PERIODIC PAYMENT OF CLAIMS: NEW HOPE FOR CERCLA SETTLEMENTS?

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> *We all know it doesn't work: the Superfund has been a disaster. All the money goes to lawyers, and none of the money goes to clean up the problems it was designed to clean up.*
>
> President Bill Clinton[1]

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1. Paul Dykewicz, *Insurers Applaud Attacks by Clinton on Superfund Law*, J. OF COM., Feb. 16, 1993, at A12.

I. INTRODUCTION

President Clinton's pronouncement, made just weeks after he took office, underscored the growing frustration with the nation's hazardous waste cleanup effort led by the U.S. Environmental Protection Agency (EPA or Agency) under authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).[2] Litigation delays and stalemates plague the CERCLA system,[3] jeopardize the solvency of potentially responsible parties (PRPs)[4] who are charged with liability for environmental contamination, and fail to produce cleanups in a timely manner.[5] In many cases, litigation over toxic waste sites is delaying commitments to pay for cleanup.[6]

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2. 42 U.S.C. §§ 9601-9675 (1993), 94 Stat. 2767, Act of Dec. 11, 1980, Pub. L. No. 96-510, 1980 U.S.C.C.A.N. (94 Stat.) 2767. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Act of October 17, 1986, Pub. L. No. 99-499, 1986 U.S.C.C.A.N. (100 Stat.) 1613. CERCLA was extended through fiscal year 1994 by the Budget Reconciliation Act of 1990, Act of November 5, 1990, Pub. L. No. 101-508, § 6301, 1990 U.S.C.C.A.N. (104 Stat.) 1388-19.

3. *See Insurer Liability for Cleanup Costs of Hazardous Waste Sites, Hearing Before the Subcomm. on Policy Research and Insurance, Comm. on Banking, Finance & Urban Affairs*, 101st Cong., 2d Sess. 183 (1990) [hereinafter *Insurer Liability*] (statement of Kirsten Oldenburg, Senior Analyst, Office of Technology Assessment) (describing unique inefficiency of Superfund program, wherein constant delays are caused by adversarial tactics of EPA and PRPs). *See also* National Paint and Coatings Association Superfund Survey 2 (1993) [hereinafter NPCA Survey] (reporting that one-half of industry group's members that are PRPs are involved in five-year-old unsettled cases, and that average NPCA member has been involved in cases for three to four years).

4. *See* Letter from National Federation of Independent Business, Printing Industry of America, Small Business Legislative Council, Environmental Defense Fund, Natural Resources Defense Council, and Sierra Club to President Bill Clinton 3 (Feb. 10, 1994) [hereinafter Letter to President Clinton] (presenting consensus opinion shared by business and environmental organizations that CERCLA reform must incorporate "ability to pay" as "an explicit, required criteria in assessing a small business's contribution to cleanup costs at a site"). *See also infra* note 188 and accompanying text (discussing ability to pay as key issue in CERCLA reform debate).

5. *See* ORIN KRAMER & RICHARD BRIFAULT, CLEANING UP HAZARDOUS WASTE: IS THERE A BETTER WAY? 64 (1993) (claiming "Superfund has degenerated into an elaborate and costly game in which each player's behavior is driven by the constant need to prepare for litigation against the other players, and where the ultimate goal is not cleaning up hazardous waste but, instead, shifting

PRP defendants, threatened with the enormous costs of site cleanups under CERCLA's strict,[7] joint and several,[8] and retroactive[9] standards of liability, have little economic choice but to defend themse1ves against EPA enforcement actions and deny liability.[10] If

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the cost of cleanup to the other players"); Anthony M. Diecidue et al., *Structuring Environmental Cleanups: A Funding Solution for the 1990s?*, 3 ENVTL. CLAIMS J. 203, 205-06 (1990) [hereinafter *Structuring*] (stating that "[p]rolonged litigation to recover costs can overwhelm the amount actually recoverable, outweigh the value of cost recovery, and thwart EPA's primary goal in the Superfund program: to clean up as many sites as possible, as quickly and completely as possible"); JAN PAUL ACTON, UNDERSTANDING SUPERFUND: A PROGRESS REPORT 49 (Washington, D.C., The Institute for Civil Justice 1989) (speculating that "the litigious atmosphere surrounding Superfund—between the EPA and private parties and among private parties—may engender significant delay and inefficiency at various stages of the process").

6. *See* ACTON, *supra* note 5, at 53 (observing that the tendency of PRPs to contest EPA liability charges in court or administrative hearing delays cost recovery).

7. Strict liability is defined as "[l]iability without fault." BLACK'S LAW DICTIONARY 1422 (6th ed. 1990). Although there is no explicit provision in CERCLA that parties are to be held strictly liable, it is implied by the statute's reference, at CERCLA § 103(32), 42 U.S.C. § 9601(32) (1988 & Supp. V 1993), to the liability standard in the Clean Water Act, 33 U.S.C. § 1321 (1988). Courts have held the Clean Water Act's standard to be strict liability. *See* Steuart Transp. Co. v. Allied Towing Corp., 596 F.2d 609, 613 (4th Cir. 1979). Moreover, the legislative history of CERCLA shows the intent of Congress to hold parties strictly liable. *See* 2 Legislative History of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 685 (Comm. Print. 1983) (recording statements of bill sponsors that 42 U.S.C. § 9607 provides for strict liability). CERCLA's standard of liability has been described as "a new hybrid from a legal and administrative perspective—melding a common-law notion of tort and nuisance with an administratively initiated strict liability system." ACTON, *supra* note 5, at 50.

The statute's strict liability standard has been recognized as unusually tough. "The Act's broad reach extends liability to all those contributing to—from generation through disposal—the problems caused by hazardous substances." B.F. Goodrich Co. v. Murtha, 958 F.2d 1192, 1198 (2nd Cir. 1992). "Superfund is not a 'liability' system at all. It is an anomalous quasi-tax scheme, with the duty to pay arbitrarily distributed among parties with even the most attenuated connection to a site." KRAMER & BRIFFAULT, *supra* note 5, at iv.

8. *See* CERCLA § 107(a), 42 U.S.C. § 9607(a) (1988 & Supp. V 1993). "A liability is said to be joint and several when the [plaintiff] may . . . sue one or more of the parties to such liability separately, or all of them together. . . ." BLACK'S LAW DICTIONARY 837 (6th ed. 1990). Under CERCLA, where the environmental harm is indivisible, liability among PRPs is joint and several. O'Neil v. Picillo, 883 F.2d 176, 178-79 (1st Cir. 1989), *cert. denied sub nom.* American Cyanamid Co. v. O'Neil, 493 U.S. 1071 (1990); United States v. R.W. Meyer, Inc., 889 F.2d 1497, 1506-08 (6th Cir. 1989), *cert. denied*, 494 U.S. 1057 (1990).

9. *See* CERCLA § 107(a), 42 U.S.C. § 9607(a) (1988 & Supp. V 1993) (providing that liability in CERCLA cases extends to past owners or operators of facilities, transporters of hazardous substances, and those who arranged for disposal or treatment of hazardous waste).

10. *See Structuring*, *supra* note 5, at 205 (citing EPA's findings that PRPs are increasingly likely to challenge cost recovery claims, especially for administrative costs). An attorney in private practice interviewed by the author over the telephone indicated that once a letter of notice is sent by EPA to a PRP, the PRP's reaction is to respond in every particular to requested information to avoid treble damages for uncooperativeness, but without divulging potentially damaging information. In

charged with liability for cleanup costs, many PRPs in turn sue their insurers and third parties for contribution.[11] While the costs of cleanups are mounting and will require tens of billions of dollars as the program enters the twenty-first century,[12] PRPs and the EPA are investing significant time and money to pay the "transaction costs" of CERCLA, rather than conducting remedial work.[13]

Congress is preparing to reauthorize CERCLA[14] amid a chorus of criticism about its implementation voiced by small businesses,[15] municipalities,[16] insurance companies,[17] and environmentalists.[18] While

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the meantime, the PRP denies any liability for contamination of the site and contests claims for cost recovery following response actions. *Id.*

11. *See Structuring*, *supra* note 5, at 205 (noting that PRPs charged with liability often sue their insurers when property and casualty insurers refuse to cover CERCLA cleanup costs under general liability policies). A coalition of industry and environmental groups has called for an end to third party contribution suits. *See also* Letter to President Clinton, *supra* note 4, at 2 (recommending legislation prohibiting third party liability litigation, while urging adoption of binding arbitration for all CERCLA claims).

12. Estimates on the total future cost of CERCLA cleanups range from $50 billion to $750 billion. *See Insurer Liability*, *supra* note 3, at 145 (prepared answers for the record to questions, EPA) (estimating cost of all NPL site cleanups will be $50 billion); *id.* at 84 (statement of Amy S. Bouska, Fellow, Casualty Actuarial Society) (projecting future NPL site cleanup costs of $60 billion based on EPA's stated assumptions); CONGRESSIONAL BUDGET OFFICE, THE TOTAL COST OF CLEANING UP NONFEDERAL SUPERFUND SITES 14 (1994) [hereinafter THE TOTAL COSTS] (estimating future NPL site cleanup costs at $74 billion); *Insurer Liability*, *supra* note 3, at 165 (prepared statement of Leslie Cheek, Senior Vice-President, Federal Affairs, Crum & Forster Insurance Companies) (speculating that PRPs face cleanup liability bill that could exceed $750 billion).

13. *See* U.S. ENVIRONMENTAL PROTECTION AGENCY, THE NEW SUPERFUND: FASTER, FAIRER, MORE EFFICIENT 3 (1994) [hereinafter THE NEW SUPERFUND] (offering view that "too many Superfund dollars go to lawyers and not enough to cleanups"); *Insurer Liability*, *supra* note 3, at 178 (prepared statement of Leslie Cheek, Senior Vice-President, Federal Affairs, Crum & Forster Insurance Companies) (stating that "of $10 billion our country has spent pursuant to Superfund over the past decade, between $3 billion and $6 billion has been paid to lawyers, consultants and 'enforcement' personnel, rather than to cleanup contractors"); NPCA Survey, *supra* note 3, at 1-2 (estimating that paint and coatings industry as whole spends $7 million per month on CERCLA transaction costs, and that average industry association member has been involved in CERCLA litigation three to four years).

14. CERCLA was scheduled to expire on October 1, 1994. *See supra* note 2 (noting that statute's authority continues until end of fiscal year 1994). Therefore, some action by Congress was required in 1994 to extend the program.

15. *See* NCPA Survey, *supra* note 3 (presenting complaints from small businesses about CERCLA liability system).

16. *See Congressional Research Service, Superfund Reauthorization Issues* 6 (1993) [hereinafter *Reauthorization Issues*] (reporting that local governments have responded to CERCLA lawsuits by forming American Communities for Cleanup Equity, association to lobby for limits on municipal liability). There is a growing consensus that some relief needs to be provided to municipal PRPs. *See* National Advisory Council for Environmental Policy and Technology, Superfund Evaluation Subcommittee, *Discussion Draft on Municipal Liability Reform* at 2

critics from each of these sectors have individual experiences about how the program has failed, all would probably agree that dollars need to be redirected toward conducting cleanup work, and away from paying litigation and other transaction costs.[19]

There is broad agreement that the ability of parties to pay for cleanups needs to be addressed in CERCLA's reauthorization.[20] As parties called upon to finance cleanups increasingly include small and insufficiently insured entities, inducements for CERCLA defendants to settle with the government will need to be considered.[21] Reform of CERCLA ought to include provisions to stimulate creative out-of-court settlements, workable methods of cleanup financing, and other means to get more funds applied efficiently and affordably to cleanup work while bringing liability disputes to a satisfactory conclusion.[22]

A financing concept that offers encouragement to government and private parties alike is an arrangement permitting periodic payments over time for cleanup costs. This can be accomplished through either an

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(October 1993) [hereinafter NACEPT *Discussion Draft on Municipal Liability Reform*] (presenting consensus agreement among industry, environmentalists and local government that to help municipal PRPs, "deferred payment schedule keyed to actual cleanup milestones may be appropriate once a determination has been made concerning ability to pay"). The NACEPT report noted that while environmentalists and local government representatives favor a 4% cap on municipal liability where municipal solid waste is at issue in a CERCLA case, industry opposes any cap on municipal liability. *Id.*

17. *See Insurer Liability*, *supra* note 3, at 164-65 (expressing property-casualty insurer's "profound concern about the impact of court-created liability for hazardous waste cleanup on the financial capability of all major writers of general liability insurance in this country and that of many of their reinsurers as well").

18. *See* Environmental Defense Fund, Hazardous Waste Treatment Council, Friends of the Earth, National Audubon Society, Natural Resources Defense Counsel, Sierra Club, *Tracking Superfund: Where the Program Stands* 3-5 (1990) [hereinafter *Tracking Superfund*] (summarizing criticisms by environmental groups that stringent national cleanup standards are ignored by EPA, permanent remedies are often not selected for site cleanups, and contaminated groundwater is often not cleaned up). *See also* NACEPT Discussion Draft on Remedy Selection Reform 1 (1993) [hereinafter NACEPT Discussion Draft] (reporting that environmental community prefers national soil and groundwater standards for cleanup sites to unrestricted, residential levels).

19. *See generally* Letter to President Clinton, *supra* note 4 (describing consensus among business and environmental groups on reform measures intended to reduce litigation and better finance cleanups).

20. *See infra* notes 188, 198 and accompanying text (discussing ability to pay as concern in PRP liability).

21. *See infra* note 43 and accompanying text (discussing small business concerns).

22. *See infra* notes 182-193 and accompanying text (outlining potential reforms of CERCLA).

out-of-court "structured settlement,"[23] or a court order requiring the defendant to pay a claim in installments rather than in a lump sum.[24] In cases where liability for pollution can be allocated among PRPs, and where future costs of cleanup are reasonably predictable, periodic payments could provide a dependable and affordable financing method.

Structured settlements have been identified as part of the solution to problems with CERCLA in several proposals for reform of the program.[25] The idea has been mentioned as an appealing concept, without much discussion of how a periodic payment plan might help lawyers, their clients, and the government resolve claims. Questions abound, such as: What types of cases lend themselves to a periodic payment plan? Can cleanup costs be predicted so that plans could be structured to pay costs over time? What are the tax consequences of a CERCLA structured settlement?

This Article evaluates the viability of periodic payment plans in creating affordable cleanups, reducing transaction costs, and bringing about greater efficiency in hazardous waste cleanups. Part I provides

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23. "Structured settlement" is defined as a "[t]ype of damages settlement whereby Defendant agrees to make periodic payments to injured Plaintiff over his or her life. Commonly such settlement consists of an initial lump-sum payment with future periodic payments funded with an annuity." BLACK'S LAW DICTIONARY 1373 (6th ed. 1990). "A structured settlement is . . . any settlement where the plaintiff agrees to accept payments for damages over time in lieu of a single, lump-sum cash payment from the defendant, and the defendant purchases an annuity from a life insurance company to fund the future payments." ROBERT J. MASON & MARK F. JOHNSON, *Structured Settlements: A New Settlement Incentive*, *in* PROCEEDINGS OF THE 9TH NATIONAL CONFERENCE OF THE HAZARDOUS MATERIALS CONTROL RESEARCH INSTITUTE 23 (1988) [hereinafter MASON & JOHNSON]. Structured settlement is sometimes used to describe any freely negotiated arrangement for periodic payments. *See, e.g.,* Charles F. Krause, *Structured Settlements for Tort Victims*, 66 A.B.A. J. 1527, 1527 (1980) (using "structured settlement" to describe voluntary rather than compulsory periodic payment plan).

24. *See infra* notes 51, 61-67 and accompanying text (describing court decisions providing for periodic payments from defendant to claimant).

25. *See, e.g.,* Office of Technology Assessment, *Coming Clean: Superfund Problems Can be Solved* 58 (Washington D.C. U.S. Government Printing Office, October 1989) [hereinafter *Coming Clean*] (advocating structured settlements in resolving CERCLA claims); NATIONAL ADVISORY COUNCIL FOR ENVIRONMENTAL POLICY AND TECHNOLOGY, SUPERFUND EVALUATION COMMITTEE, *Position Paper on Liability* at 5 (October 1993) [hereinafter NACEPT *Position Paper*] (recommending that EPA consider negotiating structured settlements with small businesses in CERCLA cases); Letter to President, *supra* note 4, at 3 (recommending that Congress require EPA to develop procedures for small business PRPs to negotiate structured settlements); *Insurer Liability*, *supra* note 3, at 117 (prepared statement of Dennis R. Connolly, Johnson & Higgins) (favoring use of structured settlements to close CERCLA cases); MASON & JOHNSON, *supra* note 23, at 23-29 (reporting the positive potential of structured settlements as incentive to promote PRP settlements with EPA).

background on the difficulties in achieving site cleanups through CERCLA litigation. Part II discusses the common law and statutory background of periodic claims payment and the use of out-of-court structured settlements. Part III considers the logistics and policy issues involved in the use of periodic payments in CERCLA cases. Part IV presents possible congressional action to facilitate the use of periodic payment methods. The Article concludes with a vision of the future as EPA confronts relatively small sites requiring adequate financing for cleanup.

II. THE "SUPERFUND SYNDROME":[26] PROBLEMS WITH FINANCING AND COMPLETING CLEANUPS DUE TO PROLONGED LITIGATION

Since the enactment of CERCLA in 1980 and the development of the National Priority List (NPL)[27] of contaminated sites subject to remediation, the number of nonfederal hazardous waste contaminated sites undergoing cleanup in the federal system has grown to about 1100,[28] with over 34,000 sites eligible for future NPL status.[29] Yet, the total number of sites at which cleanup has been completed since 1980 is approximately 220.[30]

One reason for this disappointing record is the delay caused by prolonged litigation over liability issues and remediation plans.[31] The cleanup process is complicated and lengthy because of disputes over what share of liability to assign each PRP,[32] the remedy appropriate at a given

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26. *See Insurer Liability*, *supra* note 3, at 13 (statement of Kirsten Oldenburg, Senior Analyst, Office of Technology Assessment) (describing "Superfund syndrome," wherein failure to implement cleanups is due in large part to adversarial approach by EPA and PRPs).

27. *See* CERCLA § 107, 42 U.S.C. § 9605(a)(8)(B) (1988 & Supp. V 1993) (authorizing EPA to create National Priority List of contaminated sites requiring urgent attention).

28. *See* U.S. GENERAL ACCOUNTING OFFICE, FURTHER EPA MANAGEMENT IS NEEDED TO REDUCE LEGAL EXPENSES 1 n.1 (1994) [hereinafter FURTHER EPA MANAGEMENT]. This article addresses only CERCLA cleanups at nonfederal sites, and does not consider cleanups at federal facilities. There are currently 123 federal facility NPL sites. *Id.*

29. *See* THE TOTAL COSTS, *supra* note 12, at 24 n.15 (reporting that EPA has conducted at least a preliminary assessment or pre-screening removal of contaminants at 34,793 sites).

30. *See* THE NEW SUPERFUND, *supra* note 13, at l.

31. *See supra* note 3 and accompanying text (describing inefficiency of CERCLA litigation process).

32. *See* THE TOTAL COSTS, *supra* note 12, at 6-7 (describing controversy centered around statute's retroactive, joint and several liability standard, as well as courts' interpretations of liability of specific types of parties, such as municipalities, lenders, and de minimis contributors).

site,[33] and what standard of thoroughness should be applied to the site's cleanup.[34] Numerous observers have remarked that under the current CERCLA liability framework, too much money is used to pay the "transaction costs" of the program and not enough is spent on cleanup work.[35]

In a number of cases, CERCLA has led to litigation contests involving hundreds of PRPs, each represented by teams of attorneys, technical experts, and consultants.[36] Although with a single-PRP site, negotiations are relatively simple, multiple-PRP sites involve complicated negotiations resulting in increased transaction costs.[37] The

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33. *See id.*, at 7 (citing common criticisms that too many remedies selected by EPA are inappropriate, either because they are not sufficiently thorough or permanent, or excessive and therefore too expensive); NATIONAL COMMISSION ON SUPERFUND, FINAL CONSENSUS REPORT OF THE NATIONAL COMMISSION ON SUPERFUND 4 (1994) [hereinafter NCOS Report] (noting CERCLA does not provide clear, well understood goals for remedy selection). A 1989 Rand Corporation study observed that uncertainty continues about the most technically appropriate approach to many sites.

> In some instances, we simply do not know how to assure ourselves that potentially harmful substances can be successfully contained over a long period. In other instances, we lack the means for permanent destruction of all materials that may be contained in some sites—even if costs were not a constraint.

ACTON, *supra* note 5, at 55.

In a telephone interview with the author, a PRP attorney described a pending case in which no agreement over remedy selection was in sight. EPA proposes treatment and monitoring at the site over a 400-year period, a scenario completely unacceptable to PRPs involved.

34. *See* CERCLA § 121, 42 U.S.C. § 9621 (1988 & Supp. V 1993) (setting out CERCLA's stringent standards for cleanups, including health standards, technology requirements, and cost considerations). A number of critics have remarked about the uncertainty created by CERCLA's standard for "how clean is clean." See *infra* notes 161-163 and accompanying text.

35. *See supra* note 13, *infra* note 47 and accompanying text (describing CERCLA's high transaction costs).

36. *See Insurer Liability*, *supra* note 3, at 183 (prepared statement of Thomas W. Brunner, Counsel, Insurance Environmental Litigation Association) (reporting CERCLA cases have involved as many as 285 PRPs, and up to 196 attorneys have entered appearance in individual cases); Rudy Abramson, *The Superfund Cleanup: Mired in Its Own Mess*, L.A. TIMES, May 10, 1993, at Al (reporting that at the Glenwood Landing, New York, site, 257 PRPs hired more than 130 law firms, and several PRPs sued 442 insurance companies, which in turn hired 72 more law firms to defend themselves). A PRP attorney interviewed over the telephone by the author described a case in which his client found it necessary to hire three teams of lawyers: one to try the case in federal district court, another team to evaluate when and if to settle, and a third to observe the trial and prepare an appeal, if necessary.

37. *See* JOHN PAUL ACTON ET AL., SUPERFUND AND TRANSACTION COSTS: THE EXPERIENCES OF INSURERS AND VERY LARGE INDUSTRIAL FIRMS 51 (1992) [hereinafter SUPERFUND AND TRANSACTION COSTS] (concluding "transaction-costs shares are much higher at multiple-PRP sites than at single PRP sites. One expects the costs of communication and negotiation to grow as the number of PRPs grows."). This study found that transaction costs for the defendant at a single-PRP site averages 3% of total costs, while the average for multiple-PRP sites is 35%. *Id.* at 48. *See also*

costs attributable to defending against CERCLA claims and pursuing third parties for contribution—while ordinarily not as great as the costs of paying for cleanup of a site[38]—can be staggering.[39]

Municipalities sued as PRPs are faced with transaction costs and potential cleanup liability for which local taxpayers are not prepared.[40] Small business PRPs[41] and de minimis contributors[42] to site

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ACTON, *supra* note 5, at 54 (stating that at "sites involving as many as 250 PRPs, [with threat of litigation looming], the sheer volume of communication and record keeping can be significant").

A different view of transaction costs, depending on the number of PRPs at a site, was offered by an EPA regional counsel interviewed over the telephone by the author. The counsel agreed that single-PRP sites typically involve low transaction costs due to the simplicity of negotiation. He observed, however, that at sites involving a large number of PRPs (say, 100 or more) negotiation can be less complicated than at sites involving a medium number of PRPs (say 10-20). This is because at sites involving numerous PRPs, the liability share for each is likely to be relatively small, and many PRPs will be able to settle at a cost that will not threaten their solvency. *Id.* By contrast, at a site involving a medium number of PRPs, the cleanup cost per party can be quite high, and those PRPs may tactically prefer to pay legal costs than accept liability for cleanup and risk serious economic dislocation or even bankruptcy. *Id.*

38. *See* Reauthorization Issues, *supra* note 16, at 3 (citing 1992 EPA cleanup cost estimate of $31,570,000 per CERCLA site); White House Unveils Superfund Reform Plan, 3 EPA Watch 3 (1994) (noting that according to former EPA Superfund Director J. Winston Porter, average CERCLA site cleanup cost is $30 million); *Insurer Liability*, *supra* note 3, at 145 (answers for the record to questions, EPA) (estimating $25.5 million as cleanup cost per site in 1990).

39. According to one study, large industrial PRPs spent an average of $1.3 million annually on transaction costs during the years 1987-1989. *See* SUPERFUND AND TRANSACTION COSTS, *supra* note 37, at 39 (presenting dollar amounts of transaction costs for PRPs surveyed). Of course, transaction costs as a share of total costs decline as trial or settlement progresses, and as costs of remediation increase. See *id.* at 51 (presenting results of site survey showing percentage of transaction costs involved in the cleanup stage is 33% less than with investigation and remedy selection stage).

40. *See* Reauthorization Issues, *supra* note 16, at 6 (reporting that 450 municipalities in 12 states have been sued or threatened with suit under CERCLA). According to an attorney who represents municipalities in CERCLA cases, interviewed by the author over the telephone, most municipalities do not have the resources to defend themselves, either with in-house counsel or private attorneys. In many cases municipal defendants in multiple-PRP cases pool their resources and hire a single outside counsel to represent them. *Id.*

41. *See* NACEPT *Position Paper*, *supra* note 25, at 5 (noting that many small businesses will be unable to pay cleanup costs in lump sum, and suggesting structured settlements as potential financing solution).

42. *See* CERCLA § 122(9), 42 U.S.C. § 9622(g) (1988 & Supp. V 1993) (defining de minimis polluter as party who is liable under joint and several liability scheme, but who has made only minimal contribution, considering amount and toxicity, in comparison to other hazardous substances at site). *See also* NACEPT *Position Paper*, *supra* note 25, at 5 (noting that "de minimis" is difficult term to define for all cases and that party determining liability shares at site should be given adequate discretion in determining de minimis status). EPA has promulgated rules for settlements with de minimis contributors. *See* Superfund Program; De Minimis Contributor Settlements, Request for Public Comment, 52 Fed. Reg. 24333, 24333-24339 (1987) (authorizing settlements with de minimis parties, which can include partial release from liability at site in return

contamination are often drawn into protracted and expensive litigation that threatens their solvency, and in turn their ability to help pay for site cleanup.[43]

Large corporations, insurance companies, and other "deep pocket" PRPs are often threatened with paying an unfair share of the liability for contamination at sites.[44] When charged by EPA with a disproportionate share of liability, these parties often retain attorneys and consultants in order to defend themselves in court and administrative proceedings and sue other parties for contribution.[45]

Litigation stalemates cause excessive overall transaction costs that lead observers to complain that the "Superfund syndrome" is a model of inefficiency in environmental program administration.[46] In most cases, between fifteen and thirty percent of the money spent by PRPs is for the attorneys and technical experts necessary to properly defend their interests.[47]

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for payment of premium to government). However, EPA has made little use of this settlement tool. *See* FURTHER EPA MANAGEMENT, *supra* note 28, at 1 (reporting that out of 1074 nonfederal sites, EPA has completed de minimis settlements at only 78 sites).

An EPA regional counsel interviewed over the telephone by the author suggested that, while encouraging de minimis settlements is a popular concept, agency officials are highly sensitive to the demands of PRPs that have significant liability shares. If the agency proposes allowing de minimis contributors to "cash-out" at anything less than a significant premium (say, 200% of their estimated liability), it encounters strong resistance from PRPs left "on the hook" for payments. *Id.*

43. "Nothing is gained by forcing small businesses out of business. Not only are jobs lost, but potential revenue streams that could be available for future cleanup costs are lost, reducing the resources available for cleanup." Letter to President Clinton, *supra* note 4, at 3.

44. ACTON, *supra* note 5, at 53 (stating that as consequence of joint-and-several liability scheme, "one party may face costs far out of proportion to its notion of 'fair' share").

45. *See supra* notes 5-6 and accompanying text (describing litigation stalemates at CERCLA sites).

46. *See generally* Superfund and Transaction Costs, *supra* note 37.

47. *See id.* at 44 (reporting survey of 73 cases showed average transaction costs of 30% of total costs). *See also Insurer Liability*, *supra* note 3, at 86 (prepared statement of Amy S. Bouska, Fellow, Casualty Actuarial Society) (citing an estimate that up to 70% of money spent on sites goes to legal costs). NPCA Survey, *supra* note 3 at 2 (reporting survey of paint and coatings industry showed average transaction costs of 71%). It has been rumored that transaction costs can even exceed site cleanup costs. *See* Reauthorization Issues, *supra* note 16, at 2 (citing anecdotal reports).

Transaction costs are generally much higher for insurance companies than for other PRPs, due to insurers' involvement in both coverage suits and policy holder defense actions. See Superfund and Transaction Costs, *supra* note 37, at 61 (reporting average CERCLA transaction costs of 88% for insurers and 21% for PRPs other than insurers).

Transaction costs to EPA, in terms of time spent by agency in enforcement actions, are probably more difficult to estimate due to the lack of billing records for attorneys and consultants, which are available at private firms. Estimates are that between 10 and 15% of Superfund expenditures are allocated to enforcement activities. *See Insurer Liability*, *supra* note 3, at 5

The millions of dollars spent litigating cases, rather than financing cleanup work, and the threat this excessive expense poses to the solvency of small businesses and municipalities, has received the attention of the Clinton Administration and the Congress.[48] Reforming CERCLA will demand creative solutions involving alternatives to the current adversarial system.

III. PERIODIC PAYMENT OF CLAIMS: IN AND OUT OF COURT

Advocates of structured settlements believe that EPA can achieve expedited and stabilized financing of cleanup claims by giving defendants the option of covering their share of liability over time through periodic payments.[49] In cases where the judicial branch has been charged with determining the outcome of CERCLA cases, however, payment of claims over time has been historically problematic.

A. Periodic Payment of Judgments

The common law tradition in the United States rejects the notion of periodic payment of claims.[50] While there have been a few cases in which courts of law have ordered damages to be paid on an installment basis,[51] the common law single recovery rule dictates that one, lump-sum

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(statement of James M. Strock, Assistant Administrator for Enforcement, EPA) (estimating that EPA's transaction costs at CERCLA sites is 10% of expenditures); THE TOTAL COSTS, *supra* note 12, at 10 (reporting that overall EPA transaction costs are 15% of expenditures).

48. See *infra* notes 178-189 and accompanying text (describing efforts to develop CERCLA reform legislation).

49. *See supra* note 25 and accompanying text (presenting views of advocates of structured settlements).

50. *See* Slater v. Mexican Nat'l R.R. Co., 194 U.S. 120, 128 (1904) (rejecting periodic payment of damages in wrongful death case as improper form of payment). This reasoning has been followed in subsequent decisions. *See* Gretchen v. United States, 618 F.2d 177, 181 n.5 (2d Cir. 1980) (citing *Slater*, 194 U.S. at 128-29); Brotherhood of Locomotive Firemen & Enginemen v. Simmons, 79 S.W.2d 419, 424 (Ark. 1935).

Despite this long-standing judicial precedent, some judges reportedly have expressed interest in ordering periodic payment of claims. *See* Panel Discussion, Annuities to Settle Cases, 42 Ins. Couns. J. 367, 379 (1975) (Statement of Andy Collins) [hereinafter Panel Discussion] (reporting California judges who found structured settlements appealing expressed desire to incorporate concept into judgments).

51. *See* M & P Stores, Inc. v. Taylor, 326 P.2d 804, 808-09 (Okl. 1958) (refusing to set aside verdict ordering periodic payment of judgment). In *M & P Stores*, the Oklahoma Supreme Court upheld a personal injury verdict that stipulated damages in the amount of $36,000 must paid to the plaintiff in installments of $150 per month for 20 years. *Id.* at 804.

The court observed, "The verdict should not have been rendered in this form and should not have been received in this form. However, it was received and neither party objected to it . . . and

payment of judgments is the only acceptable form of court-ordered damages.[52] The concept is rooted in the common law rule against splitting causes of action.[53] An order requiring periodic payments, without specific statutory authority, appears to be improper as a matter of law.[54]

A major reason for judicial hostility toward ordering periodic payment of judgments is that courts have difficulty in accepting proof of future injury, such as future consequences of a toxic release.[55] Therefore, courts have typically declined to calculate those damages yet to be determined and allow for payment in future installments.[56] Granting such remedies necessarily involves speculation about uncertainties or

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under those circumstances this court will not of its own volition invalidate it." *Id.* at 808-09. *See also* Southgate Independent Sch. Dist. v. Campbell Co. Sch. Dist., 203 S.W.2d 568, 570 (Ky. 1956) (upholding as legitimate exercise of trial court's equitable jurisdiction judgment ordering annual installment payments from defendant school district to plaintiff school district to compensate for prior improper tax revenue distribution). The decision in Southgate Independent School District, and most likely its order of periodic payments to satisfy the judgment between two school districts, was based on the early Kentucky case of Eddyville Graded Common Sch. v. Kuttawa Common Sch. Dist., 132 S.W. 182, 184 (Ky. 1910) (ordering payment of claim between two school districts in three annual installments, including interest).

52. *See Slater*, 194 U.S. at 128 (holding that lump sum is only proper form of payment of judgment); Frankel v. Heym, 466 F.2d 1226, 1228 (3rd Cir. 1972) (observing that traditionally, "courts of law had no power at common law to enter judgment in terms other than a simple award of money damages"). Tort law scholars have observed that the common law provides for a single payment to cover the plaintiff's past, present and future losses. *See*, *e.g.*, 4 FOWLER V. HARPER, ET AL., THE LAW OF TORTS § 25.2 (2d ed. 1986); JOHN G. FLEMING, THE LAW OF TORTS 201 (4th ed. 1971).

53. *See* Ralph C. Thomas, *Medical Prophesy and the Single Award: The Problem and a Proposal*, 1 TULSA L.J. 135, 136 (1964) (discussing origin of single recovery rule and shortcomings of lump-sum awards). The rule prohibiting splitting causes of action is believed to have originated in the English case of Fitter v. Veal, 12 Mod. 542, 88 Eng. Rep. 1506 (1701). *Id.* at 136 n.8. In that case, the plaintiff with a head injury tried to file a second suit following final judgment, after a piece of bone emerged from his head, but the court dismissed the case, ruling that such an eventuality should have been contemplated in the first trial. *Id.* The rule in *Fitter* has been followed in U.S. jurisdictions. *See, e.g.,* Eller v. Carolina & W. Ry. Co., 52 S.E. 305, 306 (N.C. 1905).

54. *See* United States v. Bauman, 56 F. Supp. 109, 118-19 (D. Or. 1943) (holding that order incorporating periodic payment of judgment must be pursuant to statutory authority); FOWLER V. HARPER, ET AL., THE LAW OF TORTS § 25.2, 500-01 (2d ed. 1986) (observing that periodic payment of claims "if desirable, must probably come through legislation").

55. *See* Ayres v. Township of Jackson, 461 A.2d 184, 187 (N.J. Super. Ct. Law Div. 1983) (holding that no recovery can be allowed for possible future consequences of toxic waste leachate contaminating plaintiffs' well water).

56. *See* Brotherhood of Locomotive Firemen & Enginemen, 79 S.W.2d at 424 (refusing to uphold decree providing for installment payments to cover expected injury).

unknown consequences of the defendant's acts—courts generally eschew this form of predication.[57]

There are also concerns about unfairness and denial of due process to parties in awarding damages in any form other than lump sum. The U.S. Supreme Court in the 1904 case of *Slater v. Mexican National Rail Road Company*[58] rejected just such a periodic payment schedule, in part due to such considerations. The Court expressed concern that "justice to the defendant would not permit the substitution of a lump sum, however estimated, for the periodical payments . . . ."[59] Concerns have also been raised about compromising the plaintiff's rights by making the plaintiff wait for relief over time.[60]

Nevertheless, there are cases in which courts have traditionally ordered periodic payments because lump sum damage awards do not adequately compensate claimants who have long-term remedial or maintenance needs. Included in this category are marital,[61] child support,[62] small debtors,[63] worker's compensation,[64] medical

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57. *See id.* In rejecting the use of judgments providing for periodic payments, the Arkansas court in Brotherhood of Locomotive Firemen & Enginemen v. Simmons stated, "the decree for the unaccrued monthly payments is thus based on a contingency. Judgments must be certain. Their validity and binding force must rest upon facts existing at the time of rendition." *Id.*

58. *Slater*, 194 U.S. 120 (1904).

59. *Id.* at 128.

60. *See* Tom Elligett, Periodic Payment of Judgments, 46 Ins. Couns. J. 130, 132 (1979) (noting that plaintiff may object to periodic payment of judgment if plaintiff expects immediate payment).

61. *See, e.g.,* Cann v. Cann, 334 So. 2d 325, 328 (Fla. App. 1976) (holding that award of periodic payments for alimony is appropriate according to needs of spouse seeking alimony and ability of other spouse to pay); Maxcy v. Estate of Maxcy, 485 So. 2d 1077, 1078 (Miss. 1986) (holding that award of periodic alimony payments constitutes permanent alimony). The equitable authority of courts to order periodic alimony payments in divorce actions is long-standing. *See* Mix v. Mix, 1 Johns. 108, 108 (N.Y. Ch. 1814) (ordering defendant in divorce action to pay "a monthly allowance of $30 to the plaintiff").

See also Harry Kalven, Jr., *The Jury, The Law, and the Personal Injury Damage Award*, 19 OHIO ST. L.J. 158, 165 (1958) (observing that "more than one jury has been puzzled as to why the future cannot be left in the custody of the court to be adjusted as the future events require much in the fashion of alimony payments"); *Slater*, 194 U.S. at 122 (observing that wrongful death is not alimony, and while periodic payments may be an acceptable remedy in an alimony judgment, lump sum is only appropriate form of compensation for widow and children in wrongful death case).

Periodic payments have also been ordered in marriage annulment cases. *See* McGhee v. McGhee, 353 P.2d. 760, 764 (Idaho 1960) (holding that in absence of statutory authority, the trial court's equity jurisdiction permits it to allow defendant to retire payments in installments to plaintiff in an annulment action).

62. *See* Diver v. Diver, 524 N.E.2d 378, 379 (Mass. 1988) (noting that the trial court judge ordered a father to make child support payments of $165 per week). *See also* National Institute for Child Support Enforcement, History and Fundamentals of Child Support Enforcement 104 (1986)

malpractice,[65] automotive accident liability,[66] and childhood vaccination cases.[67] In each of these areas, courts have ordered payment of judgments either under statutory authority or under their equitable powers.[68]

(noting that when parent fails to make child support payments, temporary wage garnishment is traditional remedy). Wage garnishments tend to be administratively burdensome due to their limited duration. *See* Michael A. Heedy, *Remedies—Domestic Relations: Garnishment for Child Support*, 56 N.C. L. REV. 169, 173 (1978) (noting that separate garnishment order for child support payments is necessary each time parent goes into arrears). A new federal law requires states to provide for immediate wage withholding for child support payments in all cases. *See* Family Support Act, 42 U.S.C. § 666(b)(3) (1988) (requiring states to adopt immediate wage withholding rules by January 1, 1994).

63. *See* Frederick Woodbridge, *Installment Payment of Judgments*, 39 MICH. L. REV. 357, 366 (1941) (describing wage garnishment order in case of small debtor as "supplementary to execution in the nature of a third party order requiring the employer of the debtor to pay at regular intervals a stated sum, usually expressed in percentages, out of the wages of the judgment debtor").

64. *See* ARTHUR LARSON, THE LAW OF WORKMEN'S COMPENSATION §§ 82.70-82.72 (1983) (observing that concept of periodic payment of monetary reparations is characteristic of workers' compensation laws); Elligett, *supra* note 60, at 133 (noting that periodic payments have been allowed in numerous state workers' compensation statutes); The Blood of the Worker, N.J. L.J., June 21, 1993 at 16 (describing New Jersey Workmen's Compensation Act, which provides for structured settlements covering workers' future expenses associated with workplace injuries).

65. *See* Roger C. Henderson, *Designing a Responsible Periodic-Payment System for Tort Awards: Arizona Enacts a Prototype*, 32 ARIZ. L. REV. 21, 27-28 (1990) (identifying 20 states with statutes providing for periodic payment of medical malpractice claims).

66. *See* Elligett, *supra* note 60, at 133 (reporting that installment payments have been permitted in automobile liability suits to allow judgment debtor to avoid having driver's license suspended, and also under no-fault automobile insurance law); DANIEL W. HINDERT ET AL., STRUCTURED SETTLEMENTS AND PERIODIC PAYMENT JUDGMENTS § 1.02[3] (1991) [hereinafter JUDGMENTS] (noting approximately half the states have enacted no-fault automobile insurance statute, and many provide that accident victim may receive periodic payments directly from liability insurer).

67. *See* JUDGMENTS, *supra* note 66, § 1.02[3] (noting that under federal law, court can order purchase of annuity to cover damages in cases where children are injured from vaccinations).

68. *See* Zygmunt J.B. Plater, *Statutory Violations and Equitable Discretion*, 70 CAL. L. REV. 524, 535 (describing "tailoring the remedies" as among discretionary concepts that "require equitable relativity and discretion in their application—a comparison of the circumstances of plaintiffs, defendants, and frequently society at large"). Equitable discretion is based on a time-honored judicial tradition that "eschews mechanical rules . . . [and] depends on flexibility." Holmberg v. Armbrecht, 327 U.S. 392, 396 (1946).

One critic of the limitations of lump-sum award of damages in providing just compensation for future costs proposed an "open end verdict" process, whereby a court could retain continuing, equitable jurisdiction over a tort case. *See* Thomas, *supra* note 53, at 144-48. "It is urged that if there is to be radical change, and this seems foregone, that it consist in the change of verdicts from immutable lump sums to lump sum payable by installments, susceptible to modification." *Id.*

Courts may order payment of a judgment by installments if clear statutory authority exists for such payment.[69] A number of state laws permit periodic payment of judgments,[70] and the National Conference of Commissioners on Uniform State Laws has developed model periodic payment of judgment statutes.[71]

Preferably, Congress should amend CERCLA to authorize courts to permit PRPs to pay judgments in installments in cases that merit such an equitable remedy.[72] The present law does not authorize periodic payment of judgments, and without such legislative authorization, the courts would probably continue to ignore such a remedy.[73]

B. Structured Settlements

Structured settlements, which are not constrained by the common law single recovery rule,[74] have traditionally been applied to cover tort claims involving serious bodily injuries requiring long-term medical treatment, monitoring, care, and maintenance of the claimant.[75]

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69. *See supra* note 54 and accompanying texts (describing periodic payment of judgments under specific statutory authority).

70. *See* Andrew J. Larsen, *Structured Settlements: A "Win-Win" Deal?*, NAT. UNDERWRITER 12 (1989) (reporting 33 states have enacted periodic payment of judgment statutes).

71. *See* UNIF. PERIODIC PAYMENT OF JUDGMENT ACT, 14 U.L.A. 7 (1991); UNIF. COMM'R MODEL PERIODIC PAYMENT OF JUDGMENTS ACT, 14 U.L.A. 141 (1980).

72. *See infra* note 190 and accompanying text (discussing possibility that Congress would enact provision authorizing periodic payment of claims).

73. It is possible, nonetheless, that a court would experiment in the use of periodic payment of judgments if its equitable jurisdiction could encompass such an order. There is some basis for describing CERCLA remedies as equitable in nature. *See Insurer Liability*, *supra* note 3, at 27 (statement of Dennis R. Connolly, Johnson & Higgins) (observing that most CERCLA sites are subject of litigation in equity, not law); *id.* at 186 (prepared statement of Thomas W. Brunner, Counsel, Insurance Environmental Litigation Association) (stating that CERCLA's remedies are equitable measures much like injunctions, and funds owing due to judgments should not be described as "damages").

Perhaps a bold federal judge could test the limits of equitable authority by ordering periodic payments for cleanup cost recovery, such as in the case of a small business PRP or other institution with a limited ability to pay damages. If such an order were upheld on appeal, it might establish a useful precedent for cases where there is the need for consideration of a defendant's ability to pay.

74. *See* JUDGMENTS, *supra* note 66, § 1.02(3)(b) (observing that structured settlements are not governed by tort law's single recovery rule because they are private contractual agreements).

75. *See* Robert G. Knowles, *Structured Settlements Cut Workers' Comp Costs*, NAT. UNDERWRITER, Mar. 6, 1989, at 7 (identifying as candidates for structured settlements claims in which claimant suffers from brain injuries, paraplegic and quadriplegic disabilities, severe burns, and fatalities where dependents are left as survivors).

Typically, defendants desire to settle because it appears very likely that the case will be decided for the plaintiff.[76]

The first structured settlements were developed in the Canadian thalidomide product liability cases in the 1960s.[77] In those cases, children born to women who took the thalidomide sleeping pill during pregnancy had severe and irreversible physical handicaps,[78] yet retained a normal life expectancy.[79] Richardson-Merrill, the drug company that manufactured the thalidomide pill, had no liability insurance and was able to negotiate structured settlements to provide for installment payments over the children's lifetimes, covering the expected long-term care and expenses associated with their disabilities.[80]

With the assistance of technical experts knowledgeable about the claimant's future remedial requirements and actuaries knowledgeable about structuring annuities, the defendant and the claimant can jointly devise a structured settlement plan to cover expected future remedial costs through periodic payments to the claimant.[81] The typical structured settlement includes an initial lump-sum payment to provide the claimant with an immediate cash infusion and cover out-of-pocket expenses and past losses.[82] If the parties choose an annuity plan to provide for future

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76. *See* Panel Discussion, *supra* note 50, at 372 (statement of Crawford Morris) (claiming cases of thalidomide birth defects, if argued before medical experts, could have been won by defendant; but when argued before jury witnessing children with severe physical handicaps, was impossible case for defendant to win).

77. *See id.* at 370-77 (describing successful use of structured settlements in late 1960s to cover claims against drug manufacturers brought by families of children with birth defects caused by thalidomide drug).

78. *See id.* at 372 (describing physical handicaps in children, including paralysis of limbs, respiratory impairment, and chronic bladder infections, caused by mothers' use of thalidomide pill during pregnancy).

79. *See id.* (noting that while many children born quadriplegic have life expectancy of only 10 years, quadriplegics among children in thalidomide case had normal life expectancy; therefore, structured settlements for these children must plan for many years of care and maintenance).

80. *See id.* at 373 (describing future costs associated with children suffering from thalidomide birth defects to be covered under structured settlement, including future medical expenses, special I-48 equipment such as a handicapped-accessible automobile, and parents' related expenses).

81. *See Structuring*, *supra* note 5, at 209 (describing structured settlement specialist as annuity broker, financial consultant, and third-party negotiator uniquely trained to calculate present value of settlement provisions covering future costs). The third-party specialist assists parties with such issues as cost and benefit analyses, evaluation of damages, and negotiation. *See* JUDGMENTS, *supra* note 66, § 6.02(1)(b), pp. 6-5.

82. *See* Daniel W. Hindert, *Periodic Payment of Personal Injury Damages*, 31 FED. OF INS. COUNSEL Q. 3, 5 (1980) (stating that first step in devising periodic payment plan is to provide for immediate payment of past damages, then to build installment payment plan for plaintiff's future

payments, the defendant will purchase the annuity from a life insurance company or other qualified institution.[83] In return for arranging to cover the claimant's future costs, the defendant obtains a release from liability to the claimant.[84] In addition to annuity arrangements,[85] structured settlements can be financed through bonds[86] or trusts.[87] They can be used to pay both large and small claims.[88]

1. Advantages of CERCLA Structured Settlements

There are a number of potential benefits for defendants that negotiate structured settlements, and those benefits can apply in a case where PRP money is used to finance cleanup.[89] Most significant is the

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costs); *Structuring*, *supra* note 5, at 204 (noting that typical structured settlement encompasses initial lump-sum cash payment and periodic payments in future). In a CERCLA structured settlement, a lump sum may be necessary to cover EPA's immediate response and investigative costs. *See* MASON & JOHNSON, *supra* note 23, at 27 (suggesting "[i]mmediate cash needs may include such items as fencing, paying a risk premium, recovering past EPA legal or cleanup costs, constructing extraction wells, or covering initial treatment system costs").

83. *See Structured Settlements; How to Make Sure You Don't Lose in "Win-Win" Deals*, BUS. INS., Nov. 25, 1991, at 25 (reporting that approximately 20 life insurance companies issue annuities to fund structured settlements in open market).

84. *See* Daniel Bellin, Settlements Via Periodic Payments: Structured Settlements, Damages in Tort Actions 82-9 (Marilyn Minzer, et al., eds. 1991) (noting that in typical structured settlement, defendant obtains general release from liability).

85. *See* Elligett, *supra* note 60, at 144 (noting that annuity has advantage of being established by a single premium payment and is less expensive than trust fund providing for periodic payments); PAUL J. LESTI, STRUCTURED SETTLEMENTS § 6:5 (2d ed. 1993) (reporting that annuity market offers rates of return typically 1/2% to 1% higher than rates on government bonds covering same time span).

86. *See* Bellin, *supra* note 84 at 82-13 (describing use of bond trusts to provide periodic level payments over number of years with large lump sum payable at end). *See also* Diane Ferraiolo, *Five-Year Review of Net Premiums Written*, 93 BEST'S REV. 10 (1993) (reporting that "[i]n most interest-climates, the yield on a Treasury bond structured settlement compares well with the yield on a structured settlement funded by an annuity").

87. *See* Elligett, *supra* note 60, at 144 (observing that banks managing trust fund might require additional payments to meet periodic payments, and insurers will not enter into open ended trust obligation).

88. *Seabury & Smith Introduces Structured Settlement Program*, MASS. LAW. WKLY., Jan. 27, 1992, at 39 (stating that structured settlements can be applied to large cases or those involving claims under $100,000).

89. An EPA regional counsel pointed out to the author during a telephone interview that this concept is really applicable only to so-called "Fund-lead" cleanups, where the EPA contracts for cleanup using funds from the Superfund and seeks PRP reimbursement, or where the PRP is to pay costs of cleanup work to be supervised by EPA or another party. Financing is not a major issue, however, for cleanups in "RP-lead" cleanups, where the responsible party undertakes the cleanup pursuant to the Superfund National Contingency Plan or under EPA supervision. In the latter case

lower overall cost of a structured settlement compared to an equivalent lump-sum payment or court judgment. One report estimated that with structured settlements, the cost of cleanup at the average site could be reduced by more than $9 million.[90] With such significant savings, a structured settlement could enable defendant businesses to avoid the severe economic hardship or even bankruptcy that might result from protracted litigation and substantial lump-sum awards.[91] This may also hold true for municipal PRPs concerned about the threat to their revenue base and bond ratings.[92]

By negotiating a structured settlement, the defendant ends the controversy and determines future costs or liability.[93] The satisfaction of obtaining closure of the dispute can be of tremendous importance, particularly for a small business or de minimis contributor fearful of unpredictable future costs that could jeopardize its solvency.[94] As with other out-of-court settlements, by negotiating a structured settlement a PRP can avoid the adverse publicity and damage to morale that can be generated by an emotionally charged court battle.[95]

There are several possible advantages to EPA and to third party plaintiffs in negotiating a structured settlement. The government or other claimant obtains immediate relief through settlement, and site cleanup is not delayed by lengthy and expensive litigation. For EPA, this can mean an expeditious recovery of funds expended on response actions at the site. The settlement could provide a reliable source of payments through an

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EPA is concerned that cleanups occur according to schedule, but is not concerned about how parties finance cleanup. *Id.*

90. *See* Paul Giblin, *Financial Aid Offered for Environmental Cleanup*, 13 THE BUSINESS JOURNAL-PHOENIX & VALLEY OF THE SUN, Aug. 6, 1993, at 5 (estimating that structured settlement could reduce cost of CERCLA cleanup from $25 million to S15.9 million, producing savings of $9.1 million).

91. *See Structuring*, *supra* note 5, at 212 (stating that for inadequately financed small businesses, only alternative to negotiating structured settlement may be bankruptcy).

92. *See* NCOS Report, *supra* note 33, at 26 (highlighting concern about impact of liability on municipality's general obligation bond rating and total operating revenues).

93. *See* Giblin, *supra* note 90, at 5 (noting that structured settlement allows PRP to bring end to controversy as well as transaction costs).

94. *See supra* note 42 and accompanying text (describing concerns of de minimis contributors to contamination).

95. *See Structuring*, *supra* note 5, at 212 (suggesting that structured settlement has even less "emotionally charged" atmosphere than other types of settlement because discussion relates to engineering specifics of each phase of cleanup, rather than to lump-sum amount).

annuity purchased from a reliable life insurance company,[96] and could be structured to ensure the proper use of installment payments to cover expected cleanup costs.[97] The installment payments can be tailored to allow for payments exceeding expected costs of each phase of cleanup, thus at least partially addressing payment of unexpected cost overruns.[98]

2. Problems with Structuring CERCLA Settlements

There are currently several problems to be expected with the use of structured settlements in the CERCLA setting. First, although EPA has formally acknowledged the option of structured settlements,[99] enforcement officials have not welcomed creative settlement ideas.[100] The agency developed an "enforcement-first" policy during the 1980s in an effort to get cleanup work underway by moving quickly against any known PRPs.[101] This policy has been reinforced by Justice Department officials involved in enforcement cases.[102] As a result of this adversarial

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96. *See* MASON & JOHNSON, *supra* note 23, at 27-28 (noting EPA study found no instance of qualified life insurer failing to pay structured settlement annuity and very few instances of insurer insolvency, due largely to comprehensive state regulation of insurance market).

97. *See id.* at 27 (stating that structured settlement should provide for installment payments of amount required for specific activities on future dates). Mason and Johnson have outlined how cleanup could be financed by a structured settlement:

> For example, a settlement may specify the need to build a slurry wall or cap in the future. . . . Additional deferred payment can be arranged to cover monthly or annual needs during a specific period, protect against inflation, and provide funds for future contingencies. . . . [Operation and maintenance] costs may include such predictable periodic costs for maintaining the site as fence repair, reseeding and maintaining final covers, semi-annual or annual sampling.

Id.

98. *See Structuring*, *supra* note 5, at 209 (speculating that offer to provide for periodic payments in excess of expected cleanup costs should provide incentive for EPA to settle using periodic payment plan).

99. *See* Hazardous Waste Enforcement Policy, Request for Public Comment, 50 Fed. Reg. 5034, 5037-38 (1985) [hereinafter Enforcement Policy] (authorizing EPA regional personnel to "consider allowing the party to reimburse the Fund in reasonable installments over a period of time, if the party is unable to pay in a lump sum, and installment payments would benefit the Government. A structured settlement providing for payments over time should be at a payment level that takes into account the party's cash flow").

100. *See* FURTHER EPA MANAGEMENT, *supra* note 28, at 1 (noting EPA has made little use of authorized settlement tools).

101. *See* Insurer Liability, *supra* note 3, at 2-3 (statement of James M. Strock, Assistant Administrator for Enforcement, EPA) (describing "enforcement first" policy through which agency tries to secure immediate 100% funding from available PRPs for site cleanups).

102. An EPA regional counsel interviewed by the author over the telephone described the difficulty of working with the Department of Justice in trying to negotiate a structured settlement involving a mix of EPA and PRP funds. While EPA headquarters officials were "a difficult sell,"

approach, EPA has usually passed up opportunities to use innovative settlement tools with PRPs.[103] This approach is evidently beginning to change, however, judging from the significantly increased use of settlements by the Agency in fiscal years 1992 and 1993.[104] Assuming that this trend continues, EPA may be increasingly receptive to such creative proposals as structured settlements.

Another concern for EPA would be a situation where previously unknown environmental problems for which the defendant was liable are discovered after completion of a site's cleanup and termination of periodic payments.[105] If the defendant negotiated a general release of liability, the public might have to pay for remediation. EPA has been understandably reluctant to settle with PRPs unless there is a "reopener" provision in the agreement,[106] and this appears to be a major barrier to greater use of structured settlements.[107] Until there is a better understanding and consensus about successful remediation technology[108] and standards for cleanups,[109] this barrier will likely remain in place.

Justice Department officials in Washington and in the local U.S. Attorney's office were consistently hostile to such a settlement idea. *Id.*

103. *See* FURTHER EPA MANAGEMENT, *supra* note 28, at 6 (noting that seven years after SARA authorized use of settlement tools, EPA has not surveyed NPL sites to determine which might be candidates for use of settlement tools, nor has the agency actively informed PRPs about availability of settlement options).

104. *See id.* at 5 (reporting that 59% of innovative settlements negotiated since enactment of SARA were completed in fiscal years 1992 and 1993).

105. *See* Enforcement Policy, *supra* note 99, at 5039 (acknowledging EPA's concern about unknown conditions and possibility of inadequate or failed remedy, leading to imminent and substantial endangerment).

106. *See* CERCLA § 122(f)(6), 42 U.S.C. § 9622(f)(6) (1988 & Supp. V 1993) (requiring that reopener provision be included in settlements, thus denying defendants general releases). EPA's guidance concerning CERCLA administration underscores the preference for reopener provisions. *See* Superfund Program; Covenants Not To Sue, Request for Public Comment, 52 Fed. Reg. 28038, 28038 (1987) (stating that the amendment to the statute "requires the inclusion of the unknown conditions reopener in virtually all settlements"); Enforcement Policy, *supra* note 99, at 5039 (noting that in negotiating settlements, "[t]he need for finality in settlements must be balanced against the need to insure that PRPs remain responsible for recurring endangerments and unknown conditions," which will typically weigh in favor of reopener provision).

107. *See* ACTON, *supra* note 5, at 55 (observing PRPs may be slower to agree to particular remedy due to EPA's inclusion of reopener).

108. *See* Enforcement Policy, *supra* note 99, at 5039 (acknowledging problem of "current state of scientific uncertainty concerning the impacts of hazardous substances, our ability to detect them, and the effectiveness of remedies at hazardous waste sites").

109. *See infra* note 164 and accompanying text (discussing need to define standards for cleanups).

Accounting either on a periodic basis for cleanup payments pursuant to a structured settlement or on periodic payments pursuant to a judgment order might present practical management and accounting issues for EPA that would have to be addressed for the Agency to embrace such funding arrangements.[110] To show fiscal responsibility, Agency officials like to point to financial benchmarks to show successes on an annual basis. It is much more satisfying politically to be able to point to large dollar, lump sum payments rather than to agreements providing for payments over time.[111] This hurdle could be eliminated if EPA management were to encourage greater use of creative settlements.

The tax treatment of structured settlements needs to be resolved to make them more attractive. Under current law and Internal Revenue Service regulations, the tax treatment of bodily injury settlements is very favorable.[112] As long as the claimant has no actual or constructive control over the funds until the periodic payments are received, the income earned through their investment is not taxable to the claimant.[113]

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110. In a telephone interview with the author, an EPA regional counsel expressed concern that keeping track of periodic payments to EPA could present agency accounting complications. The counsel reported negotiating a structured settlement with a de minimis polluter during the early 1980s which provided EPA with level quarterly installment payments over a ten year period. While there were no problems in the reliability of the payments, a regional staff person had to create a special accounting system to keep track of the relatively small quarterly payments, which caused a distraction from other activities. *Id.*

Other sources have found that EPA officials prefer to collect cleanup payments from PRP committees rather than from individual PRPs. *See Superfund and Transaction Costs*, *supra* note 37, at 42 (describing results of interviews with EPA officials).

111. An EPA regional counsel interviewed by the author over the telephone indicated that there is considerable pressure within the agency to conclude enforcement actions as quickly as possible on a fiscal year timetable and get PRP moneys into the Treasury. A settlement providing for payments in future installments is much less satisfying to regional enforcement personnel than the deposit of a significant lump sum into the Treasury in one fiscal year. *Id.* Moreover, the agency as a whole needs benchmarks of success to present to Congress, and the amount of funds deposited into the Treasury is one such benchmark. *See, e.g., Insurer Liability*, *supra* note 3, at 3 (testimony of James M. Strock, Assistant Administrator of Enforcement, EPA) (reporting to congressional committee that enforcement efforts in fiscal year 1989 brought over $1 billion into Treasury, and receipts of $4.9 billion were predicted for fiscal years 1990-1993).

112. *See* 26 U.S.C. § 310 (1988) (providing that payments to claimants via bodily structured settlements are not taxable income); Rev. Ruling 79-220, 1979-30, 5 (providing that funds received in installments in structured settlement are not taxable as long as specified requirements are met).

113. *See* Edmund A. McGinn, *Structuring Settlements; Old Concept: New Approach*, 18 TRIAL (June 1982) 58, 61 (observing that tax advantages disappear and investment income is treated as ordinary income if defendant has constructive control over funds by retaining ownership of annuity policy); Lesti, *supra* note 85, § 4:4 (describing ways to structure periodic payment plan to avoid constructive receipt of income). The Internal Revenue Service has offered a definition of constructive receipt: Income, although not actually reduced to a taxpayer's possession, is

In an environmental structured settlement, however, IRS regulations appear to hold that interest earned on the annuity policy may be taxable income to the claimant.[114] Until clarification is supplied, the surest method of resolving taxation uncertainty and negotiating a tax-free structured settlement is to place ownership of the annuity in EPA's name with EPA as annuitant.[115]

Economic conditions may also influence the attractiveness of a structured settlement. When interest rates are lower, return on invested money will be lower, and the savings to the defendant purchasing a structured settlement versus a lump sum equivalent payment will be lower.[116] On the other hand, borrowing money is more affordable in low interest climates. If borrowing is necessary to purchase an annuity, the

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constructively received by him in the taxable year during which it is credited to his account, set apart for him, or otherwise made available so that he may draw upon it at any time, or so that he could have drawn upon it during the taxable year if the notice of intention to withdraw had been given. However, income is not constructively received if the taxpayer's control of its receipt is subject to substantial limitations or restrictions. Treas. Reg. § 1.451-2(a) (1993).

114. *See* Faye Flam, *New Financing Could Save Superfund Costs*, CHEM. WEEK, Oct. 31, 1990, at 41 (citing Washington, D.C. attorney who observed that, although tax advantages apply in personal injury structured settlements, tax treatment of environmental structured settlements is uncertain). *But see id.* (reporting that as long as tax-exempt entity such as nonprofit group or government agency officially owns the annuity, there would be no tax on the interest). *See also* Bellin, *supra* note 84, at 82-89 (noting that if defendant assigns to third party obligation to make future payments to plaintiff, no party will experience taxable event).

115. *See* Robert Bell & John Machir, *Hazardous Waste Cleanup Structured Settlements Help Reduce the Cost*, BUS. INS., Oct. 22, 1990, at 51 (advising that annuity should be placed in EPA's ownership in environmental structured settlement).

116. *See* LESTI, *supra* note 85, § 6:2. A study compared the present costs, during different interest rate markets, to provide a single payment of $100,000 after 20 years:

Interest rate	Annuity price
8%	$21,454.82
9%	$17,843.09
11%	$12,403.39
13%	$ 8,678.23
15%	$ 6,110.03

Id. at § 6:2, p.50. Even in times of low interest, significant savings can be achieved, as the above figures demonstrate. An estimate made when interest rates were extremely low in summer of 1993, showed an impressive savings of 36% in site costs through a structured settlement. *See* Giblin, *supra* note 90, at 5. Furthermore, a structured settlement expert interviewed by the author over the telephone indicated that from an historical perspective, current interest rates are not unusually low, and that they should not be an issue in negotiating structured settlements.

favorable interest rates might offset any less favorable return on the investment.[117]

Fees, taxes, and transaction costs must also be determined before purchasing an annuity or other instrument to provide deferred payments. Fees will be charged by brokers, accountants, lawyers, and other specialists.[118] Because annuity premium taxes will be assessed by some states, negotiating parties should consider shopping among states that do not tax annuities.[119]

IV. CERCLA CASES APPROPRIATE FOR PERIODIC PAYMENTS

The use of periodic payments is not entirely new to environmental lawsuits. In several cases, courts have ordered periodic payments, and several recent CERCLA cases were resolved through structured settlements.

A. Precedents in Environmental Law

Courts have ordered periodic payments by defendants in environmental cases. In *Ayres v. Township of Jackson*,[120] for example, a New Jersey court refused to speculate about future medical costs associated with the questionable incidence of cancer caused by exposure to toxic substances. The court did, however, order the defendant polluter to pay for periodic medical monitoring of the plaintiffs over time.[121]

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117. A structured settlement expert interviewed by the author over the telephone agreed that low interest rates for borrowing money could be a positive factor for small businesses and other poorly capitalized institutions that need to borrow in order to purchase a structured settlement.

118. *See* McGinn, *supra* note 113, at 60 (stating that broker's fee in arranging annuity is typically between 2 and 4%). The purchaser of the structured settlement can avoid out-of-pocket costs for these miscellaneous fees by having them absorbed in the overall price of policy. *See id.* (noting that casualty company may be willing to include fees for brokers and other consultants in price of structured settlement); *Structuring*, *supra* note 5, at 209 (stating that a structured settlement broker is usually not paid on the basis of time spent in negotiation, but instead receives a commission after settlement from the insurer issuing the annuity).

119. *See* McGinn, *supra* note 113, at 60 (noting that state annuity taxes range from 1/2 to 2 percent). A structured settlement expert interviewed by the author over the telephone explained that brokerages have taken care of this problem by establishing subsidiaries in annuity tax-free states. For example, a company that that negotiated a structured settlement in California, a state with an annuity tax, purchased the annuity through its subsidiary in New Mexico, a tax-free state. *Id.*

120. 461 A.2d 184 (N.J. Super. L. 1983).

121. *Ayres*, 461 A.2d at 190 (requiring defendant whose negligence caused plaintiffs' exposure to pay plaintiff's future medical monitoring costs, as measure aimed at preventing occurrence of illness).

Other courts have similarly ordered defendants in environmental exposure cases to pay for periodic monitoring of plaintiffs.[122]

B. Previous CERCLA Structured Settlements

Structured settlements have in fact been negotiated in several CERCLA cases. These unusual settlements have established important precedents for the future use of creative cleanup financing methods, and they merit discussion in some detail.

1. New York City Landfills Settlement

Probably the first CERCLA case to be resolved by a structured settlement involved New York City's contaminated landfills. EPA was not a party; instead, the city brought claims during the mid-1980s against Exxon and thirteen other companies that had sent hazardous waste to municipal landfills, where environmental contamination occurred.[123] Two years after the city's original complaint was filed, Exxon and four other parties settled, agreeing to pay the city $12,555,000 in five installments over six years.[124] In the settlement, the defendants assigned their liability for making the installment payments to an insurance company.[125] The defendants were given a general release from liability.[126] In addition, they were granted contribution protection, and they in turn agreed to a dismissal of all counterclaims and third party actions they had initiated.[127]

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122. *See In re* "Agent Orange" Prod. Liab. Litig., 611 F. Supp. 1396, 1399-1400 (D.C. N.Y. 1985) (allowing use of fund to provide medical services to plaintiffs exposed to Agent Orange chemical); *In re* Three Mile Island Litig., 557 F. Supp. 96, 97 (M.D. Pa. 1982) (approving fund to monitor long term health effects of nuclear accident); Burns v. Jaquays Mining Corp., 752 P.2d 28, 34 (Ariz. Ct. App. 1987) (authorizing program funded by defendant to monitor medical conditions of plaintiffs exposed to asbestos); Askey v. Occidental Chemical Corp., 477 N.Y.S.2d 242, 245-47 (N.Y. App. Div. 1984) (ordering defendant polluter to pay consequential damages consisting of future costs of medical monitoring, and stating that if monitoring detects injury traceable to environmental damage, the three-year statute of limitations begins at that point).

123. *See* City of New York v. Exxon Corp., 633 F. Supp. 609, 612-13 (S.D.N.Y. 1986).

124. *See* City of New York v. Exxon Corp., 697 F. Supp. 677, 680 (S.D.N.Y. 1988) (affirming consent settlement).

125. *Id.*

126. *Id.*

127. *Id.*

There have been other reported structured settlements of CERCLA claims that did not involve EPA.[128] Because they were negotiated by private parties and probably did not involve a governmental entity, there is no reported consent decree or other published record of the terms of these settlements.[129]

In two cases, involving the Liquid Disposal, Inc. site in EPA Region 5, and the United Chrome Products site in Region 10, there were cleanup agreements involving a periodic payment by PRPs. These cases provide unusual examples of EPA's willingness to experiment with creative financing methods.

2. Liquid Disposal, Inc.

The Liquid Disposal, Inc. (LDI) site in Shelby Township, Michigan, was used to dispose of liquid organic wastes by incineration.[130] During its years of operation on a 6.8 acre facility[131] near Detroit, LDI was a corporation properly licensed and authorized to receive the wastes sent to it by businesses throughout the state of Michigan.[132]

EPA placed the LDI site on the NPL in 1982, responding to health and environmental threats posed by contaminated soil and groundwater, and to surface water conditions described in a *New York Times* article as "a waste lagoon threatening to overflow."[133] Following immediate response actions, which consisted of removing 200 gallons of oil and 750 cubic yards of contaminated sediment and debris,[134] EPA extracted 1.3 million gallons of hazardous liquid, 15,000 cubic yards of

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128. *See Structuring*, *supra* note 5, at 208 (reporting that in at least four cases prior to 1991, private parties, without EPA involvement, negotiated structured settlements to cover CERCLA claims).

129. *See* 28 C.F.R. § 50.7 (1994) (establishing Department of Justice policy that notice of consent decrees to which United States is party shall be placed in Federal Register for public comment, and shall be lodged with federal district court at least 30 days prior to entry of judgment by court).

130. Liquid Disposal, Inc. [hereinafter LDI Consent Decree]. [LDI] Consent Decree 1 (1990). Because neither the LDI consent decree nor the decision affirming it, United States v. BASF Wyandotte Corp., ___ F. Supp. ___, (E.D. Mich., So. Div. 1989), was published, this Comment cites to the consent decree document itself.

131. *Michigan Firms to Clean Up Former Chemical Waste Site*, CHI. TRIB., May 11, 1989, at 3 [hereinafter *Michigan Firms*].

132. LDI Consent Decree, *supra* note 130, at 1.

133. *45 Toxic Waste Sites Listed as Hazardous Health Risks*, N.Y. TIMES, July 24, 1982, at 8.

134. LDI Consent Decree, *supra* note 130, at 1.

solids, and 1800 drums from the site.[135] Contaminated liquids and soils were then pumped off-site and incinerated.[136]

The LDI settlement provided that BASF Corporation and seven other defendants that had sent wastes to the LDI site[137] would pay for remediation through annual contributions to a trust fund over an estimated sixteen-year cleanup period.[138] De minimis parties contributed to a separate fund[139] in return for a partial release.[140] All parties received contribution protection.[141]

In addition to paying for cleanup on an installment basis, BASF and the seven other PRPs paid $1.5 million for the purchase of an annuity, to be owned by EPA,[142] paying $6.1 million following a sixteen-year maturity period.[143] EPA agreed to apply these funds to pay for long-term operation and maintenance at the site following cleanup.[144]

Over 800 PRPs associated with the LDI site were originally identified by EPA.[145] Ultimately, 533 Michigan companies reportedly settled with EPA for a total of $22.4 million.[146]

3. United Chrome Products

The United Chrome Products (UCP) site presented a unique challenge to a municipality. From 1956 to 1985, the city of Corvallis, Oregon, leased a parcel of industrial property to United Chrome Products, Inc., for use in manufacturing and repairing sawmill equipment.[147]

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135. *Id.* at 2.

136. *Id.*

137. *Id.*, Appendix 11, at 1. The other parties to the settlement besides BASF were Chrysler, Dow Corning, DuPont, Ford, General Motors, Parke Davis, Pennwalt and United Technologies. *Id.*

138. *Id.* at 16. The settlement to last Remediation at the LDI site is planned under "sixteen (16) years or twenty-seven (27) pore volumes of groundwater extraction and treatment, whichever is later." *Id.* To ensure timely payment of the annual installments by settling parties, penalties were included for delays in payment. *Id.* at 42-43.

139. *See id.* at 11 (establishing "De Minimis Settlement Fund Agreement").

140. *See id.* at 50-51 (incorporating EPA covenant not to sue de minimis parties, but reserving right to bring claims against de minimis parties for failure to make stipulated payments, natural resource damages, and criminal liability).

141. *Id.* at 53.

142. *Id.* at 14-15.

143. *Id.*, Appendix 10, at 4.

144. *Id.* at 16-17.

145. *The Waste of Superfund*, 5 CRAINS DETROIT BUS. 22, 22 (1989).

146. Michigan Firms, *supra* note 131, at 3.

147. U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, SUPERFUND AT WORK 2 (Spring 1993) [hereinafter WORK].

Wastes from chrome plating operations were improperly stored and disposed of by the company, and caused extensive soil and ground water contamination at a site where 42,000 residents were within in a three-mile radius.[148] During the late 1970s and early 1980s, city of Corvallis officials notified the company as well as state and federal authorities of their concerns about contamination at the site.[149]

In 1984, EPA placed the UCP site on the NPL.[150] In 1985, EPA removed 8130 gallons of liquids and 11,000 pounds of solids heavily contaminated with chromium.[151] While design and construction of the groundwater pump-out and treatment remedy was underway between 1986 and 1988, EPA removed over 1000 tons of chromium-contaminated debris and soil.[152] Since then, the extraction process has removed 30,000 pounds of chromium from the groundwater, and cleanup is progressing with an expected completion date of 1998.[153]

After United Chrome Products, Inc. became bankrupt in 1985, the city of Corvallis was the sole remaining PRP.[154] EPA Region 10 officials, in consultation with EPA headquarters, the U.S. Justice Department, and the Oregon Department of Environmental Quality, negotiated a settlement with the city providing for a combination of federal, state, and city funds to cover the $8.6 million site cleanup.[155] The agreement provided that the city of Corvallis was responsible for paying $2 million plus interest.[156] It provided that the city would make an initial lump sum payment, followed by level annual payments of $150,000 over a seven year period, and a balloon payment at the end.[157]

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148. *Id.*

149. *Id.* An EPA Region 10 official interviewed by the author over the telephone indicated that the City of Corvallis had consistently pursued evidence of contamination at the site and sought advice and assistance from EPA. This cooperative spirit by the sole PRP at the site may have helped to pave the way for the structured settlement that allowed the city to pay less than 25% of the total cost.

150. WORK, *supra* note 147, at 4.

151. *Id.*

152. *Id.* at 6.

153. *Id.* at 7.

154. *Id.* at 4.

155. WORK, *supra* note 147, at 7.

156. United States v. City of Corvallis, 40 (D. Ore. filed June 22, 1992) (Consent Decree).

157. *Id.* at 43. The City of Corvallis consent decree provided for the following scheduled payments by the city to EPA:

Payment Due Date	Payment Amount
June 30, 1992	$445,000
June 30, 1993	150,000

In return for agreeing to make periodic payments to EPA, the city of Corvallis received contribution protection.[158] Although an annuity was not included, the unique installment payment method employed clearly put this agreement in the structured settlement category.

C. Issues for Future Use of Structured Settlements

The difficulty of predicting future costs of remediation[159] must be resolved before periodic payment plans can find a prominent place in CERCLA settlements. While medical experts can reliably predict future requirements of a plaintiff in a bodily injury case,[160] environmental science is not so well developed.[161] As a result of this uncertainty there

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June 30, 1994	150,000
June 30, 1995	150,000
June 30, 1996	150,000
June 30, 1997	150,000
June 30, 1998	150,000
June 30, 1999	150,000
July 31, 1999	881,073

Id.

158. *Id.* at 67.

159. *See Insurer Liability*, *supra* note 3, at 33 (statement of Dennis R. Connolly, Johnson & Higgins) (describing case where, as PRP was attempting to negotiate structured settlement with EPA, estimate of cleanup costs increased from S10 million to $130 million).

160. *See* Thomas, *supra* note 53, at 141 (noting that while pain and suffering damages are considered by some authorities to be "totally incapable of objective measurement" by expert medical opinion, reliable evidence "consists of medical prognosis of definite content which applied to known factors such as wages earned before injury and the cost of medicine, drugs and hospital attention is capable of producing by simple arithmetic the sums of special damage in the prayer"). JOHN E. TRACY, THE DOCTOR AS A WITNESS 45 (1957) (observing that medical expert witness "is accustomed to thinking not of probabilities but of scientific proof, which usually is conclusive proof").

161. See NCOS Report, *supra* note 33, at 4 (observing that "[a]dequate treatment technology is not currently implementable for a number of the contaminants and media at Superfund sites, either because it does not exist; is experimental and not adequately tested; is extremely expensive, or the risks associated with it are not acceptable to surrounding communities"); ACTON, *supra* note 5, at 5 (observing that 8 years after CERCLA's enactment, environmental officials still lacked clear understanding of the threat sites pose to health and environment, adequacy of remedies, and likely long term consequences of human beings' exposure to sites).

In a telephone interview with the author, a PRP attorney who also holds a Ph.D. in ecology stressed the significance of the fact that remediation technology is still very new. He suggested that the predictability of cleanup remedies will take time to develop as the science of remediation technology matures. He also offered the opinion that given this unpredictability and lack of consensus concerning remedies, structured settlements would not be practicable in the near future.

But see Structuring, *supra* note 5, at 211 (speculating that structuring annuity plan in CERCLA context should involve greater certainty than in medical context because duration of

is often lack of agreement among EPA, PRPs, and state and local regulators on the appropriate remedy for a particular site.[162]

If current ad hoc and experimental cleanup technology is not standardized, uncertainty will continue to make structured settlements difficult to negotiate in most cases.[163] On the other hand, if uniform national standards for cleanups were adopted,[164] and if the permanence of remedies could be established to the satisfaction of EPA and PRPs,[165] there would be more certainty in determining future costs. This would make periodic payment plans more attractive.

It may be difficult to bring EPA and PRP attorneys together for "global settlement" discussions when multiple PRPs may be represented by hundreds of attorneys and consultants.[166] This could change, however, if EPA or a court could develop a process for allocating shares of liability among PRPs.[167] If costs were allocated by a neutral

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pollution cleanup payments can be reasonably predicted, whereas "life contingent annuities" in bodily injury cases are inherently unpredictable as mortality of annuitant cannot be known).

162. *See* NCOS Report, *supra* note 33, at 4 (noting that excessive time is spent in selecting and implementing remedies); *Insurer Liability*, *supra* note 3, at 12 (statement of Kirsten Oldenburg, Senior Analyst, Office of Technology Assessment) (discussing concept of "impermanence" related to level of uncertainty over future cleanup costs, such as disagreements over remediation technology). Advocates of structured settlements believe that virtually any contingency can be covered in an annuity plan, even a failed remedy. *See Structuring*, *supra* note 5, at 218 (expressing confidence that structured settlement specialist can overcome most any obstacle in planning annuity to pay cleanup costs, including future changes in cleanup plans or even failure of remedy).

163. *See* ACTON, *supra* note 5, at 51 (describing uncertainty over standards for cleanups, stating that some 30 federal standards were incorporated by reference in CERCLA, and that confusion persists over applicability and relative priority of nonfederal cleanup standards); Tracking Superfund, *supra* note 18, at 19 (stating that "instead of developing a nationally consistent cleanup policy, EPA is relying on a risk assessment approach based on site-specific, questionable assumptions about exposure to the chemicals at the site").

164. *See* NATIONAL ADVISORY COUNCIL FOR ENVIRONMENTAL POLICY AND TECHNOLOGY, SUPERFUND EVALUATION COMMITTEE, *Discussion Draft on Remedy Selection Reform* at 1 (Oct. 1993) (proposing new approach to remedy selection wherein "[n]ational standards would apply to soil and groundwater and would be based on the use of the site or resource and other site-related factors decided upon pursuant to negotiated rulemaking. Site-specific risk assessment would be used where national standards do not apply"); *Coming Clean*, *supra* note 25, at 39-41 (recommending national standards for cleanup to reduce uncertainty and unnecessary costs in site study and remedy selection phases).

165. *Coming Clean*, *supra* note 25, at 41-43 (recommending development of clear and more narrowly defined standards for permanent cleanups).

166. *See, e.g.,* H.R. 3800/S. 1834, Title IV, § 409, 103d Cong., 2d Sess. (1994) (embodying Clinton administration's proposal for using third party allocators to determine liability shares).

167. *See* NACEPT *Position Paper*, *supra* note 25, at 2-5 (recommending system of determining liability by designating third party allocator at sites).

allocator,[168] it would be easier for EPA and PRPs to agree on a remedy. Technical experts could then estimate remediation costs over time and a financing method could be fashioned providing payments at each identified stage of remediation.[169] A structured settlement would require each PRP to purchase an annuity or otherwise provide periodic financing for its costs as determined by the allocator. If these reforms were instituted, perhaps creative settlements like those employed at the LDI and UCP sites could become the norm rather than the exception.

D. Policy Issues Raised by Periodic Payments

The desirable goal of reducing the volume of litigation facing the courts[170] could be served by promoting nonjudicial structured settlements. Assuming that the overall expense of a structured settlement is reasonable, PRPs should be less inclined to sue third parties for

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168. *See id.* at 3 (recommending use of administrative law judges or private allocators to determine liability).

169. *See* NCOS Report, *supra* note 33, at 20 (listing factors to be considered in determining liability: ability of party to show its contribution to site can be distinguished; amount of hazardous substances involved; degree of toxicity; degrees of involvement of parties in generation, transportation, treatment, storage or disposal of hazardous substances; degree of care exercised by parties; degree of cooperation with government officials; and quality of available evidence concerning liability and proportional share). *See also* Bell & Machir, *supra* note 115, at 51 (listing "cost of inflation, cost overruns, future contingencies and unforeseen events" as additional factors in calculating environmental structured settlements).

170. *See Insurer Liability*, *supra* note 3, at 175 (statement of Leslie Cheek, Senior Vice-President, Federal Affairs, Crum & Forster) (raising concern that CERCLA relies excessively on judicial branch to decide cleanups on case-by-case basis). Numerous scholars—often advocates of creative out-of-court settlements—have underscored the problems created by congestion and delay in general. "Excessive delay has serious consequences: it prolongs the anxiety of the litigants, undermines the value of judgments, and results in the loss or deterioration of evidence." Christopher Simoni, *Court-Annexed Arbitration In Oregon: One Step Forward and Two Steps Back*, 22 WILLAMETTE L. REV. 237, 239 n.8. "Congestion creates a problem when a backlog of cases increases, thereby lengthening the time it takes to dispose of a typical case, and this prolonged disposition time offends a community's sense of justice." ELIZABETH S. ROLPH, THE INSTITUTE FOR CIVIL JUSTICE, INTRODUCING COURT ANNEXED ARBITRATION: A POLICYMAKER'S GUIDE 6 (1984).

Years before environmental litigation began to place new demands on the courts, United States Supreme Court Chief Justice Earl Warren raised concern about excessive reliance on the courts:

> [T]he delay and the choking congestion in the federal courts today have created a crucial problem for constitutional government. . . . [I]t is compromising the quantity and quality of justice available to the individual citizen and, in so doing, it is leaving vulnerable throughout the world the reputation of the United States. . . .

Earl Warren, *Delay and Congestion in the Federal Courts*, 42 J. AM. JUDICATURE SOC'Y 6, 6-7 (1958).

contribution.[171] This development would discourage litigation and reduce the burden on the courts.

Negotiating structured settlements could yield desirable economic benefits to industry and could avert undesirable effects. With lower costs to PRPs than lump sum payments, structured settlements can help prevent bankruptcy, job losses, and other economic dislocations caused by high transaction costs and excessive lump sum awards often associated with litigation.

A recurrent concern of EPA is the need to keep PRPs "on the hook"[172] for liability at a site, due to the uncertainty of the outcome of remediation[173] and the demand for cost recovery.[174] Clearly, this is the concern that leads to inclusion of a reopener provision.[175] To allay this concern, structured settlements can be designed to continue cost recovery from settling PRPs over a period of many years, as in the case of the LDI site.[176] Furthermore, the annuity constitutes a secure insurance policy for cleanup cost recovery. While the company purchasing the annuity may not exist in twenty years, the stream of payments will continue. By negotiating a structured settlement, the government has invited in a second, and likely more financially sound PRP, the third-party insurer issuing the annuity.[177]

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171. Structured settlements can, of course, include contribution protection and covenants for settling PRPs not to sue third parties. Examples can be found in the New York City landfills, LDI, and UPC settlements. *See supra* notes 127, 141, 158 and accompanying text.

172. An EPA regional counsel interviewed by the author over the telephone indicated that, while he is always willing to entertain offers by PRPs, he must keep PRPs with major shares of liability "on the hook" for cost recovery.

173. *See supra* note 33 and accompanying text (discussing uncertainty of remedies).

174. *See supra* note 111 and accompanying text (highlighting demands on agency officials to secure cost recovery).

175. *See supra* note 106 and accompanying text (discussing EPA's insistence on including reopener provisions).

176. *See supra* notes 137-144 and accompanying text (describing terms of LDI settlement).

177. *See Structuring*, *supra* note 5, at 212 (speculating on advantage to EPA of bringing in life insurer issuing structured settlement as PRP). One attorney reportedly stated, "[y]ou not only have the party still on the line that you're going to settle with but, assuming you don't release them, you have them standing as guarantors . . . . The advantage is that the government gets a sort of double insurance: the company's finances and the life insurer's finances.'" *Id.* *See also* MASON & JOHNSON, *supra* note 23, at 28 (noting that in structured settlement, life insurer becomes legally bound obligor responsible for financing cleanup).

A structured settlement expert interviewed over the telephone by the author cautioned that, while the insurer remains liable for payments over the life of the annuity, it would never accept liability for unknown cleanup costs associated with a CERCLA case. In other words, if a company

V. FUTURE ACTIONS TO ENCOURAGE PERIODIC PAYMENT OF CERCLA CLAIMS

The stage is set for reauthorization of CERCLA. Congress has an opportunity to consider creative approaches to the difficult challenge of successfully cleaning up hazardous waste sites and finding reliable sources of private and public funds to pay for the work. Periodic payment plans should be an integral part of CERCLA reforms.

A. Development of an Informed Consensus

Several major CERCLA reform proposals have been presented, and structured settlements could be a key element in furthering the objectives of each of them. In October 1993, the Superfund Evaluation Committee of the National Advisory Committee for Environmental Policy and Technology (NACEPT), a committee which EPA relies upon for advice on a range of matters, proposed several CERCLA reforms.[178] In February 1994, the National Commission on Superfund (NCOS), sponsored by the Keystone Center and Vermont Law School, issued a report including a package of CERCLA reforms.[179]

The Clinton administration unveiled its CERCLA reauthorization recommendations in February 1994,[180] which were then introduced in bill form by congressional leaders.[181] The administration's proposal included a number of concepts similar to those of the NCOS report and the NACEPT proposal.[182] Thus, consensus on several CERCLA reform issues is emerging, and at this point, tentative assumptions can be made about the future direction of CERCLA.

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finances cleanup with the use of an annuity and subsequently becomes bankrupt, the insurer that issued the annuity does not then stand in the shoes of the defunct company. *Id.*

178. National Advisory Committee for Environmental Policy and Technology (NACEPT) (1993). NACEPT produced several documents, including the NACEPT Position Paper on Liability, the NACEPT Discussion Draft on Remedy Selection Reform, and the NACEPT Discussion Draft on Municipal Liability Reform.

179. *See* NCOS Report, *supra* note 33 (presenting proposals of National Commission on Superfund). The NCOS was convened by the Keystone Center and the Environmental Law Center of the University of Vermont Law School. *Id.* at v. The Commission was comprised of 26 leaders from sectors including industry, environmental, academic, municipality, labor, and minority groups. *Id.*

180. *See* THE NEW SUPERFUND, *supra* note 13 (outlining Clinton administration's reform plan).

181. *See generally* H.R. 3800/S. 1834, 103rd Cong., 2d Sess. (1994) (amending CERCLA to incorporate Clinton administration's amendments).

182. *See infra* notes 183-189.

The Clinton administration, NCOS, and the NACEPT reform proposals call for a better system of allocating liability among PRPs.[183] This is believed to be essential to reduce litigation and transaction costs,[184] and to encourage settlements. Common to all three proposals are the goals of better defining the preferences among cleanup remedies for CERCLA sites[185] and instituting national standards for "how clean is clean."[186] The three proposals call for relaxation of EPA's "enforcement-first" policy, and more receptivity by the Agency to creative settlements with PRPs.[187] Finally, all three proposals recommend facilitating settlements with small business PRPs and de

183. *See* THE NEW SUPERFUND, *supra* note 13, at 3-4 (stating objective that "[a]t every multi-party Superfund site, a neutral professional . . . [will] allocate shares of responsibility among identified parties"); H.R. 3800/S. 1834, 103d Cong., 2d Sess., §§ 401-409 (1994) (setting out procedures for allocation of liability shares among parties); NACEPT *Position Paper*, *supra* note 25, at 2-5 (recommending third-party allocation process at CERCLA sites); NCOS Report, *supra* note 33, at 18-23 (describing proposed system for binding allocation of liability among PRPs by neutral allocator).

184. *See* THE NEW SUPERFUND, *supra* note 13, at 3 (proclaiming that the "new Superfund will be more fair and will ensure that money goes to cleanup, not lawyers"); NACEPT Position Paper, *supra* note 25, at 1 (proposing to "establish an allocation system to reduce transaction costs, expedite settlement, and provide greater certainty for responsible parties"); NCOS Report, *supra* note 33, at 16 (stating that "Commission members agree that the current system imposes transaction costs that can and should be avoided.").

185. *See* THE NEW SUPERFUND, *supra* note 13, at 2 (proposing to create a "menu" of cost effective generic remedies for certain types of sites); H.R. 3800/S. 1834, 103d Cong., 2d Sess., §§ 501-506 (1994) (establishing new remedy selection procedures); NACEPT Discussion Draft, *supra* note 18, at 5 (proposing that EPA develop Demonstrated Control Measures for specific site types to facilitate use of proven technology); NCOS Report, *supra* note 33, at 8-9 (proposing new systematic remedy selection decision-making process designed to create consistency and efficiency).

186. *See* THE NEW SUPERFUND, *supra* note 13, at 2 (proposing national cleanup standards at sites for each contaminant, and eliminating need to meet state and local standards); H.R. 3800/S. 1834, 103d Cong., 2d Sess., § 502 (1994) (setting generic national contaminant cleanup standards); NACEPT Discussion Draft, *supra* note 18 (recommending that cleanup standards and remedy selection be based on future land use); *see* NCOS Report, *supra* note 33, at 6-8 (recommending national standards for 100 most frequently occurring contaminants, with limited site specific flexibility).

187. *See* The New Superfund, *supra* note 13, at 3 (promising to create settlement opportunities and protection against contribution suits for PRPs unable to pay full share of liability); H.R. 3800/S. 1834, 103d Cong., 2d Sess., § 408(g)(1)(D) (providing for expedited final settlements for small businesses); NACEPT *Position Paper*, *supra* note 25, at 5 (recommending that EPA negotiate structured settlements with small businesses); NCOS Report, *supra* note 33, at 24 (recommending that allocators consider ability of small businesses to pay assigned share of liability, and possess authority to reduce liability shares to zero).

minimis polluters,[188] and limiting the liability of municipalities[189] at CERCLA sites.

B. Options for Congress

In reauthorizing and amending CERCLA, Congress could incorporate several changes that would result in greater use of periodic payment of claims. First, Congress could establish a policy of encouraging settlements with PRPs using installment payment plans and annuities.[190] This is a modest change that should not complicate the

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188. *See* THE NEW SUPERFUND, *supra* note 13, at 3 (recommending for de minimis contributors early opportunity to settle and obtain protection against contribution suits); H.R. 3800/S. 1834, 103d Cong., 2d Sess., § 408(g)(1)(A) (1994) (providing for expedited final settlements for de minimis contributors); NACEPT *Position Paper*, *supra* note 25, at 5 (recommending that EPA negotiate settlements with de minimis contributors); *see* NCOS Report, *supra* note 33, at 23-24 (recommending special settlement terms for de minimis contributors, including opportunity to pay shares of costs over time).

189. *See* THE NEW SUPERFUND, *supra* note 13, at 3 (recommending caps on liability for generators and transporters of municipal solid waste, and promising early opportunity for municipalities that own contaminated sites to settle and obtain protection against third-party contribution suits); H.R. 3800/S. 1834, 103d Cong., 2d Sess., sec. 408(g)(1)(C) (1994) (providing for expedited final settlements in certain cases involving municipal solid waste); NACEPT *Discussion Draft on Municipal Liability Reform*, *supra* note 16, at 2 (recommending limitations on liability for municipalities); NCOS Report, *supra* note 33, at 24-27 (proposing that special consideration be given to generators and transporters of municipal solid waste and to municipal owners and operators, and suggesting low cost and equitable remedies for such parties, including provisions for periodic in-kind services).

190. It was hoped that the 103rd Congress would amend CERCLA to explicitly authorize the EPA to negotiate structured settlements. On May 18, 1994, Representative Thomas J. Manton of New York offered an amendment to H.R. 3800 entitled "Structured Settlements," which was adopted by the House Energy and Commerce Committee's Subcommittee on Transportation and Hazardous Materials. Amendment No. 3 to § 408, Title IV, H.R. 3800, 103d Cong., 2d Sess. (1994). The following is the text of the Manton amendment to H.R. 3800:

> If, as part of any settlement agreement for carrying out a response action under this Act, a potentially responsible party or parties will be paying amounts to the United States, the Administrator is authorized to accept ownership of a financial instrument running irrevocably to the benefit of the United States to conduct, or enable other persons to conduct, such response actions. For the purposes of this paragraph, the term "financial instrument" means an annuity contract, funding agreement or similar instrument acceptable to the Secretary of the Treasury, that is purchased by one or more potentially responsible parties, and has a defined schedule of periodic payments which coincides with the obligations set forth in the settlement agreement. Periodic payments under such a financial instrument will be made to the owner, or as the owner directs, for response costs at the facility which is the subject of the settlement agreement.

Id.

CERCLA reauthorization debate, and a desirable first step for Congress to take.

Congress could amend CERCLA to encourage EPA to give PRPs a general release from liability in return for purchasing a structured settlement to pay their share of remediation costs. This could be considered in the context of establishing a trust fund to pay remediation costs for contamination discovered after settlement.[191] This would be a significant inducement for PRPs to settle with EPA, which might make funds available for cleanup work sooner. The idea is worthy of serious consideration in the cases of small businesses, de minimis contributors, municipalities, and those with a poor ability to pay. It would be risky, however, to grant general releases to PRPs that have large shares of liability, because this could put federal resources in jeopardy of being used to cover costs for which trust funds are not adequately funded.[192]

Congress could amend CERCLA to specifically authorize federal courts to order payment of claims in installments to coincide with the

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This amendment, if enacted, would presumably have resulted in greater use of structured settlements in CERCLA cases. *See Structuring*, *supra* note 5, at 214 (speculating that federal government could play strong role in bringing about greater use of structured settlements simply by endorsing structured settlement concept and encouraging its consideration by PRPs early in negotiation process). Subsequent to enactment of such an amendment, EPA should publish rules clarifying the applicability of such settlements. *See id.* (stating that "federal guidance may not be enough; [PRPs] may need 'encouragement and a roadmap'"). As EPA works to implement such an authorization, its enforcement personnel would benefit from receiving training by experts in negotiating structured settlements. *See id.* at 218 (recommending Information Network for Superfund Settlements and Clean Sites, Inc. as organizations to assist in providing education about use of structured settlements). Another potential source of training and information for EPA officials and PRPs is the National Structured Settlement Trade Association. *See* Lesti, *supra* note 85, at 6.02, 6-4 (describing formation in 1986 of industry association representing over 75 companies and 400 individuals).

Furthermore, EPA officials, and attorneys in the Justice Department's Environment and Natural Resources Division, may be able to draw from the experiences of Justice Department's Torts Branch of the Civil Division. Officials in that division have reportedly negotiated approximately 500 structured settlements covering federal tort claims, workers' compensation, longshoremen and harborworkers' disputes. *See id.* at § 1.03, 1-15 to 1-16 (reporting information obtained from interview with Justice Department officials).

191. *See* MASON & JOHNSON, *supra* note 23, at 31, n.32 (suggesting that to accompany general releases, "the parties to a settlement may agree to establish a contingency trust to fund future contingency costs that are not fully defined or predictable at the time of settlement"). In the LDI settlement, the annuity purchased by responsible parties was designated to provide over $6 million to cover future contingencies associated with operation and maintenance at the site following cleanup. *See supra* note 151 and accompanying test.

192. *See* Enforcement Policy, *supra* note 99, at 5039 (cautioning that the need for finality in settlements needs to be balanced against the need to insure that PRPs remain responsible for recurring endangerments and unknown conditions).

payment of cleanup costs.[193] Such an authorization might be limited to small businesses, de minimis contributors, municipalities, and those with a poor ability to pay.

Congress could also amend the Internal Revenue Code to guarantee tax free status of environmental structured settlements payments. At a minimum, Congress could request clarification and guidance from the Internal Revenue Service on the tax treatment of CERCLA settlements under current law.

VI. CONCLUSION

In the years ahead, EPA is likely to be confronted with relatively few of the notorious "mega-sites"[194] on the order of Love Canal.[195] The worst of the toxic dumping cases have probably already been identified.[196] There is concern, however, that a large share of the sites remaining to be cleaned up are "minor" sites[197] that involve a handful of successive property owners, each with inadequate resources to pay their share of cleanup costs.[198] These sites will present a challenge to EPA

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193. Such an authorization should not include punitive damages or any criminal penalties. If a judgment includes an assessment of treble damages against an uncooperative PRP, as provided for under 42 U.S.C. § 9607(c)(3), and if periodic payment were ordered by the court, such damages should not be included in the periodic payment plan. This would ensure that payment of punitive damages would not be made convenient. *See* Hindert, *supra* note 82 at 6 (noting that including punitive damages in periodic payment plan "would inappropriately soothe the intended sting" of such damages); Elligett, *supra* note 60, at 132 (noting that easing burden on judgment debtor through periodic payment decreases deterrent effect, and arguing that convenient financing arrangements should not be permitted in cases involving intentional torts or punitive damages).

194. *See* THE TOTAL COSTS, *supra* note 12, at 23 (defining CERCLA "mega-site" as having cleanup cost of $50 million or more; "major" site as having cost between $20 million and $50 million; and "minor" site as having cost less than $20 million). The Congressional Budget Office estimates that as few as 94 mega-sites and 227 major sites remain to be cleaned up. *Id.*

195. Cleanup of the Hooker Chemicals Love Canal site in Niagara Falls, New York, has cost $350 million to date. Telephone interview with EPA Region 2 official, March 24, 1994. EPA does not offer a projection of the future costs of cleanup at the site. *Id.* For a comprehensive report on the Love Canal site, see Gerald B. Silverman, *Love Canal: A Retrospective*, 20 Env't. Rep. (BNA) 835 (1989).

196. An EPA regional counsel interviewed by the author by telephone expressed confidence that the EPA's inventory of sites has identified all prospective CERCLA mega-sites and probably all major sites.

197. *See* THE TOTAL COSTS, *supra* note 12, at 23 (predicting that as many 6369 minor sites could require cleanup in the future).

198. An EPA regional counsel interviewed by the author by telephone predicted that an increasing number of relatively small but problematic cases will face the agency in the future. These cases typically involve 10-15 PRPs, and successive ownership of the contaminated property is a common source of some of the parties' liability. *Id.* The concern is that unlike sites involving

and demand creative financing methods to ensure sufficient and stable funding for cleanups.

Success in developing structured settlements will require a change from EPA's traditional enforcement-first policy to one involving creative negotiations with PRPs. Structured settlements and/or court-ordered periodic payments should be particularly useful when liability shares are reasonably determinable and future cleanup costs are predictable. Where parties have difficulty reaching agreement on liability shares, future cleanup costs are too speculative, or the success of available remedies is uncertain, a structured settlement or court-ordered periodic payment plan probably would not be useful.

Billions of private and public sector dollars will be spent at sites in the years ahead.[199] Fortunately, cleanup costs should become more predictable as consensus emerges over appropriate technology and remediation policies.[200] With greater predictability built into the system, periodic payment of claims should be an integral part of CERCLA settlements.

Congress has the opportunity to reform the nation's hazardous waste cleanup law to make it respond more equitably to all parties involved in CERCLA sites. The structured settlement avenue shows promise of leading to a responsible resolution of this environmental dilemma involving more effective and less expensive cleanup activities.

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large numbers of PRPs where costs can be spread broadly among parties negotiating by committee, or single-PRP sites where liability allocation is not an issue, these sites will see PRPs fiercely resist cooperation with EPA on cleanup. That is because the PRPs are typically small businesses unprepared to finance multi-million dollar cleanups and outraged over CERCLA's strict, joint-and-several and retroactive liability standard. *Id.* The EPA counsel expressed concern that these sites would entail significant transaction costs in the future.

199. *See supra* note 12 and accompanying text (projecting future costs of CERCLA cleanups).

200. A PRP attorney interviewed by the author over the telephone expressed confidence that the science of remediation technology is now reaching the stage where predictability is emerging. Therefore, remedy selection and permanence may be less controversial in the future.