fairly apportion” the pain and suffering, or medical expenses, from the two wounds. They correctly point out that if the presence of one wound increased the pain and suffering of the other, the harm to the victim would be non-distinct and joint and several liability would attach.

Professors Kornhauser and Revesz also take issue with the Second Restatement’s example of divisible harms. The Second Restatement provides that “where two or more factories independently pollute a stream, the interference with the plaintiff’s use of water may be apportioned among the owners of the factories, on the basis of evidence of the respective quantities of pollution discharged into the stream.” They explain that it is improbable that damages in the case of joint polluters would display a linear relationship. As an example, they note that “as the concentration of dissolved oxygen in water decreases toward a threshold, there will be a pronounced increase in the damage caused, since the water will no longer be able to support fish.”

Professors Kornhauser and Revesz appropriately conclude that where one polluter’s discharge affects the harm caused by another, the injuries are non-distinct, and joint and several liability should be imposed. In support of their definitions and in their criticism of the Second Restatement, they state:

From an efficiency perspective, there is no need to have three different categories of harms, since there are only two possible legal consequences: imposition or rejection of joint and several liability. Because there is no legal significance to the distinction between distinct harms on the one hand and non-distinct on the other, it is [not] helpful to separate harms along these lines. To the contrary, the multiplicity of unnecessary legal categories is quite likely to breed confusion.

2. Apportionment of harm

Professors Kornhauser and Revesz contend that “[a]lthough rules of joint and several liability are efficient under negligence, they will not produce efficient results under strict liability.” The inefficiency

111. Id.
112. Id.
113. Id. at 854 (quoting Restatement (Second) of Torts § 433A comment d (1977)).
114. Id. at 855.
115. Id.
116. Id. at 853.
117. Id. at 858.
results

because an actor who contemplates dumping more than the socially optimal level does not bear the full increase in the damage that she imposes on society. In the case of existing apportionment rules under strict liability, other actors must themselves bear a portion of the increase in damage caused by the actor who dumps more than the social optimum.\(^{118}\)

Professors Kornhauser and Revesz thus contend that the imposition of joint and several liability and the resulting contribution actions (where liability is apportioned in proportion to, among other things, the amount and toxicity of waste dumped)\(^{119}\) is an inefficient outcome.\(^{120}\) Instead, they propose a simple rule for apportionment under CERCLA and explain why it is efficient:

\[ \text{[T]he full damage is [to be] divided per capita among the various actors when none dump more than the socially optimal level. If some actors dump more than this level, then those actors divide the full damage among themselves per capita, and the remaining actors pay nothing.}\]

Such a rule is efficient. If all but one of the actors meet the socially optimal level, it would not be rational for the remaining actor to dump more than the socially optimal amount. If she were to increase her output beyond the social optimum, she would bear the full increase in the ensuing damage. In addition, she would have to pay the full damage that occurs when all the actors meet the socially optimal level, rather than the per capita share of that damage, which she would pay if she did not depart from this level.\(^{121}\)

3. Criticism of apportionment scheme

The problem with Professors Kornhauser and Revesz’s approach is that apportioning the loss depends on whether the actors meet the amorphous “socially optimal” level to dump and whether courts would be required to determine the social optimum.\(^{122}\)

Professors Kornhauser and Revesz indicate that one of the reasons that a court may make mistakes in determining the socially optimal

\(^{118}\) Id.
\(^{119}\) See id. at 843 & n.54 (citing Colorado v. ASARCO, Inc., 608 F. Supp. 1484, 1487-88 (D. Colo. 1985)).
\(^{120}\) Id. at 857.
\(^{121}\) Id. at 858-59.
\(^{122}\) It is true that courts routinely have to determine the social optimum in order to determine the standard of care in negligence cases. However, perhaps the reason that Congress preferred a strict liability standard is because of the impossibility of determining the social optimum where hazardous wastes are involved.
amount to dump is because of the difficulty in ascertaining the exact benefits dumpers receive from engaging in businesses that generate wastes. However, economic benefit to the dumpers is only one factor which determines the socially optimum amount to dump. The other factor is the social loss. The social loss is the full amount of the damage resulting from a release. Determining the social loss will be more difficult than determining the economic benefit to the dumpers. However, Professors Kornhauser and Revesz make no mention of this problem or how to resolve it.

A determination of the social loss is too onerous for the courts. In determining the social loss attributable to a particular site, the court will have to decide the optimum level of dumping for each site. That inquiry includes the characteristics of the site (e.g., the proximity of the site to ground water or residential areas), the relative toxicity, and the migratory and interactive properties of the wastes to be dumped at the site by each individual dumper. This would require the court to delve into a detailed, fact-finding mission. The court would essentially need to determine what the future cost of CERCLA remedial action of the site would be. In other words, the court must determine, prior to a release, what the damages of the release would be in order to establish the socially optimum amount to dump. It is unlikely that courts will choose to undertake this burden. Professors Kornhauser and Revesz predicted the fate of their own apportionment scheme when they acknowledged that if the costs of determining the socially optimal level to dump are too great, "or if courts are unable to determine the social optimum, traditional strict liability rules might be preferred over . . . efficient strict liability rules." 124

V. RECOMMENDATION

The practical impossibility of proving divisibility under the Restatement, plus the confusion which arises from its classification of harms (distinct, non-distinct but divisible, and non-distinct and indivisible) argues against its application in CERCLA cases. The economically efficient definition of distinct versus non-distinct injury is the clearest and most practical approach. This definition provides that whenever the damage caused by one actor increases the damage caused by the other, joint and several liability should attach. Therefore, injuries resulting from releases of hazardous waste disposal sites should be classified as non-distinct (non-distinct and indivisible), and joint and several

123. Kornhauser and Revesz, supra note 3, at 862.
124. Id. at 860 (footnote omitted).
liability should attach.

Apportionment of harm in CERCLA cases, should, and for all practical purposes does, take place in contribution actions. Further, the harm should continue to be apportioned among the defendants in proportion to the amount of harm which they cause.

VI. Conclusion

This comment has discussed the scope of liability under CERCLA and three possible methods of proving divisibility of harm. Congress intentionally deleted all references to both strict and joint and several liability. Congress did this so that liability under CERCLA could be imposed under traditional and evolving principles of federal common law. Federal courts have adopted the Restatement (Second) of Torts as the appropriate standard to be applied in CERCLA cases. Under the Second Restatement, harms are divided generally into distinct and non-distinct harms with joint and several liability only attaching to non-distinct harms. A CERCLA defendant wishing to prove divisibility of harm should concentrate on his contribution to the harm and on the nexus between that contribution and the harm itself. However, as a practical matter, when the burden of proof is upon the defendants, divisibility of harm is unavailable. Had the Gore Amendments been adopted, courts, at their discretion, could have used specific equitable factors to apportion the harm. The most restrictive view of divisibility of harm is that taken by Professors Kornhauser and Revesz. They would define any injury as non-distinct "where the damage caused by one actor increases the damage caused by the other." In the case of joint polluters, this would almost always be the case.

Neither the Restatement nor the economic efficiency model give much hope of proving divisibility of injury in CERCLA cases. The Gore amendments came the closest to providing defendants with a means of apportioning liability other than by contribution. However, the Gore amendments were rejected and cannot be relied upon.

In summary, proving divisibility of injury in CERCLA cases is impracticable and inefficient. Harm caused from releases at hazardous

125. For an analysis of contribution in CERCLA cases, see Comment, Contribution Under CERCLA: Judicial Treatment After SARA, 14 Colum. J. Env’t. L. 267 (1989).
126. See supra text accompanying notes 22-27.
127. See supra text accompanying notes 30-36.
128. See supra text accompanying notes 72-80.
129. See supra text accompanying notes 81-93.
130. See supra text accompanying notes 105-16.
waste sites should be considered non-distinct, and joint and several liability should attach. Apportionment of harm should come in contribution actions. The method of apportionment advanced by Professors Kornhauser and Revesz is impractical and should not be adopted. The current method of apportioning harm, according to the proportion of one’s contribution, is the preferred method.

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