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# Medical Monitoring and the Future of CERCLA: Reinvigorating the Superfund Laws Consequentialist Purpose

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# MEDICAL MONITORING AND THE FUTURE OF CERCLA: Reinvigorating the Superfund Law's Consequentialist Purpose

Colin Crawford\*

## I. INTRODUCTION

There is little doubt that Congress will amend our nation's hazardous waste laws and regulations in the next few years, perhaps drastically. The Fall 1994 Republican ascendancy was not the only sign of widespread dissatisfaction with the federal hazardous waste management structure, which includes the Resource Conservation and Recovery Act of 1976 ("RCRA")<sup>1</sup> and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA").<sup>2</sup> Well before Representative and later House Speaker Newt Gingrich became Washington's squeakiest wheel, demand for reform of the nation's hazardous waste legislation—and particularly CERCLA—rang out from several quarters, including industry,<sup>3</sup> the environmental lobby,<sup>4</sup> and

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1. Resource Conservation and Recovery Act of 1976, 42 U.S.C. §§ 6901-6992 (1976) ("RCRA").

2. Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §§ 9601-9657 (1980) ("CERCLA").

3. Michael Quint, *For Insurers, a 'Black Hole' Looms*, N.Y. TIMES, Sept. 22, 1994, at D1; Charlotte Allen, *Superfund Toxic Problems Require More Than a Quick Fix*, BARRON'S, Sept. 12, 1994, at 62 (commenting on various Superfund problems, including CERCLA's inability to direct speedy cleanups due to litigation, and criticizing President Clinton's proposed reforms for failing to address these problems); Mary B. Regan & Stephen H. Wildstrom, *Can Clinton Clean Up the Superfund Morass?*, BUSINESS WEEK, Feb. 14, 1994, at 41 (stating that "[t]he current program is a disaster for American businesses"); *Superfund Said to Cause Credit Crunch*, SUPERFUND WEEK, Aug. 6, 1993, available in 1993 WL 2761429 (discussing the costs CERCLA claims create for small businesses—as distinct from those imposed on other potentially responsible parties ("PRPs")—and focusing in particular on small businesses' inability to obtain credit, expand or maintain operations); *CMA Idea: Let an ALJ Allocate Liability*, SUPERFUND WEEK, Aug. 20, 1993, available in 1993 WL 2761368 (Chemical Manufacturers Association representative calls for an end to CERCLA's joint and several liability provisions); Chris Roush, *The Hurricane Called Superfund*, BUSINESS WEEK, Aug. 2, 1993, at 74 ("Clearly, one of the major threats to the solvency of

government.<sup>5</sup> Thus, the Republican's return to congressional power only helped focus the angry call to reform the laws now widely perceived as unduly punitive and over-inclusive in their regulatory scope.<sup>6</sup>

Criticisms of CERCLA's approach to hazardous waste management often boil down to a single concern: fairness. People with different political philosophies and divergent views on the appropriate role of environmental protection nonetheless often agree that various CERCLA provisions, and in particular its imposition of joint and several liability, are unjust in practice.<sup>7</sup>

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property and casualty insurers is the risk of contract reinterpretation that could impose enormous unforeseen environmental clean-up costs."); James Picerno, *Rulings on Clean-Ups Take a Fresh Turn*, BARRON'S, Jan. 4, 1993, at 45 (reporting recent cases that take a restrictive approach to interpreting CERCLA).

4. See, e.g., *Hearing Frenzy Hits House; Closure Sought on Retroactive Liability Issue*, HAZARDOUS WASTE NEWS, June 26, 1995, available in 1995 WL 2407302 (environmental lobbyists call for the repeal of retroactive liability as applied to certain municipalities); John H. Cushman, Jr., *Congress Forgoes Its Bid to Hasten Cleanup of Dumps*, N.Y. TIMES, Oct. 6, 1994, at A1 (discussing failed Clinton Administration CERCLA reform proposal, and noting comments of, *inter alia*, Environmental Defense Fund legislative director William J. Roberts who stated that the proposed "revision was 'far from perfect' [but] it would have been a substantial improvement over the status quo").

5. See *Congress, Industry, Regulators Gearing up for Head Start on Upcoming Reauthorization*, 23 Env't Rep. (BNA) 1579, 1580 (Oct. 16, 1992) (reporting on Randolph W. Deitz, counsel for the House Public Works & Transportation Subcommittee on Investigations and Oversight, and his opinion that CERCLA's liability scheme is unfair); United States Env't. Protection Agency, *EPA Policy Guidance Document: Guidance on CERCLA Settlements with De Micromis Waste Contributors*, 24 Env't. L. Rep. (Env't. L. Inst.) 35,566, 35,567 (July 30, 1993) [hereinafter *EPA Guidance*] ("We believe that the contribution demands and several recent third-party suits against parties that could qualify for a de micromis settlement produce inequitable burdens (e.g., increased litigation expenses and transaction costs) for these parties."); *Municipal Concerns Dominate Reauthorization*, SUPERFUND WEEK, Mar. 19, 1993, available in 1993 WL 2761752; *EPA Skewed on Risk Assessment During Superfund Reform Hearing*, NUCLEAR WASTE NEWS, Mar. 31, 1994, available in 1994 WL 2521033 (Senate Energy & Natural Resources Committee's Chairman Johnston (D.-La.) questions EPA's standards for developing clean-up levels under CERCLA); *Hill Leaders: Superfund to Get Complete Change*, SUPERFUND WEEK, Mar. 31, 1995, available in 1995 WL 7504161 [hereinafter *Hill Leaders*] (reporting on discussions between Senators and local government officials regarding Superfund problems); Robert Tomsho, *Pollution Ploy: Big Corporations Hit By Superfund Cases Find Way to Share Bill*, WALL ST. J., Apr. 2, 1991, at A1 ("The private sector is using its many years of experience with this statute to hit the unknowing, little-trained cities in the pocketbook," grumbles Kevin Murphy, city manager of Alhambra, California.").

6. See, e.g., MICHAEL B. GERRARD, *WHOSE BACKYARD, WHOSE RISK* 84 (1994) (observing that the fairness principles in CERCLA and state siting legislation "are irreconcilable with each other and with important other values"); *Hearing Before the Subcomm. on Superfund, Recycling & Solid Waste Management of the Senate Comm. on Env't & Public Works*, 103d Cong., 1st Sess. (1993) (opening statement of Hon. David Durenberger) (noting "the complaint . . . that Superfund cleanups go beyond what is necessary to protect health and environment").

7. See, e.g., Hon. James L. Oakes, *Developments in Environmental Law: What to Watch*, 25 Env't. L. Rep. (Env't. L. Inst.) 10,308 (June 1995) (noting the widespread criticism of CERCLA's retroactive, joint and several liability scheme); John E. Osborn & Steven N. Williams,

The joint and several liability provisions received the fiercest criticism because they potentially impose liability on *both* the people and/or entities who created hazardous waste contamination *as well as* successor owners or operators who did not.<sup>8</sup> The news was full of stories of people who unknowingly purchased land contaminated by hazardous waste many years earlier, and whose efforts to comply with government orders (issued under authority from CERCLA) to clean-up the toxic mess left them nearly bankrupt.<sup>9</sup> Revisions to CERCLA in 1986, notably the inclusion of an "innocent landowner" defense, did little to alleviate the continuing concern that the weight of the statute often falls heavily on the unsuspecting.<sup>10</sup> Indeed, most people who have even a limited knowledge of CERCLA and the Superfund<sup>11</sup> process have heard stories about

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*Reauthorizing Superfund: Problems and Prospects*, N.Y. L.J., Mar. 29, 1994, at 1; *Small Business Representatives Detail Retroactive Liability Problems for Panel*, 1995 DER 61, Mar. 30, 1995, at d53.

The scope of CERCLA's liability scheme has also received criticism, particularly because it extends to transporters of hazardous waste. *See, e.g., Superfund: Draft Language for Reform Bill Would Exempt Waste Generators, Transporters From Liability*, 26 Env't Rep. (BNA) 2101 (Mar. 8, 1996). More recently, CERCLA critics have focused on the so-called "orphan" share—those parties in CERCLA cleanups who are bankrupt or otherwise unable to pay their share of the costs. William D. Evans, Jr., *The Phantom PRP in CERCLA Contribution Litigation: EPA to the Rescue?*, 26 Env't Rep. (BNA) 2109, 2109-17 (Mar. 8, 1996) (suggesting that courts increasingly shy away from imposing strict joint and several liability even though warranted by the facts of the case).

8. The attacked provisions appear at 42 U.S.C. § 9607(a)-(b) (1988) and 42 U.S.C. § 9607(e)(2) (1988). In addition to the materials cited in previous footnotes, *see also* *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802 (S.D. Ohio 1983).

9. One example is the story of a man who retired from his Michigan manufacturing job and bought 70 acres of land near his West Virginia birthplace. The land, which was purchased without an attorney or title search, was once used as a dump. After conducting an inspection in 1983, the EPA directed that the man clean up the property, at an estimated cost of \$800,000. 22 Env'tl. L. Rep. (Env'tl. L. Inst.) 977, 978.

In California, a "distinctly non-wealthy couple" had the misfortune of purchasing a small house in rural Northern California located on land contaminated by potentially lethal polychlorinated biphenyls, or "PCBs." The couple, who could not afford to pay the \$20,000 clean-up price, was fined \$25,000 a day by the state for their inaction. After much protest, the state lifted the fine, but not the clean-up bill. Joanne Lipman, *Unwitting Owners May Owe For Cleanup of Toxic Waste*, WALL ST. J., Aug. 1, 1984, § 2, at 27.

10. The Superfund Amendments and Reauthorization Act of 1986 ("SARA") modified CERCLA. 42 U.S.C. § 9611 (1986). The innocent landowner defense appears at 42 U.S.C. § 9601(35) (1986). For discussion of the provision's limitations, *see* Diane H. Nowak, Comment, *CERCLA's Innocent Landowner Defense: The Rising Standard of Environmental Due Diligence for Real Estate Transactions*, 38 BUFF. L. REV. 827 (1990); Ginamarie Alvino, *Landowner Liability Under CERCLA: Is Innocence a Defense?*, 4 ST. JOHN'S J. LEGAL COMMENT. 149, 179 (1989).

11. Although the entire Act is commonly called the "Superfund law," the Superfund is actually only one aspect of the hazardous waste contamination clean-up statute. The Superfund is paid for by a tax on petroleum and various other polluting substances, and underwrites the cleanup of only the most serious environmental hazards. *See* 42 U.S.C. §§ 9611, 9631(a)-(b)(1), 9641(a)-(b) (1986); 26 U.S.C. § 4681 (1989).

CERCLA's "innocent victims," such as the saga of an excavation company roped into a CERCLA clean-up action after it "moved contaminated soil from one spot in a parcel to another uncontaminated spot of the same parcel" while performing its duties as a contractor hired to prepare the site for development.<sup>12</sup> To render these appalling situations tragicomic, such parties even receive a special moniker because of their tiny but nonetheless real responsibility to participate in a toxic waste cleanup under CERCLA: They are not merely "de minimus" parties;<sup>13</sup> they are "de micromis" parties.<sup>14</sup>

In light of this situation, it is not surprising that dissatisfaction—and often disgust—with CERCLA is widespread. Statutory reform (and not merely funding reauthorization for the Superfund) appears certain, although the congressional budget deadlock and election year politics will likely delay definitive action.<sup>15</sup> However, while most agree that CERCLA should be reformed, reformers must be careful not to scrap the statute's real achievements. This Article argues that in the course of reforming CERCLA, and in particular its weakest and most unclear provisions, legislators should review the statute's original purposes.<sup>16</sup> Despite the unfair results CERCLA generates in some circumstances, the Act's central goals remain laudable.

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12. James R. Adams, *Contractor Who Moves Soil Subject to CERCLA Liability*, 60 DEF. COUNS. J. 604, 604 (1993). The case was litigated in *Kaiser Aluminum & Chemical Corp. v. Catellus Dev.*, 976 F.2d 1338 (9th Cir. 1992).

13. A "de minimus" contributor is liable for costs of responding to a CERCLA cleanup. However, since the passage of SARA in 1986, some parties, by virtue of their circumstances, may receive favorable treatment in the clean-up cost allocation settlement. See 42 U.S.C. § 9622(g) (1986). For example, a real property owner of a site on which a facility was located who neither conducted nor permitted "the generation, transportation, storage, treatment, or disposal of any hazardous substance at the facility," may receive special treatment. See *id.* Given the cost of many CERCLA cleanups, the total expense borne by consolidated "de minimus" parties can be substantial. See, e.g., *Superfund: Federal Agencies To Pick Up Bulk of Tab in \$60 Million Landfill Clean-up Settlement*, 26 Env't Rep. (BNA) 559 (July 14, 1995) ("Under a second agreement filed in the same court, about 340 de minimus settlers, including state and federal agencies, private companies, and numerous universities and medical facilities, agreed to pay an additional \$8.5 million toward past and future clean-up costs, according to DOJ.").

14. Nancy Kaplan, *CERCLA Cleanup Bill is Headed for Reauthorization—And Repair*, MASS. LAW. WKLY., May 23, 1994, at 38; *EPA Guidance*, *supra* note 5, at 35,566.

15. John H. Cushman, Jr., *Program to Clean Toxic Waste Sites Is Left In Turmoil*, N.Y. TIMES, Jan. 15, 1996, at A1; Ridgway M. Hall, Jr., *What Will Superfund Reauthorization Look Like?*, 26 Env't Rep. (BNA) 236 (May 19, 1995); John H. Cushman, Jr., *G.O.P. To Start From Scratch In Revising Toxic Dump Law*, N.Y. TIMES, Jan. 31, 1995, at A19.

16. Legislators must also recognize that:

In fact, the practice of environmental law demands even stronger regard for the public interest than does securities or banking practice. Environmental statutes are motivated by a broad need to protect the public, often from harms that may not be immediate but are far-reaching in their ability to disrupt and destroy.

J. William Futrell, *Environmental Ethics, Legal Ethics, and Codes of Professional Responsibility*, 27 LOY. L.A. L. REV. 825, 837 (1994).

Although unfair elements of the statute unquestionably require drastic revision, it is also true that the continuing need for safe, effective hazardous waste cleanup is more urgent than ever, as is the related need to identify the populations at greatest risk of harm from such waste.<sup>17</sup> Thus, appropriate CERCLA reform will restrict the Act's liability scheme but expand its overall scope. Congress should not lose sight of the fact that CERCLA is, first and foremost, a statute designed to protect the public health and the environment.<sup>18</sup>

The Article advances these views in three main parts. Part II gives a brief overview of the reasons why most of the legal and transactional time, attention, and money spent during CERCLA's first fifteen years focused on *who* should pay for hazardous waste cleanup, and *how much* parties should pay once identified. The section briefly examines some of the understandable reasons why this occurred, but then argues that a revised CERCLA will be more effective if it concentrates instead on *what* costs should be covered. Part II concludes by demonstrating that such a re-focus would reflect CERCLA's original, radically consequentialist design. Part III of the Article concentrates on the appropriateness of drafting explicit provisions for one of those "whats"—namely medical monitoring of hazardous waste cleanups. Given that much of the debate over CERCLA reform now centers on the need to set priorities and determine the extent of possible environmental harm, Part III argues that medical monitoring provides an especially appealing way to serve two functions, namely protecting human health and the environment from toxic harms and amassing reliable scientific information to plan future hazardous waste cleanups. The Article then briefly examines two opposing lines of cases that consider the medical monitoring issue, isolating what these cases say about environmental law and policy-making, and concludes that the pro-medical monitoring cases have the better argument. Part IV considers justifications for, and difficulties raised by, a pro-medical monitoring approach. The section

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17. Notable examples are poor racial and ethnic minority populations. See Commission for Racial Justice, United Church of Christ, *Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities with Hazardous Waste Sites* (New York: United Church of Christ, 1987). This study was updated in 1994. Benjamin A. Goldman & Laura Fitton, *Toxic Wastes and Race Revisited: An Update of the 1987 Report on the Racial and Socioeconomic Characteristics of Communities With Hazardous Waste Sites* (Center for Policy Alternatives, 1994).

Preliminary analysis of future risks from present hazardous waste sites appear in James T. Hamilton & W. Kip Viscusi, *Human Health Risk Assessments for Superfund*, 21 *ECOLOGY L.Q.* 573 (1994).

18. See, e.g., 42 U.S.C. § 9604(a)(1) (1986) ("Whenever . . . any hazardous substance is released or there is a substantial threat of such a release into the environment . . . the President is authorized to act . . . or take any other response measure . . . which the President deems necessary to protect the public health or welfare or the environment.").

concludes that the potential advantages of incorporating medical monitoring provisions into CERCLA outweigh the concerns raised by such a plan.

## II. CERCLA'S FIRST 15 YEARS: WHO WILL PAY?

Since the Act's inception, questions of who will pay for hazardous waste cleanups have dominated CERCLA litigation.<sup>19</sup> This is not entirely surprising. CERCLA is notorious for having been rushed through the 96th Congress in the last days of Jimmy Carter's presidency.<sup>20</sup> As a result, some of its provisions are frustratingly vague, and the intentions of its drafters remain unclear.<sup>21</sup> This is especially true with respect to its strict, retroactive liability provisions, which target a wide range of persons as potentially "responsible" for CERCLA cleanup.<sup>22</sup> Thus, litigation over who is a responsible party<sup>23</sup> for purposes of clean-up cost liability has concentrated, for example, on what

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19. See, e.g., ALLAN TOPOL & REBECCA SNOW, *SUPERFUND LAW AND PROCEDURE* 165 (1992); PATTON ET AL., *ENVIRONMENTAL LAW HANDBOOK* (BNA) 348 (1994) ("Disputes will often arise which threaten to drive group members to litigate against one another. In order to prevent wasteful litigation, PRP agreements have made use of dispute resolution clauses with increased frequency.") See also *id.* at 345 ("CERCLA has spawned a great deal of litigation in recent years both among private parties and between private parties and the government. However, nearly everyone in the Superfund process has come to realize that the costs of Superfund litigation in terms of wasted resources and clean-up delays can outweigh the benefits of litigation."); Andrew H. Perellis & Mary E. Doohan, *Superfund Litigation: The Elements and Scope of Liability*, in *ENVIRONMENTAL LITIGATION* 1, 21 (Janet S. Kole & Larry D. Espel eds., 1991) ("Although CERCLA was enacted over a decade ago, litigation continues at a brisk pace. The scope of liability continues to be defined through litigation. Moreover, the 1990s are likely to experience an increase in private party CERCLA actions, particularly those seeking to allocate liability among PRPs.")

20. See, e.g., PETER S. MENELL & RICHARD B. STEWART, *ENVIRONMENTAL LAW AND POLICY* 614 (1994); *Ambrogi v. Gould, Inc.*, 750 F. Supp. 1233, 1246 n.16 (M.D. Pa. 1990) ("Because of its varied and extensive record of passage, the use of CERCLA's legislative history has its limits.")

21. This is a point commentators seldom fail to mention. See, e.g., GERALD W. BOSTON & M. STUART MADDEN, *LAW OF ENVIRONMENTAL AND TOXIC TORTS: CASES, MATERIALS AND PROBLEMS* 475 (1994) (noting that "the legislative history of CERCLA . . . is not a paragon of clarity . . ."); SUSAN M. COOKE, *THE LAW OF HAZARDOUS WASTE: MANAGEMENT, CLEANUP, LIABILITY AND LITIGATION* §§ 12.01[1] & 12.02[1] (1993).

22. 42 U.S.C. § 9607(a) (1988).

23. The Act does not define "responsible party." However, it does define "covered persons" for purposes of establishing liability. 42 U.S.C. § 9607(a) (1988). "Responsible person" is mentioned in 42 U.S.C. § 9607(c)(2), with respect to "[t]he liability of an owner or operator or other responsible person under this section . . ." Courts have used the terms "responsible party" or "potentially responsible parties" ("PRPs") as a shorthand for the "covered persons" provision.

constitutes "transport" of hazardous materials,<sup>24</sup> and who qualifies as an "owner" or "operator" for purposes of CERCLA liability.<sup>25</sup>

As a result of this litigation, one tends to lose sight of the statute's original purpose: protecting human health and the environment.<sup>26</sup> It is important to remember that the statute's confusions derive in part from the fact that it was drafted in the waning days of the Carter presidency, and in somewhat of a crisis situation. CERCLA became law shortly after, and partly in response to, the disaster at Love Canal, New York, in which 240 families abandoned their homes because of contamination caused by years of toxic dumping by oil companies—contamination so severe that it had demonstrable effects on residents' health.<sup>27</sup>

From the beginning, CERCLA's drafters struggled with questions of fairness. This is seen most evidently in the Act's ingenious solutions to the most serious environmental clean-up problems, such as its financing of the Superfund by taxes on heavily polluting industries.<sup>28</sup> Thus, at its inception, CERCLA aimed to force polluting industries to internalize their externalities.<sup>29</sup>

24. For one discussion of what constitutes "transport," see *Kaiser Aluminum & Chemical Corp. v. Catellus Dev. Corp.*, 976 F.2d 1338 (9th Cir. 1992).

25. On the issue of who is an "owner" or "operator," see *Nurad, Inc. v. William E. Hooper & Sons Co.*, 966 F.2d 837 (4th Cir.), *cert. denied*, 506 U.S. 940 (1992).

26. CERCLA is described as "[a]n Act to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites." Pub. L. No. 96-510, 94 Stat. 2767 (1980).

Whenever (A) any hazardous substance is released or there is a substantial threat of such a release into the environment, or (B) there is a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare, the President is authorized to act . . . .

42 U.S.C. § 9604(a)(1) (1986).

27. See, e.g., Charles Lee, *Beyond Toxic Wastes and Race*, in *CONFRONTING ENVIRONMENTAL RACISM* 46-47 (Robert D. Bullard ed., 1993).

28. 42 U.S.C. § 9611(a) authorizes the Superfund. See also COOKE, *supra* note 21, § 12.01[2] ("The federal Superfund program is financed by an \$8.5 billion trust fund, which derives its revenues from taxes on crude oil, chemical feedstocks, a corporate excise tax, and general federal revenues."). The 1986 amendment to CERCLA changed CERCLA's tax-dependent and revenue structure somewhat. See *id.* at § 12.05[2][s]; WILLIAM H. RODGERS, JR., *ENVIRONMENTAL LAW* 699-700 (2d ed. 1994).

29. The original financing plan, which adopted a "polluter pays" approach, appeared at 42 U.S.C. § 9631 (1983), *repealed by* SARA, § 517(c)(1), 42 U.S.C. § 9631 (1988). See CONG. REC. 30,932 (1980) (reporting on an early Senate version of the bill eventually passed into law as CERCLA: "The purposes of this bill were: . . . First, to make those who release hazardous substances strictly liable for clean-up costs, mitigation, and third-party damages. Thus, it assures that the costs of chemical poison are borne by those responsible for the releases. . . . Fourth, the bill would provide that the fund be financed largely by those industries and consumers who profit from products and services associated with the hazardous substances which impose risks on



Nonetheless, concerns from the start that CERCLA unfairly punished those responsible for the waste deviled the Act's admirable attempt to hold those people directly responsible, thus leading to a change in the structure of the Superfund in 1986.<sup>30</sup> Complaints against CERCLA "as inherently unfair almost since its inception" were issued in large part from the banking and insurance industries, whose businesses were seriously threatened by the statute's punitive liability structure.<sup>31</sup> Opposition from those industries helped fuel an industry of CERCLA litigation. The insurance industry in particular drummed up political support for its view that CERCLA threatened its continued well-being.<sup>32</sup>

Regrettably, the expenditure of so much energy on who should pay and how much they should pay diverted attention away from one of CERCLA's central purposes—creating the "opportunity . . . for victims to receive prompt and adequate compensation for losses and injuries."<sup>33</sup> At its origin, the statute embodied a radically consequentialist view of environmental law and policymaking. It recognized that the long-term effects of environmental damage required what was then seen as a drastic solution: hold the polluter responsible for the environmental damage he or she creates. At least among academic lawyers and students, this notion is no longer so contestable.<sup>34</sup> Yet in practice, CERCLA's solution suffers from the uncertainty that a polluter's activities will actually cause long-term harm. Thus, most versions of proposed CERCLA reform concentrate on acceptable

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society."). Thus, Congress focused on the petrochemical industries. *See* S. REP. No. 99-73, at 12 (1985).

30. The 1986 SARA amendments directed that Congress finance the now larger Superfund with general funds. *See* S. REP. No. 99-73, at 13 (1985).

31. Osborn & Williams, *supra* note 7, at 1 n.2 (citing cases); *see also* Roush, *supra* note 3, at 74 ("What scares insurers more than the specter of another Hurricane Andrew? To any insurance executive, the answer is easy: Superfund claims."). The homebuilders, banking, and insurance industries' concerns with CERCLA's potential effect on their business appeared early in the statute's history. *See, e.g.*, Joanne Lipman, *Unwitting Owners May Owe for Cleanup of Toxic Waste*, WALL ST. J., Aug. 1, 1984, § 2, at 27.

32. The cases most often cited in support of this view are *United States v. Fleet Factors Corp.*, 821 F. Supp. 707 (S.D. Ga. 1993) and *United States v. Fleet Factors Corp.*, 724 F. Supp. 955 (S.D. Ga. 1988) (bank involved in management of property not entitled to CERCLA's secured creditor exemption); *Kelley v. EPA*, 15 F.3d 1100 (D.C. Cir. 1994), *cert. denied*, 115 S. Ct. 900 (1995).

33. CONG. REC. 30,932 (1980) (quoting Senator Jennings Randolph (D-W. Va.)).

34. *See, e.g.*, COOKE, *supra* note 21, § 12.03[4][d]; LAKSHMAN D. GURUSWAMY ET AL., *INTERNATIONAL ENVIRONMENTAL LAW AND WORLD ORDER* 266 (1994) ("The orthodox wisdom . . . is that costs should be internalized to the polluter.").

levels of cleanup, rather than requiring that polluters restore the site to its pre-contaminated state.<sup>35</sup>

Unfortunately, drafters of CERCLA reform proposals possess little information regarding the likely consequences of relaxing clean-up standards or delegating more authority for conducting cleanup to the states.<sup>36</sup> In large part, this uncertainty stems from the fact that most of the substances now classified as hazardous are of recent enough vintage that we do not yet know their long-term effects.<sup>37</sup> Therefore, in order to honor the consequentialist drive that led to CERCLA's initial passage, CERCLA reform should include measures that permit more *informed* hazardous waste cleanup. One such revision that could "strike a reasonable balance between the interests of the affected communities and the interests of the business community" is the provision for long-term medical monitoring in CERCLA cleanups.<sup>38</sup>

### III. CERCLA AS A WORK IN PROGRESS: MEDICAL MONITORING AND THE ACQUISITION OF GREATER CERTAINTY

Because so much of the first fifteen years of CERCLA's life was devoted to making sense of its retroactive and strict liability provisions, most discussion of CERCLA reform focuses on how to correct the unfair aspects of those sections of the Act.<sup>39</sup> Although these are important issues, it would be a mistake to allow such questions to dominate without also considering CERCLA's fundamental purpose of regulating human and environmental health. Thus, reform should also look to and reconsider the fundamental

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35. See, e.g., Kaplan, *supra* note 14, at 38 (discussing President Clinton's proposal for CERCLA reform, which emphasizes "more generic clean-up levels"); Hall, *supra* note 15, at 237 ("the risk assessment process must be reformed to require realistic exposure scenarios to support clean-up standards. There must be greater use of presumptively appropriate remedies without the need for costly studies of every other conceivable remedy just because it is in the EPA cookbook."); *Superfund: CERCLA Reform Measure Introduced By Oxley; Subcommittee Divided On Provisions Of Bill*, 26 Env't Rep. (BNA) 1095 (Oct. 20, 1995) [hereinafter *CERCLA Reform Measure*] (discussing Republican-introduced reform proposals, including relaxed remedy-selection procedures). See also Scott C. Whitney, *Superfund Reform: Clarification of Clean-up Standards to Rationalize the Remedy Selection Process*, 20 COLUM. J. ENVTL. L. 183 (1995).

36. Delegating clean-up authority to the states is another common proposal for CERCLA reform. See, e.g., Cushman, *G.O.P. to Start . . .*, *supra* note 15, at A19, and Hall, *supra* note 15, at 237.

37. See *Our Stolen Future: Part I*, RACHEL'S ENV'T & HEALTH WKLY., # 486, Mar. 21, 1996 (discussing the disputed effects of synthetic chemicals on human and environmental health).

38. Rep. Edward Markey (D-Mass.), quoted in *CERCLA Reform Measure*, *supra* note 35.

39. See *supra* note 3.

purposes of the statute, particularly its concern with the long-term consequences of environmental pollution.<sup>40</sup>

The following example illustrates the need for such an approach. For over twenty years, the Lipari landfill in Pitman, New Jersey, accepted petrochemical and heavy metal wastes.<sup>41</sup> As such, it was typical of the most serious hazardous waste clean-up problems.<sup>42</sup> Disposal of hazardous substances at Lipari antedated the passage of CERCLA, making it exactly the kind of site that the statute was designed to address. Some of the contaminated land is currently slated for residential and commercial development, despite the protests of those who have, for over a generation, lived and worked nearby and claim that the landfill brought chronic health problems into their lives, including high rates of certain cancers and other disabling, potentially fatal conditions.<sup>43</sup> Prior to further land development, some of the residents are seeking medical monitoring in an effort to determine the long-term health effects of the landfill.<sup>44</sup> However, because the cost of cleanup at Lipari is already staggeringly high—over \$100 million in mid-1996—those responsible

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40. As outlined, for example, in 42 U.S.C. § 9604(a)(1) (1986).

41. Jon Nordheimer, *Residue of Fear Remains as Toxins Are Removed*, N.Y. TIMES, Nov. 6, 1994, § 1, at 3.

42. For instance, compare the following, grim assessment from CERCLA supporter, Sen. Max Baucus:

Many of my colleagues are terribly concerned about the program. I know I am. It's been almost 13 years since we created Superfund, but we have little to show for our efforts. We have identified over 36,000 contaminated sites across the country, characterized well over 90 percent of them, taken emergency action at 3,000 of the most seriously contaminated. But beyond this, we have not made much progress.

Some 1,200 toxic sites have been listed for long-term Superfund cleanup. Only 150 have been cleaned up. And while work has begun at many sites, each site is taking longer and costing more to clean up. It now takes at least 9 years for the average site to be cleaned up, at a cost of \$30 million, and 15 to 30 percent of the money goes to lawyers.

*Superfund Reauthorization: Hearings on Health and Ecological Impacts of Superfund Sites Before the Subcomm. on Superfund, Recycling & Solid Waste Management of the Senate Comm. on Env't & Public Works*, 103d Cong., 1st Sess. (1993) (opening statement of Hon. Max Baucus, committee chair).

43. See Nordheimer, *supra* note 41, at 3; *Landfill Linked to Cases of Leukemia and Low Birth Weight*, N.Y. TIMES, Feb. 5, 1989, at A33; Dahir Mubarak, *Why Are These Former Girl Scouts Sick? (Toxic Waste at Summer Camp)*, 185 REDBOOK 92, Aug. 1995 (includes related articles on risk factors).

44. Nordheimer, *supra* note 41, at 3 (discussing work of the Lipari Information Network, set up with a grant from the EPA's Agency for Toxic Substances and Disease Registry); *Wastes and Hazardous Substances Toxic II: NJ Residents to Document Health Histories*, GREENWIRE, Feb. 1, 1995.

for the cleanup may not welcome proposals for medical monitoring.<sup>45</sup> When refusing to add such costs, opponents of medical monitoring proposals can point to a series of judicial decisions holding that CERCLA does not cover medical monitoring costs.<sup>46</sup>

However, the arguments against including the costs of medical monitoring in CERCLA cleanups suffer from a common misconception: they conflate medical *monitoring* with medical *treatment*.<sup>47</sup> Operating under this conceptual confusion, courts rejected monitoring by classifying it as a form of personal loss recovery.<sup>48</sup> However, a close inspection renders the analysis unsupportable. When "medical monitoring" is correctly understood as a series of controlled, regularly administered tests of body fluids, tissues, and functions to determine the consequences of hazardous waste exposure and contamination upon human health and mortality, it is easily viewed as not only a valuable and useful aspect of a CERCLA cleanup, but also a cost fully contemplated by CERCLA's designated purpose of protecting human health and the environment.<sup>49</sup> Under this reading of the Act, subsequent claims for medical *treatment* might be possible in tort, based in part on information gathered during the medical monitoring process. Increasingly, the potential of such "environmental torts" has been recognized.<sup>50</sup>

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45. The discovery of additional, previously unknown contamination in early 1996 will likely escalate clean-up costs further. *#1 Superfund Site Gets Worse*, 7 ENVTL. LABORATORY WASH. REP. 5 (1996); *More Pollution Found at Worst Superfund Site*, THE RECORD, Feb. 15, 1996, at A9.

46. See, e.g., *Daigle v. Shell Oil Co.*, 972 F.2d 1527 (10th Cir. 1992); *Cook v. Rockwell Int'l Corp.*, 755 F. Supp. 1468 (D. Colo. 1991); *Ambrogi v. Gould, Inc.*, 750 F. Supp. 1233 (M.D. Pa. 1990); *Coburn v. Sun Chemical Corp.*, 28 Env't Rep. Cas. (BNA) 1665 (E.D. Pa. 1988). See also *supra* notes 36-39 and accompanying text.

47. The views outlined in this paragraph are discussed in greater depth in Colin Crawford, *Strategies for Environmental Justice: Rethinking CERCLA Medical Monitoring Lawsuits*, 74 B.U. L. REV. 267 (1994). See also Kristin Elizabeth Sweeney, Note, *Daigle v. Shell Oil Company and the Bumpy Road to the Recoverability of Medical Monitoring Expenses Under CERCLA*, 47 VAND. L. REV. 235 (1994); Kathryn E. Hand, Comment, *Someone to Watch Over Me: Medical Monitoring Costs Under CERCLA*, 21 B.C. ENVTL. AFF. L. REV. 363 (1994); Amy B. Blumenberg, Note, *Medical Monitoring Funds: The Periodic Payment of Future Medical Surveillance Expenses in Toxic Exposure Litigation*, 43 HASTINGS L.J. 661 (1992); Dan A. Tanenbaum, Comment, *When Does Going to the Doctor Serve the Public Health? Medical Monitoring Response Costs Under CERCLA*, 59 U. CHI. L. REV. 925, 929 (1992); Allan T. Slagel, Note, *Medical Surveillance Damages: A Solution to the Inadequate Compensation of Toxic Tort Victims*, 63 IND. L.J. 849 (1988); John J. Kalas, *Medical Surveillance Damages in Toxic Tort Litigation: A Half-Hearted Embrace*, U. BALT. J. ENVTL. L. 126, 132 (1992). But see George W.C. McCarter, *Medical Sue-veillance: A History and Critique of the Medical Monitoring Remedy in Toxic Tort Litigation*, 45 RUTGERS L. REV. 227 (1993).

48. See sources cited *id.*

49. See *supra* note 6.

50. See, e.g., Troyen A. Brennan, *Environmental Torts*, 46 VAND. L. REV. 1, 62-71 (1993). See also Nancy Levit, *Ethereal Torts*, 61 GEO. WASH. L. REV. 136, 158-74 (1992); *In re Paoli*

The view that CERCLA does not encompass medical monitoring costs gained prominence in the federal courts following the decision of the United States Court of Appeals for the Tenth Circuit in *Daigle v. Shell Oil Co.*<sup>51</sup> *Daigle* was the first circuit court decision addressing CERCLA and medical monitoring, and followed a series of decisions in which federal district courts divided on the issue.<sup>52</sup> The split in case law is particularly interesting because it reveals fundamentally different approaches to environmental law and policymaking. On the one hand, the now-majority view, most notably as articulated in the *Daigle* line of cases, takes a “slippery slope” approach as courts fear that allowing medical monitoring would transform CERCLA into a general toxic tort recovery statute.<sup>53</sup> On the other hand, the federal district courts that endorse the use of medical monitoring under CERCLA seem more dedicated to serving the statute’s original, consequentialist purpose of protecting human health and the environment.<sup>54</sup>

Interestingly, both approaches follow a similar rhetorical pattern. In both lines of cases, the courts engage in a “plain meaning” statutory analysis that they find supports their respective positions.<sup>55</sup> Both note that CERCLA encompasses “monitoring,” although the *Daigle* line of cases reject the view

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R.R. Yard PCB Litig., 916 F.2d 829, 849-51 (3d Cir. 1990). *In re Paoli* reinstates a medical monitoring test under Pennsylvania state law and observes that:

[T]he damages available in a medical monitoring claim—the costs of the tests—are not likely to be high enough to provoke a flood of litigation. We predict that Pennsylvania would not want to make the cost of bringing a medical monitoring claim so high (by requiring extensive study of the particular plaintiff) that it would never be worthwhile to bring such a claim.

*In re Paoli* R.R. Yard PCB Litig., 35 F.3d 717, 788 (3d Cir. 1994).

51. 972 F.2d 1527 (10th Cir. 1992).

52. For the cases disallowing medical monitoring costs, see *supra* note 46. The principal case suggesting that medical monitoring costs may be recoverable under CERCLA is *Brewer v. Ravan*, 680 F. Supp. 1176, 1179 (M.D. Tenn. 1988). See also *Williams v. Allied Automotive, Autolite Div.*, 704 F. Supp. 782, 784 (N.D. Ohio 1988); *United States v. Conservation Chemical Co.*, 628 F. Supp. 391, 408 (W.D. Mo. 1985); *Adams v. Republic Steel Corp.*, 621 F. Supp. 370, 376 (W.D. Tenn. 1985); *United States v. Northeastern Pharmaceutical and Chemical Co.*, 579 F. Supp. 823, 852 (W.D. Mo. 1984); *Jones v. Inmont Corp.*, 584 F. Supp. 1425, 1429 (S.D. Ohio 1984); *State ex rel. Brown v. Georgeoff*, 562 F. Supp. 1300, 1316 (N.D. Ohio 1983). A brief summary of the relevant cases appears at Robert A. Mullins, *The Aftermath of Key Tronic: Implications for Attorney’s Fee Awards*, 24 ENVTL. L. 1513, 1522 nn.44-47 (1994). The author’s analysis of these cases appears in Crawford, *supra* note 47, at 303-24.

53. See, e.g., *Ambrogi v. Gould, Inc.*, 750 F. Supp. 1233, 1238 (M.D. Pa. 1990).

54. See, e.g., *Brewer*, 680 F. Supp. at 1179.

55. See, e.g., *Coburn v. Sun Chemical Corp.*, 28 Env’t Rep. Cas. (BNA) 1665, 1671 (E.D. Pa. 1988) (finding that the statute’s “plain meaning” disallowed medical monitoring); *Brewer*, 680 F. Supp. at 1179 (reviewing the statutory language and finding that because “[p]ublic health related medical tests and screening clearly are necessary to ‘monitor, assess, [or] evaluate a release,’ [they] constitute ‘removal’ under [CERCLA] section 9601(23)”).

that this includes “medical” monitoring.<sup>56</sup> In other words, the *Daigle* line of cases takes an analytical approach to statutory interpretation that can be classified as “glass half empty” analysis: because CERCLA’s monitoring definition does not say “medical monitoring,” such costs are disallowed.<sup>57</sup> By contrast, the opposing line of cases—the minority view—takes an analytical approach to the issue that can be classified as “glass half full” analysis: the mere fact that the Act’s language does not specifically include *medical* monitoring does not support the conclusion that such costs are not covered in a CERCLA clean-up action.<sup>58</sup> Moreover, courts on both sides of the issue refer to CERCLA’s notoriously unreliable legislative history as supporting their respective views.<sup>59</sup>

A. *The Majority View: CERCLA Does Not Cover  
Medical Monitoring Costs*

*Daigle* considered questions arising out of the cleanup at the Rocky Mountain Arsenal, a federally-controlled CERCLA site outside Denver, Colorado.<sup>60</sup> The plaintiff class consisted of people residing near the Arsenal who sought an award of monitoring costs.<sup>61</sup> Although the Court of Appeals acknowledged the increasing requests for medical monitoring, “given the latent nature of many diseases caused by exposure to hazardous materials and the traditional common law tort doctrine requirement that an injury be manifest,” it nevertheless held that CERCLA does not permit recovery for medical monitoring costs.<sup>62</sup>

Moreover, the *Daigle* court refused to afford “a broad sweep to the ‘public health and welfare’ language in [CERCLA’s] definitions,” and concluded that while “[m]edical monitoring would mitigate the potential individual health problems of Plaintiffs, . . . [CERCLA does not contemplate] the general provision for prevention or mitigation of ‘damage to public health

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56. See *supra* note 46.

57. Thus, *Daigle* relied heavily upon the canon of statutory construction known as *ejusdem generis*. 972 F.2d at 1535.

58. See, e.g., *Brewer*, 680 F. Supp. at 1179.

59. See, e.g., *Ambrogio*, 750 F. Supp. at 1246 n.16 (using CERCLA’s legislative history as support for the conclusion that the Act does not cover monitoring costs). *But see Daigle*, 972 F.2d at 1535 (admitting that CERCLA’s legislative history is “sparse”); *Brewer*, 680 F. Supp. at 1179 (citing *Chaplin v. Exxon Corp.*, 25 Env’t Rep. Cas. (BNA) 2009, 2011-12 (S.D. Tex. 1986) (using CERCLA’s legislative history as support for the conclusion that the Act covers medical monitoring costs)).

60. *Daigle*, 972 F.2d at 1530.

61. *Id.* at 1532.

62. *Id.* at 1533, 1535 (citing *In re Paoli*, 916 F.2d at 849).

or welfare.’”<sup>63</sup> Thus, by describing medical monitoring as a means to “mitigate” *individual* health problems, *Daigle* furthered a notional blurring between treatment and monitoring.<sup>64</sup> In so ruling, the *Daigle* court ignored CERCLA’s plain language, which allows for clean-up actions that, *inter alia*, “monitor, assess and evaluate” releases of hazardous substances, as well as measures designed to help forestall a release of hazardous waste, or the threat of one.<sup>65</sup>

A number of courts adopted *Daigle*’s view that CERCLA does not encompass medical monitoring, including another Tenth Circuit case<sup>66</sup> and three decisions from other federal courts of appeals. This trend appears to cement the judicial rejection of medical monitoring costs as compensable CERCLA clean-up expenses. The first major post-*Daigle* medical monitoring case was *Redland Soccer Club, Inc. v. Department of the Army*.<sup>67</sup> *Redland Soccer Club* considered the consolidated claims of several classes of plaintiffs<sup>68</sup> who sought medical monitoring for injuries—including lymphocytic leukemia, enlarged lymph nodes and other, undefined illnesses<sup>69</sup>—that may have resulted from exposure to toxic substances at the former Army landfill.<sup>70</sup> The court rejected plaintiffs’ claims under CERCLA.<sup>71</sup> Interestingly, although decided nearly three years after *Daigle*, *Redland Soccer Club* made no mention of the Tenth Circuit’s decision, and looked instead to a line of federal district court cases rejecting medical monitoring claims on narrower grounds, specifically CERCLA’s requirement that parties must incur some “costs of response” prior to filing a claim.<sup>72</sup> Therefore, the *Redland Soccer Club* court declared, “we

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63. *Daigle*, 972 F.2d at 1535.

64. The *Daigle* court adopted this reasoning from the United States District Court for the Eastern District of Pennsylvania’s decision in *Coburn v. Sun Chemical Corp.*, 28 Env’t Rep. Cas. (BNA) 1665 (E.D. Pa. 1988). *Daigle*, 972 F.2d at 1535.

65. 42 U.S.C. § 9601(23) (1986); *see also* 42 U.S.C. § 9601(24) (1986) (“‘remedial action’ means those actions . . . to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future health or welfare or the environment. The term includes, but is not limited to . . . any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment.”).

66. *Satsky v. Paramount Communications, Inc.*, 7 F.3d 1464, 1469 (10th Cir. 1993) (monitoring costs sought against operator of mine disallowed under *Daigle* as a form of private economic damages).

67. 55 F.3d 827 (3d Cir. 1995).

68. Including: (1) workers who converted land formerly used as a United States Army depot where toxic waste had been deposited into a soccer field; (2) residents who lived near the depot/landfill; and (3) children and teenagers who played soccer on the land. *Id.* at 833, 837-39.

69. *Id.* at 839.

70. *Id.* at 834-43.

71. *Id.* at 849-50.

72. *Id.* at 850 (citing, *inter alia*, *Cook v. Rockwell Int’l Corp.*, 755 F. Supp. 1468, 1476 (D. Colo. 1991) and *Ambrogi v. Gould, Inc.*, 750 F. Supp. 1233, 1246 (M.D. Pa. 1990)).

do not believe that the district court erred in determining that plaintiffs' costs are not response costs because they are not 'monies . . . expended to clean up sites or to prevent further releases of hazardous chemicals.'"<sup>73</sup> Thus, the Third Circuit implicitly questioned *Daigle's* extreme position, which conflates medical monitoring and treatment.<sup>74</sup> Because the *Redland Soccer Club* court did not use "monitoring" and "treatment" synonymously, presumably under its decision any monitoring expense classifiable as a clean-up cost or a means to contain further hazardous chemical releases would pass muster for inclusion in a CERCLA clean-up plan.

The United States Court of Appeals for the Ninth Circuit embraced *Daigle* with more enthusiasm. In two cases involving demands from people who lived and worked near hazardous materials landfills, the Ninth Circuit adopted *Daigle's* reading of CERCLA.<sup>75</sup> Like *Daigle*, the Ninth Circuit panels perfunctorily noted that "CERCLA provides elsewhere an elaborate scheme to assess health effects of threatened hazardous substance releases."<sup>76</sup> The court referred specifically to the Agency for Toxic Substances and Disease Registry (ATSDR), "which is authorized to conduct health assessments, and, if necessary, further pilot studies and a continuous program of medical

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73. *Redland Soccer Club*, 55 F.3d at 850 (quoting *Redland Soccer Club, Inc. v. Department of Army*, 801 F. Supp. 1432, 1435 (M.D. Pa. 1992)).

74. Elsewhere in the opinion, the court demonstrated some sympathy for the medical monitoring requests:

We do not believe . . . that the Redland [Federal Tort Claims Act] Plaintiffs' failure to produce evidence, in the form of blood or tissue tests, showing directly that they absorbed toxins from the field into their bodies is fatal to their claims. Defendants' own expert stated generally that there are no medical tests which could have detected the presence of toxins found at the Park, and even if a test existed which could have detected a particular toxin, it would have been useful only if it were conducted within one hundred twenty days of the plaintiffs' exposure. Requiring a plaintiff to produce this kind of evidence to support a finding of exposure to a toxic hazard would place an impossible burden on persons subjected to serious medical risk from toxic substances polluters have left to contaminate the environment and afflict the people who live near the wrongdoer's waste deposits.

*Redland Soccer Club*, 55 F.3d at 847 (citation omitted). The court went on to suggest that the plaintiffs' lack of success may have resulted from the kinds of proof offered by plaintiffs in support of their claims: "Surprisingly, we discover the record has no expert opinion on whether either [of two plaintiff classes] have been exposed to toxins to such an extent that they suffer such an increased risk of contracting a serious disease that supplemental medical testing is reasonably required." *Id.*

75. *Price v. United States Navy*, 39 F.3d 1011, 1017 (9th Cir. 1994) (suit by property owner of land formerly used as a dump for waste containing heavy metals and asbestos); *Durfey v. E.I. DuPont De Nemours Co.*, 59 F.3d 121, 125 (9th Cir. 1995) (lawsuit brought by parties claiming personal injury from government-owned and contractor-operated plutonium production facility).

76. *Price*, 39 F.3d at 1017. Criticism of the woefully under-funded and therefore largely ineffectual ATSDR appears in Crawford, *supra* note 47, at 297, 316-17, and sources cited therein.



monitoring in appropriate cases. . . . Congress provided for the funding of ATSDR studies separate from the payment of response costs. Therefore, the *Daigle* court refused to allow plaintiffs' claims for medical monitoring costs."<sup>77</sup> It bears noting that the Ninth Circuit panels advanced these views despite the *Durfey* court's recognition that "[t]o date, ATSDR has yet to undertake any medical monitoring activities anywhere in the country."<sup>78</sup> That the *Durfey* court recognized this fact is especially important because, despite that court's conclusion that "CERCLA contains no reference to recovering personal medical expenses,"<sup>79</sup> the fact that "the government is able to recover costs incurred by the ATSDR under a separate cause of action" is one of the factors the *Durfey* court relied upon in concluding that "it is clear that medical monitoring costs are not 'response' costs under CERCLA."<sup>80</sup> The flaw in the court's logic is easily identifiable: the existence of a government agency—the ATSDR—proves nothing about the availability of a separate cause of action for medical monitoring as part of a private CERCLA cleanup. Thus, courts appear eager to adopt uncritically the *Daigle* approach, without scrutinizing its subtle collapsing of the distinction between monitoring and treatment.<sup>81</sup> A number of other federal district courts have also endorsed the *Daigle* approach.<sup>82</sup>

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77. *Price*, 39 F.3d at 1017 (citing *Daigle*, 972 F.2d at 1536-37); see *Durfey*, 59 F.3d at 125 (citing *Price*).

78. *Durfey*, 59 F.3d at 125 n.5.

79. *Id.* at 125.

80. *Id.*

81. Two closely-related cases also deserve mention. See *Hanford Downwinders Coalition, Inc. v. Dowdle*, 71 F.3d 1469, 1483 (9th Cir. 1995) (rejecting request of citizens' coalition to have ATSDR commence health surveillance program downwind of the Hanford plutonium production facility); *Columbia River United v. Dowdle*, No. 94-35242, 1996 U.S. App. LEXIS 2261 (9th Cir. Jan. 23, 1996) (affirming district court "dismissal for lack of jurisdiction pursuant to this court's recent opinion in *Hanford Downwinders Coalition, Inc. v. Dowdle*, a companion appeal which raised identical issues") (citation omitted). *Hanford Downwinders* distinguished between "health assessment and surveillance actions engaged in by a governmental agency pursuant to explicit CERCLA provisions" and "private efforts to monitor the public health." See 71 F.3d at 1477-78. In the view of the *Hanford Downwinders* court, the former form of monitoring was permissible, while the latter was not. *Id.* at 1479.

82. See, e.g., *United States v. Ekotek, Inc.*, No. 2:95 CV 0154K, 1995 WL 580079, at \*8-9 (D. Utah Sept. 11, 1995); *Frys v. General Motors Corp.*, No. 93-CV-924A, 1995 U.S. Dist. LEXIS 7155, at \*11-12 (W.D.N.Y. Mar. 31, 1995); *Murray v. Bath Iron Works Corp.*, 867 F. Supp. 33, 46 (D. Me. 1994); *Yslava v. Hughes Aircraft Co.*, 845 F. Supp. 705, 708 (D. Ariz. 1993).

The *Ekotek* decision is of special interest because while paying superficial homage to *Daigle* with respect to recovery of medical expenses, it nonetheless finds that plaintiff United States might be entitled to medical expenses. See *Ekotek*, 1995 WL 580079, at \*8-9. The court distinguishes *Daigle* on the grounds that, unlike the facts presented in *Daigle*, "[i]n the present case, the oversight costs were not incurred long after the threatened release of contaminants, but were

*B. The Minority View: CERCLA Allows Recovery  
of Medical Monitoring Costs*

A central argument advanced by courts adopting the majority view that CERCLA makes no allowance for recovery of medical monitoring costs (both before and after *Daigle*) is that CERCLA need not cover such costs because they are compensable through state tort causes of action.<sup>83</sup> This position is of interest for at least two reasons. First, it suggests some uneasiness about the harsh result of reading CERCLA as precluding recovery of medical monitoring costs except in the rare circumstance that the entity conducting the cleanup is the government in the form of the ATSDR. Courts seem eager to hold that even though CERCLA does not cover such costs, other causes of action might. Second, it demonstrates the continuing post-*Daigle* failure to distinguish between monitoring and treatment. For example, the *Redland Soccer Club* court focused "on an issue we believe is central in all toxic tort cases; namely, the requirement that the alleged wrong create some significant risk of harm to the plaintiff. Thus, a plaintiff must not only show exposure, but must prove that he was exposed beyond what would normally be encountered by a person in everyday life . . . ." <sup>84</sup>

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actively incurred by the EPA during or closely in connection with the containment effort to restrict the public's exposure to the materials at the Ekotek site," and denied defendant's motion to dismiss under Fed. R. Civ. P. 56(c). *Id.* at \*9. Importantly, *Ekotek* followed not only the public distinction set forth by the *Hanford Downwinders* court, discussed *supra* note 81, but also read *Daigle* as:

[N]ot a restrictive interpretation of the language of CERCLA . . . but [as recognizing] that the damages the plaintiffs sought could not fall within CERCLA because they were or would be incurred at a significant chronological distance from the clean-up operations. Indeed, the [*Daigle*] court recognized that 'certain monitoring costs are recoverable' under CERCLA, but refused to allow recovery for medical monitoring occurring long after the cleanup of the contaminants.

*Ekotek*, 1995 WL 580079, at \*9.

83. See, e.g., *Ambrogi v. Gould, Inc.*, 750 F. Supp. 1233, 1248 (M.D. Pa. 1990) ("In finding that 'medical costs' are not within the scope of [CERCLA's definitions], we do not preclude recovery . . . under traditional state tort proceedings for personal injury. Moreover, state courts are now recognizing 'non-traditional' torts that have developed in the common law to compensate plaintiffs who have been exposed to various toxic substances.") (citation omitted). *Daigle* relied in part upon *Ambrogi*. *Daigle*, 972 F.2d at 1535.

84. *Redland Soccer Club*, 55 F.3d at 846. See also *In re Paoli R.R. Yard PCB Litig.*, 916 F.2d 829, 850 (3d Cir. 1990). This is not to say that state courts do not award the costs of medical monitoring as a form of damages when exposure to hazardous substances is demonstrated. See, e.g., *Bayardo v. Occidental Chem. Corp.*, No. 93-1987-D (Dist. Ct., Nueces Cty., Tex., 105th Judicial Dist., June 30, 1995) (preliminary approval of plaintiff class personal and punitive damages in \$65.7 million settlement). The *Bayardo* settlement order is unpublished and difficult to obtain, but central information about it can be obtained in *State Judge Approves \$65 Million Settlement*

That courts rejecting medical monitoring claims under CERCLA emphasize such options under state law demonstrates the extent of their conceptual confusion about CERCLA's central function. As the quoted language from *Redland Soccer Club* demonstrates, courts advocating the majority view wrongly assume that medical monitoring aims solely to recover damages for hazardous substance exposure. However, it is possible to imagine monitoring that instead aims only to identify the consequences of hazardous substance exposure. Thus, monitoring could serve an invaluable diagnostic function, a service fully consonant with CERCLA's central purposes. Moreover, the diagnostic use of medical monitoring is consistent with some of the most commonly agreed upon reasons for amending CERCLA, such as reducing administrative costs and promoting more efficient results.<sup>85</sup> These justifications appear to have influenced the courts adopting the minority view.<sup>86</sup>

Unlike *Daigle* and other cases which disallowed recovery of medical monitoring response costs in CERCLA clean-up actions, courts adopting the minority view that CERCLA covers medical monitoring costs provide little analysis in support of their position. Instead, the cases merely observe that, so long as monitoring is used to assess the effects of released hazardous substances on human health, CERCLA compensates such costs.<sup>87</sup> In short,

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*Against Occidental Chemical*, 19 Chem. Reg. Rep. (BNA) 421 (July 14, 1995) and *Texas Judge Approves \$66 Million Settlement Against Occidental Chemical in Exposure Case*, 26 Env't Rep. (BNA) 528 (July 7, 1995). See also *Court Awards Medical Monitoring Costs, Attorneys' Fees in State UST Act Decision*, 26 Env't Rep. (BNA) 1046 (Oct. 13, 1995) (ordering Shell Oil Co. and Union Oil Co. to pay \$1.5 million to clean up contaminated aquifer. The award included a "human health corrective action plan" for plaintiffs and their children."). But cf. *Jackson v. Johns-Manville Corp.*, 727 F.2d 506, 520 (5th Cir. 1984). *Jackson* is an asbestos personal injury case holding that:

Until and unless the plaintiff develops cancer, however, the causation of cancer has not occurred. The plaintiff is denied recovery for prospective damages associated with cancer not because the evidence of future consequences is insufficiently reliable, but because, as a matter of substantive law, there can be no consequence until there is effect, and no effect without completed cause.

*Id.*

85. See *supra* notes 3-4 and accompanying text.

86. See, e.g., *Brewer v. Ravan*, 680 F. Supp. 1176, 1178 (M.D. Tenn. 1988) (noting that "CERCLA's primary purpose is 'to facilitate the prompt cleanup of hazardous waste sites by placing the ultimate financial responsibility for cleanup on those responsible for the hazardous wastes'" (quoting *Walls v. Waste Resources Corp.*, 761 F.2d 311, 318 (6th Cir. 1985))); *Williams v. Allied Automotive, Autolite Div.*, 704 F. Supp. 782, 784 (N.D. Ohio 1988) ("The statutory definition of the terms 'remove' or 'removal' [which relate to expedient cleanups] clearly contemplates such actions as are necessary to making a *reasoned determination* whether physical removal of hazardous contaminants is *necessary in a given situation*." (emphases added).

87. *Williams*, 704 F. Supp. at 784 ("Costs of medical testing falling within the statutory definition and consistent with [federal regulations issued pursuant to CERCLA] are recoverable response costs under CERCLA."); *Brewer*, 680 F. Supp. at 1179 ("To the extent that plaintiffs seek

these courts implicitly recognize the qualitative difference between medical monitoring and treatment. They also implicitly recognize that toxic tort personal injury suits may follow the accumulation of information during a medical monitoring period. However, unlike *Daigle* and similar cases, their judgments are not result-oriented; they implicitly accept that such suits may follow medical monitoring, and appear content to let the cards fall where they may.

This reasoning is consistent with CERCLA's fundamental purpose "[t]o provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites."<sup>88</sup> Moreover, it comports with reformers' current efforts to make cleanups more cost-effective.<sup>89</sup> Clearly, our understanding of the long-term health consequences of hazardous substance exposure is imperfect.<sup>90</sup> Monitoring is an ideal means of gathering such information and, crucially, information gained through the monitoring process can be used to direct cost-effective choices during cleanup. In support of this view, consider the following hypothetical. Suppose the *Daigle* court had approved the plaintiffs' medical monitoring claims as part of the cleanup, finding that the case was so factually undeveloped that it could not render a

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to recover the cost of medical testing and screening conducted to assess the effect of the release or discharge on public health or to identify potential public health problems presented by the release . . . they present a cognizable claim under [CERCLA] section 9607(a)."); *Jones v. Inmont Corp.*, 584 F. Supp. 1425, 1429 (S.D. Ohio 1984) ("certain plaintiffs have incurred costs for medical testing and have lost the use of wells for drinking water and farming purposes. . . . These damages appear to meet the definition of 'removal' expressed in section 9601(23)").

88. Pub. L. No. 96-510, 94 Stat. 2767 (1980).

89. In 1993, EPA Administrator Carol Browner stated that CERCLA reform proposals were directed "toward achieving three main goals: lowering clean-up costs, expediting cleanups and increasing community involvement." Osborn & Williams, *supra* note 7, at 7. Her goals are strikingly similar to those advocated by House Speaker Newt Gingrich and fellow Republican lawmakers two years later, who said "that they will do away with retroactive liability, institute cost/benefit analysis and risk-prioritized cleanups and turn the program over to states and communities." *Hill Leaders*, *supra* note 5.

90. See, e.g., RACHEL'S ENV'T & HEALTH WKLY., # 498, June 13, 1996 (reviewing changing views of the biochemical consequences of certain chemical compounds). A recent controversy in the popular press highlighted these uncertainties. *New York Times* reporter Gina Kolata surveyed the conclusions of several scientists and concluded that industrial pollutants may affect sperm counts. See Gina Kolata, *Sperm Counts: Some Experts See a Fall, Others Poor Data*, N.Y. TIMES, Mar. 19, 1996, at C10. Kolata criticized THEO COLBURN ET AL., OUR STOLEN FUTURE (1996); see also Gina Kolata, *Are U.S. Men Less Fertile?*, N.Y. TIMES, Apr. 29, 1996, at A14. For examples of lawyers grappling with these issues in a legal context, see Frank B. Cross, *When Environmental Regulations Kill: The Role of Health/Health Analysis*, 22 ECOLOGY L.Q. 729 (1995) and Alon Rosenthal et al., *Legislating Acceptable Cancer Risk from Exposure to Toxic Chemicals*, 19 ECOLOGY L.Q. 269 (1992).

decision as to the proper form of a remedy to complete cleanup of the site.<sup>91</sup> Suppose also that after a predetermined period of time,<sup>92</sup> ranging anywhere from three to twenty years, the medical monitoring results came back, and indicated that the likelihood of contamination from the herbicide and pesticide manufacturing conducted at the Rocky Mountain Arsenal was statistically insignificant. Such a result would suggest that appropriate cleanup would not require one of the more expensive procedures, such as incinerating the soil underneath the nearly 100-acre area or taking other steps to return the site to its pre-contamination condition. Instead, the landowners could promptly turn the site over to a productive use, such as commercial or residential development.

In this way, medical monitoring would satisfy at least two of the principal goals of CERCLA reform; it would enhance cost-efficiency and increase community participation.<sup>93</sup> Admittedly, in the short term, this approach would impede the goal of faster cleanups because of the periods of time needed to conduct the monitoring and acquire statistically meaningful results. However, if the first fifteen years of CERCLA's existence demonstrated anything, it is that there are no fast solutions in the business of hazardous waste cleanup. Furthermore, in the long-term the diagnostic use of medical monitoring would produce faster cleanups since data acquired from one cleanup could inform the choice of clean-up remedies elsewhere. Most importantly, failure to adopt such an approach will destroy the Act's consequentialist purpose—"[b]ecause Superfund is a general health and welfare statute, public health must be the primary issue considered in debating Superfund reauthorization."<sup>94</sup>

Conversely, if medical monitoring at the Rocky Mountain Arsenal demonstrated that exposure to the hazardous substances used there was severe and threatening to human health, more costly cleanup would be appropriate. This result would, once again, influence the choice of remedy adopted at other sites where similar substances were used or stored. If substantial contamination were the case, results acquired from medical monitoring would also provide an incentive for producers of the hazardous materials to

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91. In fact, the *Daigle* court observed that: "With some uncertainty because of the factual immaturity of the case and the complete lack of appellate guidance, the district court denied the motions to dismiss the CERCLA medical monitoring claims." 972 F.2d at 1531.

92. Presumably to be agreed upon with the assistance of expert medical opinion.

93. See *supra* note 89.

94. Osborn & Williams, *supra* note 7, at 7. The likelihood that this tragic result might occur seemed strong until CERCLA reauthorization became less urgent in the face of other political struggles in early 1996. See, e.g., *Superfund: Reform Outline 'Unfair, Unworkable' In Some Areas*, *Browner Tells Senator*, 26 *Env't Rep.* (BNA) 560 (July 14, 1995).

internalize their externalities. As noted at the beginning of this Article, this notion—commonly known as “the polluter pays principle”—was one of the animating purposes behind CERCLA.<sup>95</sup>

#### IV. THE ADVANTAGES OF—AND CONCERNS RAISED BY— MEDICAL MONITORING

Without question, the view advanced in this Article is not without problems. As noted at the outset, fairness concerns have plagued CERCLA since its inception. The medical monitoring proposals advanced in this Article will not eliminate these concerns. Specifically, implementation of medical monitoring may raise concerns regarding the purposes for which medical monitoring data will be used. Under CERCLA, owners and operators, among other “potentially responsible parties,” may be required to pay the cost of cleaning up a contaminated site.<sup>96</sup> As previously acknowledged, medical monitoring funded by these parties could produce data that would subsequently be used *against* them in private toxic tort actions. It is difficult to deny that there is something troubling about this result, which could require a party to fund research that may produce self-incriminating information. This Article has no easy solution for this problem, except to note that, for example, the police power is often used to justify actions that otherwise might be deemed due process violations.<sup>97</sup> Moreover, given the inherently uncertain effects of hazardous waste, and given the fact that large corporations make substantial profits generating that waste, it is not unfair—and is, once again, wholly consonant with CERCLA’s original purposes<sup>98</sup>—that these corporations bear responsibility for the human health effects of that waste. Indeed, if monitoring generates information that is damaging to the producer of that waste, this should be viewed as a risk inherent in producing and disposing of such materials.<sup>99</sup>

Conversely, proponents of medical monitoring have a different concern, which is the equivalent to the notion of “capture” in administrative law and procedure:<sup>100</sup> If Congress provides for medical monitoring as part of CERCLA cleanups, controls insuring that the monitoring takes place

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95. See *supra* note 23.

96. 42 U.S.C. § 9607(a)(1) (1988).

97. Prime examples are civil forfeiture actions in which land owned by innocent persons may be seized if the property was used without their actual knowledge in connection with criminal activities. See, e.g., *Calero-Toledo v. Pearson Yacht Leasing*, 416 U.S. 663 (1974).

98. See *supra* note 6.

99. See *supra* note 29.

100. WILLIAM DAVIS, ADMINISTRATIVE LAW § 2.3, at 37.

independent of the owners and operators will be necessary. Owners and operators should not be responsible for choosing the monitors and determining, for example, the duration and extent of monitoring. Giving the ATSDR an oversight role over private cleanups may provide the solution. Thus, the ATSDR could oversee medical monitoring plans, both by drafting regulations to be promulgated under the authority of the Environmental Protection Agency and by, for instance, compiling lists of acceptable laboratories and doctors who— independent of owners, operators and companies who produce hazardous substances— would be authorized to oversee such activities.

Another fairness concern relates to one of the central criticisms of current CERCLA cleanups, namely, the problem of the *de micromis* party.<sup>101</sup> Medical monitoring should not impose additional burdens on parties who unwittingly take some action that brings them within CERCLA's broad regulatory reach, such as the contractor described above who became a potentially responsible party after he moved contaminated soil from one part of a contaminated site to another part of the same site.<sup>102</sup> However, although this is a serious concern, it is easily solved. Issuing regulations that limit the liability of such parties for the costs of medical monitoring would handle the problem.<sup>103</sup>

The precedential use of medical monitoring data is another area requiring careful consideration. CERCLA currently assigns potentially responsible parties a share of liability proportionate to their contribution to the contamination.<sup>104</sup> There is no reason why this principle should not also apply to medical monitoring costs, when those costs merely serve the diagnostic function of identifying the extent and nature of hazardous substance contamination on human and environmental health. However, an amended CERCLA should clearly prohibit the use of the results of such data to assign identical proportionate responsibility in subsequent toxic tort actions. Suppose, for instance, that a housing developer owns the site of a former chemical manufacturing plant. While, as a policy matter, CERCLA may require that the owner contribute to any cleanup,<sup>105</sup> it would be troubling if the developer was later required to pay for medical treatment of injuries s/he did not cause;

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101. See *supra* note 13.

102. See *supra* note 12.

103. See similarity to *EPA Guidance* cited *supra* note 5.

104. This principle is based on courts' interpretation of CERCLA's "contribution" provision. 42 U.S.C. § 9613(f) (1994). For a recent discussion of the jurisprudence on contribution actions, see *T H Agriculture & Nutrition Co., v. Aceto Chemical Co.*, 884 F. Supp. 357, 360 (E.D. Cal. 1995) and *Transtech Indus. v. A & Z Septic Clean*, 798 F. Supp. 1079, 1086 (D.N.J. 1992) ("Under general legal principles, a claim for contribution is one in which one liable party attempts to recover from another potentially liable party for its share of the cost.").

105. 42 U.S.C. § 9613(f)(1) (1986).

the developer's contribution to the overall contamination is not necessarily proportional to his/her contribution to the injuries suffered. Thus, while attorneys could use medical monitoring data to prove causation under common law tort claims, it should not be a basis for assigning liability to those whose fault can be definitively established under other, well-established tests.<sup>106</sup>

Finally, and of the most concern, are the practical issues that would accompany the medical monitoring, including the difficulties inherent in identifying the class of persons to be monitored and determining the duration of the monitoring period. Clearly, reasonable minds will disagree on the appropriate limits to be observed in both respects, and there is a potential for monitoring abuse in the form of over-deterrence in monitoring plans that test unacceptably large numbers of people for overly long periods and for an inappropriate range of medical conditions. Although this concern is significant, recent cases suggest that even non-scientist judges are capable of interpreting differing scientific opinions so as to render appropriate decisions on such questions.<sup>107</sup>

There is also an ethical question inherent in the pro-monitoring position: Will monitoring itself cause psychological injury by alerting people to the possibility of harm? Arguably, in the expanding world of tort liability this situation could lead, for example, to a tort for cancerphobia.<sup>108</sup> Moreover, even when monitoring identifies a harm, there is some question as to whether

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106. See, e.g., *supra* notes 35, 57.

107. See, e.g., *In re Paoli R.R. Yard PCB Litig.*, 916 F.2d 829, 838-41 (3d Cir. 1990). However, it would be glib to suggest that these issues do not seriously challenge courts' abilities. The most famous example is *Industrial Union Dep't, AFL-CIO v. American Petroleum Inst.*, 448 U.S. 607, 656 (1979) (in a plurality opinion, holding that the Occupational Health and Safety Administration was allowed to set a standard for human exposure to benzene if the decision was supported by "reputable scientific thought"). See also Victor B. Flatt, *OSHA Regulation of Low-Exposure Carcinogens: A New Approach to Judicial Analysis of Scientific Evidence*, 14 U. PUGET SOUND L. REV. 283, 289-92 (1991) (examining difficulties associated with judicial reactions to probalistic scientific assessments when legal standards of proof require greater certainty).

The decision to qualify someone as an expert rests not on the specific academic degree held, but on the presence of sufficient knowledge, skill, experience, training or education. It would make little sense to exalt the opinion of a medical doctor with no experience in toxic exposure over the opinion of, for example, an eminently qualified toxicologist with a Ph.D. and years of experience and training.

*In re Paoli*, 916 F.2d at 862.

108. See generally Levit, *supra* note 50. In recent years, this sort of concern has gained considerable attention in the popular press. See, e.g., Gary Taubes, *Fields of Fear*, THE ATLANTIC MONTHLY, Nov. 1, 1994, at 94-108 (arguing that anxiety caused by scientifically unsubstantiated concern about electromagnetic fields is a greater problem than the alleged damage caused by high-voltage power lines). See also Nicholas Wade, *Method and Madness: Trial and Errors*, N.Y. TIMES MAG., July 24, 1994 (discussing the incompatibility of legal and scientific standards of causation).



such information will benefit individuals, at least in circumstances where no satisfactory treatments are available.<sup>109</sup> In response, however, it is generally true that affected communities believe that worrying in the absence of reliable scientific data is worse than worrying because there is good reason to do so.<sup>110</sup> Given the fact that scientists increasingly raise serious concerns about the long-term effects of hazardous substances,<sup>111</sup> it is morally preferable to try and answer these questions by obtaining hard, empirical data on the human and environmental reactions to these substances. This is particularly true given that "it is not the existing risks that are most salient. Instead, the dominant risks arise from future risk scenarios that involve alternative land uses. . . . Chief among these future risks is the projection that future residents will reside on sites that are not currently residential."<sup>112</sup>

Although medical monitoring is not without problems, its many advantages outweigh what would be manageable difficulties. First and foremost, medical monitoring will force not only the owners and operators of hazardous waste sites, but also the producers of hazardous substances, to internalize the costs of their activities. Second, medical monitoring would produce hard, empirical data on the human and environmental health effects of hazardous waste contamination. As a result, the statute would operate more efficiently, a long-term aim of CERCLA reformers. With the average cost of

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109. This is yet another ethical issue that has recently received a considerable amount of popular attention. See, e.g., Gina Kolata, *New Ability to Find Earliest Cancers: A Mixed Blessing?*, N.Y. TIMES, Nov. 8, 1994, at C4.

110. The residents of the Lipari landfill, to cite but one example, have repeatedly made this clear. See *supra* notes 43-44; *Hill Leaders*, *supra* note 5.

John Rosenthal, head of the NAACP's Environmental Justice initiative, said EPA should relocate residents as a least cost alternative to cleanup. When communities have access to correct information in risk and exposure, they won't call for extremely conservative cleanups, but will accept more realistic clean-up goals. . . . Conservative goals are only called for when residents don't understand what's going on and rationalize that cleanest is safest for them.

*Id.*

111. See, e.g., Gina Kolata, *Study Finds Sperm Counts Are Declining*, N.Y. TIMES, Feb. 2, 1995, at A19 (reporting on study in *New England Journal of Medicine* documenting reduced human sperm counts and hypothesizing that toxic substances in the environment are a cause). Further explanation of this view for non-scientific readers can be found in, for example, *What Causes Declining Sperm*, RACHEL'S ENV'T & HEALTH WKLY., # 492, May 2, 1996. See also Beverly Paigen, *Can Some Environmental Chemicals Act Like Female Hormones?*, EVERYONE'S BACKYARD 6 (Summer 1994).

112. Hamilton & Viscusi, *supra* note 17, at 608. Hamilton and Viscusi examined data for 78 Superfund sites and found that future risks accounted for "over 90% of all the risk-weighted pathways for the Superfund sites in our sample." *Id.*

a CERCLA cleanup running a staggering \$25 million,<sup>113</sup> this is a goal that serves not only those whose health may have been compromised from living or working near a CERCLA site. Monitoring would also serve the interests of business.<sup>114</sup> Information acquired regarding the health effects of hazardous substances would provide clear, useful data to help both businesses and consumers regulate their mutual long-term interests, and would help all parties set definitive environmental priorities. Moreover, this data could lead to increasingly uniform and efficient responses to problems of hazardous contamination. This is not to say that monitoring will not produce contradictory data and information at the outset. On the contrary, some initial confusion is quite likely. However, in the long run medical monitoring can help produce a consensus on the types of cleanups that require the greatest attention, and on the appropriate course to follow in such cleanups.

Third, medical monitoring would have a clear deterrent effect, as it would discourage manufacturers from producing substances with probable deleterious health effects.<sup>115</sup> Fourth, and on a related note, medical monitoring would help reorient production processes towards safer and environmentally-sustainable goods and products. Fifth, medical monitoring would remove the regulatory burden from the EPA and its understaffed and under-funded adjunct, the ATSDR, and place that burden on private parties responsible for cleanup, a desirable effect in our current anti-regulatory climate.

Sixth, it is important not to underestimate the *moral* advantages of the minority view regarding CERCLA medical monitoring costs. By reorienting the statute to focus on human and environmental health, medical monitoring would avoid the moral hazards present when clean-up decisions are based

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113. Robert H. Harris & Ridgeway M. Hall, Jr., *Superfund Response Cost Allocations: The Law, The Science, and The Practice*, C948 (ALI-ABA) 151, 155 (1994).

114. There are some indications that, in light of the changing corporate and regulatory landscape, the proposals outlined in this article would not meet unbending resistance from the business sector. See, e.g., Michael Baram, *The New Environment for Protecting Corporate Information*, 25 Env't Rep. (BNA) 545, 545-48 (1994) (arguing that pressures on business to self-police and make available information about environmental performance is changing the corporate view of what information is protected). Presumably, House Speaker Newt Gingrich endorsed this goal when he argued in favor of reforming CERCLA into a "results based, instead of process based" statutory scheme. See *Hill Leaders*, *supra* note 5.

Moreover, data obtained through monitoring could be used to conduct much needed Superfund risk assessments, as urged by Hamilton & Viscusi, *supra* note 17, at 609-10.

115. Imagine, for example, what might have been the difference in the management of the Hanford Nuclear Reservation, described in *Hanford Downwinders*, *supra* note 81, if the plutonium producer knew that its operations might ultimately require it to fund medical monitoring of the health effects of its radioactive and other hazardous substances. Presumably, because of the possible tort actions that could follow such monitoring, the producer might have altered its operations substantially.

solely on the costs involved or speculations about the likely harm (or not) of various clean-up strategies when no effort is made to validate those speculations.

## V. CONCLUSION

Not long after the November 1996 presidential election, CERCLA reform is highly likely. Just as its original sponsors viewed the statute as an ambitious, corrective measure focused on addressing the consequences of our behavior as members of a highly industrialized, consumer society, so too its amenders should recognize that the statute, above all, aims to protect human health. One sure way to effectuate that goal is to, when amending CERCLA, explicitly provide for medical monitoring as a routine diagnostic cost of conducting cleanups at hazardous waste sites.