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And the Meek Shall Inherit Cleaner Earth

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When adopted in 1980, Superfund was a daring and promising new scheme to address a difficult environmental problem — orphaned hazardous waste disposal sites. With Superfund now up for reauthorization, it is incumbent to rethink the very foundations of the law. Opinion is virtually universal that Superfund, after more than a decade, has fallen far short of its goal. Indeed, the law might fairly be characterized as an “air ball.”

Superfund was a reaction to the political crisis spawned by high-profile media accounts of environmental disasters at Love Canal and elsewhere. These media accounts not only portrayed the prevailing risks as horrendous, they also identified the responsible parties, who appeared quite blameworthy. Congress responded to public demand for correction of the problem and punishment of the guilty parties.

At its inception, and as interpreted by the Environmental Protection Agency and early judicial opinions, Superfund bristled with the threat of nearly limitless liability. Potentially responsible parties (PRPs) were many; damages were strict, joint, and several; and contaminated land was to be cleaned to nearly unnatural pristineness.¹ Neither Congress nor EPA actually anticipated that this

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¹ In the early judicial interpretations of Superfund, the government established positive precedents on virtually every contested issue. On the issue of joint and several liability, see, e.g., *United States v. Monsanto Co.*, 858 F.2d 160 (4th Cir. 1988); *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802 (S.D. Ohio 1983). One government lawyer suggested that Superfund requires only that he stand up and declare: “May it please the Court, I represent the government and therefore I win.” Douglas M. Garrou, Note, *The Potentially Responsible Trustee: Probable Target for CERCLA Liability*, 77 VA. L. REV. 113, 113 (1991). While the pendulum appears to be swinging back to the side of defendants, the fundamental precedents for a remarkably stringent liability regime have already been set.

onerous regime would be applied with regularity. Rather, the theory was that the threat of untrammelled liability would intimidate private parties into surrender — meaning voluntary cleanup or payment for government cleanup costs. This approach found support in the classical economic theory declaring that an increasing likelihood of ever-stricter penalties will produce greater compliance with law.²

The classical economic theory of compliance is being supplanted, however, by studies showing greater success for interactive compliance. Industry is more likely to conform to government wishes if the government approaches in a more conciliatory and cooperative fashion.³ When government presents a threatening, antagonistic face, the private response will more likely be one of resistance. This is precisely what has occurred under Superfund.

Experience demonstrates that Superfund has required the expenditure of enormous amounts of money in exchange for relatively little benefit. Despite the highest of expectations, very few hazardous waste sites have been cleaned up,⁴ and the economic costs of Superfund have been huge. This is primarily due to the substantial transaction costs of Superfund litigation in which attorneys, expert witnesses, and the like consume considerable resources.⁵ When cleanup *has* occurred, excessive sums have been spent at one site, to the detriment of the thousands of other sites deemed to require attention.⁶

The high transaction costs and limited accomplishments of Superfund are directly attributable to the severe liability regime applied under the original Act. Weakening of the law will functionally strengthen it. While facially counterintuitive, this princi-

See FRANK B. CROSS, *FEDERAL ENVIRONMENTAL REGULATION OF REAL ESTATE* 2-5 (1993).

² See, e.g., Patrick Edwards, *Choices that Increase Compliance*, 10 POL'Y STUD. REV. 6 (1991-92); Wesley A. Magat & W. Kip Viscusi, *Effectiveness of the EPA's Regulatory Enforcement: The Case of Industrial Effluent Standards*, 33 J. L. & ECON. 331 (1990).

³ See, e.g., JAY A. SIGLER & JOSEPH E. MURPHY, *INTERACTIVE CORPORATE COMPLIANCE: AN ALTERNATIVE TO REGULATORY COMPULSION* (1988); Frank B. Cross & Bill Stapleton, *Economic Determinants of Environmental Compliance*, INDUS. & ENVTL. CRISIS Q. (1994).

⁴ See, e.g., Frank Viviano, *How Superfund Became a Mess*, S.F. Chron., May 30, 1991, at A1 (indicating that only 33 of ten thousand sites have been cleaned up in more than a decade of statutory experience).

⁵ See *infra* notes 10-15 and accompanying text.

⁶ See *infra* note 32 and accompanying text.

ple has been plainly demonstrated by game theorists and other analysts.

This article proposes to strengthen Superfund through two major changes. First, the law's liability language should be diluted through the elimination of presumptive joint and several liability. The liability of individual PRPs should be limited to that portion of the problem that they caused, as estimated by the best available methodology. Second, the standards for site cleanup should be relaxed, with official policy settling for reasonably clean conditions.

I. APPORTIONED LIABILITY

Joint and several liability was controversial from the first days of Superfund. The criticism of such liability centered on its unfairness, because a single company responsible for only a small fraction of harm could bear financial responsibility for an entire site.⁷ Defenders of the liability scheme have acknowledged a level of inequity but justify the approach as necessary for an effective cleanup program.⁸ History has demonstrated, however, that joint and several liability has not succeeded in this goal.

Intended for use as a bludgeon against recalcitrant private parties, the existence of presumed joint and several liability has served only to promote greater recalcitrance. The existence of unnecessary Superfund transaction costs is beyond dispute, and these costs are largely attributable to the law's onerous liability regime. The great expenditures on litigation and associated transaction costs have undermined the environmental benefits of the law. President Clinton recently observed that he would "like to use that Superfund to clean up pollution for a change and not just pay lawyers."⁹

A series of efforts have been made to quantify the wasteful litigation costs associated with Superfund. A Rand Corporation

⁷ The joint and several liability scheme of CERCLA was criticized as casting too broad a net of liability and unfairly requiring contributors responsible for only a part of the contamination to bear the entire cost of cleanup. 126 CONG. REC. 26,756 (1980) (statement by Rep. Stockman). See also Frank P. Prager, *Apportioning Liability for Cleanup Costs under CERCLA*, 6 STAN. ENVTL. L. J. 198 (1986-87).

⁸ 126 CONG. REC. 31,965 (statement of Rep. Florio arguing in favor of the application of joint and several liability under CERCLA).

⁹ See Leslie Cheek III, *Salvaging Superfund Insurance Industry*, BEST'S REV. PROP. CASUALTY INS. EDITION, June 1993, at 65.

study found that on average about 32 percent of Superfund expenses were attributable to legal fees or other non-cleanup expenses, with this proportion rising to 60 percent at some sites.¹⁰ Another study found that some 21 percent of potentially responsible parties' expenditures went to non-cleanup expenses, such as litigation costs.¹¹ An Office of Technology Assessment study estimated transaction costs at 44 percent of total expenditures.¹² For major insurers, transaction costs amounted to 88 percent of Superfund expenditures.¹³ Legal costs are running between \$10 million and \$20 million per Superfund site.¹⁴ About \$12 billion has already been consumed in transaction costs, and Jan Acton, Rand Corporation researcher, estimated that the ultimate total could be \$200 billion.¹⁵ These financial costs do not even include the substantial costs (both health and financial) associated with lengthy delays in cleanup.¹⁶

High costs associated with the operation of Superfund are directly related to the act's liability standards. The Rand Corporation's research on Superfund transaction costs attributes those costs to a "litigious atmosphere" and an "adversarial relationship" between government and potentially liable parties.¹⁷ This situation is largely a result of "joint and several liability, [which] sets up a tension between the EPA and the parties, as well as among the parties themselves, at a time when the EPA might also prefer to have cooperation and expeditious handling of a site."¹⁸

Others also identify joint and several liability as a central culprit in the litigious situation surrounding Superfund. Professor Daniel Mazmanian and David Morell's classic study of Superfund observed: "Because under strict joint and several liability, anyone

¹⁰ See *Superfund Spending Ills Detailed*, CHI. TRIB., Nov. 5, 1993, Zone M, at 4.

¹¹ See *Non-Cleanup Costs Plague Insurers, PRPs*, ENGINEERING NEWS-REC., May 11, 1992, at 18. See also Michael Weisskopf, *Superfund Spending Inquiries Set*, WASH. POST, June 20, 1991, at A4.

¹² Frank Viviano, *Superfund Costs May Top S&L Bailout*, S.F. CHRON., May 29, 1991, at A1.

¹³ See Mark Trumbull, *Costs of Superfund Lawsuits Stir Up Calls for Change*, CHRISTIAN SCI. MONITOR, May 11, 1992, at 7.

¹⁴ Dennis Conolly, *Comments on "Cleanup of Old Waste: Some Thoughts on Re-thinking the Fundamentals of Superfund,"* 11 RISK ANALYSIS 69 (1991).

¹⁵ Viviano, *supra* note 12.

¹⁶ Litigation is one of a number of factors that have substantially delayed site cleanup. On average, it takes eight years to begin remedial work. JAN PAUL ACTON, UNDERSTANDING SUPERFUND: A PROGRESS REPORT viii (1989).

¹⁷ *Id.* at 53.

¹⁸ *Id.* at 54.

involved can be held accountable for the entire cleanup costs, businesses (and most recently municipalities) have devoted an enormous amount of energy to fighting EPA and one another through the legal system rather than contributing to the cleanup task."¹⁹ The U.S. Treasury Department concurs, finding that joint and several liability "creates enormous economic uncertainty" that in turn produces "inflated transaction costs."²⁰ A leading commentator observed that "the high-stakes Superfund liability system breeds protracted negotiation and litigation, which, in turn, entail significant [transaction] costs."²¹ Counsel for DuPont, a frequent defendant in Superfund actions, expressly blames joint and several liability for "an avalanche of wasteful litigation."²² The situation is so bad that one Florida state official noted that listing a site under Superfund could "actually be counterproductive in achieving cleanup of the site."²³

Elimination of the presumptive joint and several liability standard will create a more equitable, and potentially more cooperative, atmosphere under Superfund and consequently will enable more revenues to be directed toward actual cleanup. In addition, there is not a material downside to eliminating joint and several liability. The standard has proved a failure in pressuring potentially responsible parties to undertake voluntary cleanup, and EPA's very limited success in recovering monies for the cleanup fund further testifies to the lack of need for joint and several liability.²⁴ Elimination of joint and several liability also would add fairness to the operation of Superfund.²⁵

¹⁹ DANIEL MAZMANIAN & DAVID MORELL, *BEYOND SUPERFAILURE: AMERICA'S TOXICS POLICY FOR THE 1990s* 221 (1992). The authors further note that firms willing to pay their share of cleanup costs were deterred from doing so by the "fear that once involved, they would inherit the entire cleanup cost." *Id.* at 36.

²⁰ U.S. DEPT. OF THE TREASURY, *VIEWS OF THE DEPARTMENT OF THE TREASURY: SUPERFUND LIABILITY ISSUES 2* (Aug. 24, 1993).

²¹ *Superfund Transaction Costs: A Critical Perspective on the Superfund Liability Scheme*, 21 ENVTL. L. REP. (ENVTL. L. INST.) 10,413, 10,414 (July 1991).

²² Glenn Hess, *It's Been Super Fun, Not Superfund*, CHEM. MKTG. REP., November 16, 1992, at SR14.

²³ MAZMANIAN & MORELL, *supra* note 19, at 37.

²⁴ ACTON, *supra* note 12, at viii (government has recovered only about \$230 million of cleanup expenses). These recoveries amount to only about ten percent of government cleanup expenses. See William H. Rodgers, Jr., *A Superfund Trivia Test: A Commentary on the Complexity of the Environmental Laws*, 22 ENVTL. L. 417, 430 (1992).

²⁵ One commentary has proposed the retention of joint and several liability but the elimination of strict liability under Superfund. MAZMANIAN & MORELL, *supra* note 19, at 229. While this would ease the stringency of the statute, it could increase transaction costs

The elimination of joint and several liability would necessarily mean some form of apportioned liability, in which each defendant pays for cleanup in proportion to its share of responsibility for the site. This system presents some unique prospects for additional litigation, as parties haggle over their respective percentages of responsibility. Fortunately, the potential problem of additional litigation is surmountable.

There exist several simple approaches to apportionment. The most commonly used method in settlements is simple volumetric shares, in which each party contributes to cleanup costs in proportion to the amount of wastes they sent to a site. More sophisticated models would also consider factors such as the relative toxicity of these wastes. One established basis for apportionment, the "Gore factors," includes whether a party's contribution of hazardous substances to a site can be determined, the amount of the contribution, and cooperation with regulatory agencies. The scheme is named for Vice President Al Gore, who proposed the criteria while serving in Congress.²⁶

To avoid litigation over the proper apportionment approach, Congress should authorize EPA to establish by regulation a presumptive basis for apportionment of cleanup costs to be employed in all but exceptional circumstances. This approach has already been taken by Superfund for purposes of valuation of natural resource damages.²⁷ This apportionment could then be applied by an Administrative Law Judge in a Binding Apportionment of Liability.

The abolition of joint and several liability will eliminate the *in terrorem* threat to potentially responsible parties but in the process will provide greater predictability and fairness to cleanup cost damage assessment. This result will promote greater cooperation and less incentive for delay and litigation. Such an atmosphere will, in turn, produce more site cleanup at less overall cost.

as parties embark on the difficult task of proving or disproving the negligence of long past acts. Moreover, the counterproductive effects of joint and several liability would remain to induce litigation and other delays.

²⁶ Then-Representative Gore provided six factors for apportionment in an amendment to the original Superfund that failed to pass. See 126 CONG. REC. H9461 (daily ed. Sept. 23, 1980).

²⁷ CERCLA § 107, 42 U.S.C. 9607(f)(c)(2) (1988 & Supp. IV 1992).

II. REASONABLE CLEANUP STANDARDS

In addition to the onerous liability standards, the problems of Superfund are compounded by the demand for excessive cleanup—the “how clean is clean?” issue. Intuitively, it might seem that “cleaner is better.” Insistence on purity, though, raises the costs of cleanups and thereby further induces recalcitrance by potentially responsible parties. Excessive cleanup efforts also divert resources from other sites and reduce the number of sites that can be addressed.

The task of site cleanup poses a difficult technical and political question: At what point will the Superfund program regard a site as truly clean? The question is complicated by an essential tension within the Act. While Superfund professes to embrace the concept of fast-paced remediation with joint and several liability, its choice of unrealistic goals by which to evaluate success creates extraordinary costs that undermine the incentive for timely settlement by potentially responsible parties.

Few limitations exist on the solutions that may be adopted by EPA pursuant to Superfund remediation. Few citizens, other than PRPs, are willing to step forward and speak for the proposition that anything less than maximum technological feasibility should limit remediation. For example, Superfund encourages community involvement in remedy selection.²⁸ Unless the municipality itself is a PRP, however, there is little incentive for a community to compromise. To the affected community, the provision of cleanup services is a free good of great value, and local communities have no real need to economize or accept a level of safety deemed reasonable under principles of risk assessment. The pressure of the local community, in turn, is transmitted to EPA decision makers when they evaluate technological standards.²⁹ The burgeoning waste management industry also has weighed in as a potent lobby for costly solutions.

²⁸ Under CERCLA, the Comptroller General must conduct “a study of options for post-closure programs,” CERCLA § 107, 42 U.S.C. 9607(k)(6) (1988 & Supp. IV 1992), considering, inter alia, that “members of the public [should] have reasonable confidence that hazardous wastes will be managed and disposed of safely.” 42 U.S.C. 9607(k)(6)(B)(ii) (1988 & Supp. IV 1992).

²⁹ Marc K. Landy & Mary Hague, *The Coalition for Waste: Private Interests and Superfund*, in ENVIRONMENTAL POLITICS: PUBLIC COSTS, PRIVATE REWARDS 67, 70-71 (Michael S. Greve & Fred L. Smith eds., 1992).

Another factor tending to force the statute toward the most comprehensive solution possible is the strict liability system. Because the priority of Superfund is establishing blame, and not simply effective environmental protection, it is subject to extensive litigation concerning the appropriateness of remedy selection. Under such circumstances, there is no logical "end-point" for regulation—a concept that forces extraordinary results. Other laws permit the luxury of selecting a technological solution appropriate to the regulatory standards. With Superfund, consultants must devise solutions that not only protect human health and the environment, but that also anticipate inevitable litigation concerning the question: How clean is clean?³⁰ This produces added delay and transaction costs, as Mazmanian and Morell observed:

Without specific guidance as to remedies, those PRPs wishing to settle in advance of EPA's selection of a remedy have no reliable way to evaluate their financial exposure. Thus, PRPs, EPA, and state and local agencies continue to engage in study after study at a site, with each participant often trying to amass new data to buttress its claims regarding the extent of cleanup desired (and the costs incurred). Any hope for remediation gets pushed aside while debates rage, seemingly without end, over how much cleanup is necessary to protect health and how much cost can be justified to clean the site.³¹

Like an ancient theological dispute, the question of "how clean is clean" seems almost metaphysical, but it has implications for successful implementation of the Superfund program that are all too real. By escalating the costs of remediation, "gold-plated" remedies have slowed cleanups to a glacial pace. Only 64 actual cleanups have been completed — and at a cost of \$7.5 billion.³² EPA estimates that the average cleanup cost is about \$25 million per site, ranging as high as \$100 million.³³ Not including government's own hazardous waste sites, the Office of Technology Assessment has estimated that cleaning up all known hazardous

³⁰ George Lobsenz, *Peterson: Superfund Isn't Broke, It Never Worked*, 6 ENVT'L WK., July 1, 1993, at 4 (interview with Ralph Peterson, president and CEO of CH2M Hill, one of EPA's largest Superfund cleanup contractors).

³¹ MAZMANIAN & MORELL, *supra* note 19, at 45.

³² FRANCIS CAIRCROSS, *COSTING THE EARTH* 223; MAZMANIAN & MORELL, *supra* note 19, at 49.

³³ *Id.*

waste sites could cost as much as \$500 billion over the next half century.³⁴

Even though the threat of draconian liability has had some benefit in changed behavior, Superfund's inability to articulate reasonable solutions has seriously undermined the system. EPA's first General Counsel, John Quarles, concluded that if we continue to seek Superfund solutions that restore sites to essentially pristine conditions, we will be disappointed:

It might take us centuries to achieve that goal at all Superfund sites, and practical compromises with it are becoming commonplace. The philosophy of utter purity is, however, still intact as the driving force that governs the program.³⁵

In practice, Quarles has characterized cleanup as meeting the "picnic standard," meaning that cleanup should continue "until one could hold a picnic on top of the dump site where people could in total safety breathe the air, drink the water, and eat the dirt."³⁶ In place of utter purity, there are more reasonable premises upon which to base Superfund's cleanup standards.

At the risk of committing the heresy of using common sense in environmental protection, it would seem obvious that superior cleanup results could be achieved if absolute risk reduction were replaced with a format designed to match the greatest resources to the greatest risks. Of course, this end cannot be achieved with precision. There would be improvement if EPA employed exposure and toxicity data to perform risk assessments for Superfund sites.

EPA presently uses the queue system, whereby sites ready for remediation obtain completed "picnic standard" cleanup before work commences on the next site. This should be replaced by an approach known as ubiquitous risk reduction. The goal of this program would be to make some progress on each site, rather than complete progress on a few sites determined by their position in the queue. The state of Pennsylvania uses this ubiquitous risk reduction approach. The approach has been criticized for its lack of gold-plated solutions. The Environmental Law Institute has found that the approach achieves greater true risk reduction, however, because:

³⁴ *Id.*

³⁵ John Quarles, *In Search of a Waste Management Strategy*, 5 NAT. RES. & ENV'T 3, 48 (Summer 1990).

³⁶ *Id.* at 48.

It emphasizes cleanup activity over study. It emphasizes attention to geographical and social diversity in conducting cleanup activities. It emphasizes eliminating those risks that can be most practically and immediately eliminated, and it targets the available resources.³⁷

The approach also parallels that suggested by the U.S. Office of Technology Assessment.³⁸ By increasing the range of remediation alternatives and the flexibility at a given site, a more accurate and useful risk orientation will be equally protective and more democratic.³⁹

CONCLUSION

Despite high, wasteful costs and the slow pace of cleanup, it would nevertheless be wrong to assert that Superfund has entirely failed to advance environmental protection in the United States. It is fair to say that the statute has produced far less progress than promised, and much of the responsibility for statutory shortcomings can be laid at the feet of some of Superfund's best friends.

By pressing for pristine cleanups and severe liability, environmental advocates have inadvertently undermined the ends of Superfund. Remedying these excesses could produce the opposite of a "Catch-22" with greater cleanup and more health protection at less cost. A somewhat meeker Superfund would be more effective. Those opposed to such an outcome would only be lawyers who benefit from transaction costs and those advocates more devoted to theatrical posturing than to actual environmental protection. While these parties have real political influence, Congress should reject their pleas and reauthorize a new, improved, and effective Superfund.

³⁷ James M. McElfish Jr. & John Pendergrass, *Environmental Law Institute Research Brief No.2*, in REAUTHORIZING SUPERFUND: LESSONS FROM THE STATES 5 (December 1993).

³⁸ OFFICE OF TECHNOLOGY ASSESSMENT, SUPERFUND STRATEGY 8-9 (1985). The OTA also observed that "[p]ursuing a strategy of cleanup levels on the basis of background or pristine chemical levels does not make environmental, technical, or economic sense." *Id.* at 119.

³⁹ At a recent meeting of the National Advisory Council on Environmental Policy and Technology, John Sawhill, a former EPA Administrator and current president of the Nature Conservancy, remarked that the goal of public health protection can vary depending on the desires of the surrounding community. "Some will want economic development; some will be concerned about the health effects." 21 PESTICIDE & TOXIC CHEMICAL NEWS 3 (July 28, 1993).