

STATE BROWNFIELDS PROGRAMS AS LABORATORIES OF DEMOCRACY?

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A revolution has swept the law and practice of remediating contaminated real property within the United States. From the mid-1980s through the mid-1990s, the law and practice built on a federal statute, the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”),¹ and related regulations promulgated by federal agencies. States were extremely active in remediation, but their statutes and regulations largely mirrored those of the federal government. The formal philosophy of the CERCLA regime was simple, ambitious and expensive: contamination of all sorts on sites should be remediated to the level where residential use (e.g., children playing in the dirt, or drinking water from an on-site well) would be entirely safe. In the last decade, the federal role in real property remediation (with the exception of former federal military bases) has declined, as has the role of state CERCLA-type statutes, regulations, and programs. In the place of the federally-driven CERCLA regime, a new regime has arisen: state voluntary cleanup programs or, as they are often labeled, brownfields programs.²

In this article I argue that the state brownfields programs represent a lost opportunity—the opportunity to empirically test different approaches to real property remediation. I also propose a simple solution to recover this opportunity: an amendment to the federal CERCLA statute that would limit liability for participants in brownfields cleanups in states that employ a system of

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¹ 42 U.S.C. §§ 9601–9675 (2000).

² The laws in many states nominally distinguish between voluntary cleanup programs and brownfields programs, but given the expansive definitions states (as well as the federal government) use for “brownfields,” the line between the two types of programs is hard to discern. In popular and academic commentary, the terms brownfields is sometimes used to cover all voluntary cleanups under a state statute that do not follow the CERCLA model, and I follow that practice here.

standardized data-collection regarding the development, implementation, and outcomes of at least a significant sample of their approved brownfields cleanups. The development of the template and metrics for such data collection would help focus the national conversation regarding the values at stake in brownfields programs, and the resulting data would help inform policymakers and the broader community as to the best practices to advance those values. As I note, however, there are grounds for skepticism regarding the political prospects for my proposal.

Part I of this article discusses the rise of state brownfields programs. Part II describes the opportunity that these highly varied programs present: to develop an optimal, or best practices, program for brownfields cleanups. Finally, in Part III, I propose a model CERCLA amendment, the purpose of which would be to give states incentives to participate in an empirical assessment of brownfields programs. This assessment, ideally, would lead to the development of a best practices model for brownfields nationwide.

I. THE TRANSITION FROM CERCLA TO STATE BROWNFIELDS PROGRAMS

There are two mistakes one might understandably make that would lead to the conclusion that the societal stakes in brownfields reform are quite modest. First, insofar as sites with very serious contamination will be remediated under the federal or state CERCLA statutes and programs, some may presume that brownfields programs address only mildly-contaminated sites that pose a minor or no real public health threat. Thus, from a public health perspective, the details of brownfields cleanups would not be a matter of much concern. Second, some may presume that, since most brownfields programs include re-opener provisions that allow the state government to re-open a brownfields cleanup under certain circumstances, any failings in cleanups under brownfields programs can and will be addressed at a later date.

In fact, because federal and state CERCLA programs are close to moribund with respect to the identification and remediation of new sites, brownfields programs are likely to be used to address even very seriously contaminated sites that are not already subject to a CERCLA cleanup. Second, the incentives of the relevant actors in the brownfields regulatory process are such that we should expect to see brownfields cleanups re-opened only in extraordinary cases, as where an imminent public health crisis

somehow becomes apparent to the public. Because of the breadth of brownfields cleanup programs and the low likelihood that nominally completed brownfields cleanups will be re-visited by regulators, the content of the first (and usually last) cleanup of brownfields matters very much.

A. *The (Possibly Permanent) Decline of CERCLA*

The federal CERCLA program is in decline. An array of statistics assembled by watchdog environmental groups attests to this fact. According to a joint report of the Sierra Club and U.S. PIRG, for example, the number of completed CERCLA cleanups each year has decreased by 50 percent since the late-1990s.³ Even the current federal EPA Administrator concedes that the agency has only \$17 million to cover 200 cleanups a year.⁴

Statistics for state CERCLA and CERCLA-type enforcement actions are harder to locate, but the dire budgetary situation in many states appears to have stymied environmental enforcement, including enforcement under CERCLA and mirror state CERCLA statutes.⁵ Commentators report that “[s]tates are extremely varied in their ability and commitment to strongly enforce these laws.”⁶

³ U.S. PIRG EDUC. FUND & SIERRA CLUB, *THE TRUTH ABOUT TOXIC WASTE CLEANUPS: HOW EPA IS MISLEADING THE PUBLIC ABOUT THE SUPERFUND PROGRAM* 6 (2004), available at <http://www.sierraclub.org/toxics/factsheets/cleanups.pdf>.

⁴ Michael Janofsky, *New E.P.A. Chief Says Budget Is Sufficient*, N.Y. TIMES, May 20, 2005, at A18. The average cost of a site remediation is estimated to be at least \$25 million. See THE BUS. ROUNDTABLE, 101 TERMS AND FACTS ON SUPERFUND 3–4 (1993), available at <http://www.businessroundtable.org/pdf/37.pdf> (discussing the costs to EPA for each cleanup); U.S. PIRG & SIERRA CLUB, *supra* note 3, at 18 (same).

⁵ See Paul Singer, *Internal EPA Review Finds State, Regional Enforcement Activity Slumping*, INSIDE EPA (EPA, Washington, D.C.), May 14, 1999, at 1, 12–15; Paul Singer, *Drop in RCRA Enforcement Leads to an Overall Decline in State Efforts*, INSIDE EPA (EPA, Washington, D.C.), May 28, 1999, at 3. In one recent year, fiscal year 2003, thirty of forty states that responded to a survey reported a decrease in their environmental budget and, adjusted for inflation, only one state reported a true increase. Press Release, Env'tl. Council of the States, *State Environmental Budgets Continue to Fall* (July 26, 2002), available at http://www.ecos.org/files/703_file_Press_Release_State_Budget_Cuts.pdf.

⁶ *Brownfields Revitalization and Environmental Restoration Act of 2001: Hearing on S. 350 Before the S. Comm. on Environment and Public Works*, 107th Cong. 78 (2001) (statement of Grant Cope, Environmental Advocate, U.S. PIRG).

Moreover, the decline in CERCLA activity is not simply a function of the ideology of the current administration in the White House or a passing state budget crisis, but rather the reflection of changes that are likely to remain in force. For one thing, the tax that helped underwrite the CERCLA program expired in 1995, and there is no significant bipartisan support in Congress for re-instituting it.⁷ The absence of special tax funding for the federal superfund program means that program must compete with all other potential federal programs for the shrinking pool of tax revenue that is allocated to cover all “discretionary” federal spending. Since the federal program has always been a driving force behind state programs,⁸ the apparently permanent decline of the federal program likely means a similarly permanent decline in state programs even if state budgetary conditions were to improve.

At the same time Congress has become disenchanted with CERCLA, so too have the federal courts. More particularly, the U.S. Supreme Court has moved away from its previously articulated principle that CERCLA, as an expressly remedial statute, should be interpreted liberally to advance its mission of facilitating cleanups.⁹ Whether this loss in sympathy reflects a change in the ideology of the courts, a change in popular attitudes towards and perceptions of CERCLA (attitudes that assuredly influence judges), or both, the result is the same: CERCLA is a much less effective statute in ensuring remediation of contaminated sites. In this regard, the United States Supreme Court’s recent decisions in *United States v. Bestfoods*¹⁰ and

⁷ See *White House Won’t Tax Corporations for Superfund Cleanup*, CNN.com, Feb. 24, 2002, <http://archives.cnn.com/2002/ALLPOLITICS/02/24/bush.superfund/> (discussing President Bush’s opposition to renewal of the tax and the decreasing pool of federal funds available for cleanups under CERCLA).

⁸ See Stephen M. Johnson, *The Brownfields Action Agenda: A Model for Future Federal/State Cooperation in the Quest for Environmental Justice?*, 37 SANTA CLARA L. REV. 85, 105 (1996) (“[T]he federal government must provide technical and financial support, and education, to industries, developers, states and local communities to encourage brownfield redevelopment, and to ensure that the public is involved in brownfield redevelopment decisionmaking in a meaningful manner.”).

⁹ See, e.g., *Pennsylvania v. Union Gas Co.*, 491 U.S. 1, 21–22 (1988) (describing the “sweeping” scope of CERCLA); see also *B.F. Goodrich v. Betkoski*, 99 F.3d 505, 514 (2d Cir. 1996) (stating that in light of CERCLA’s broad remedial purpose, the scope of substances covered and liability of successor corporations under CERCLA should be construed expansively).

¹⁰ 524 U.S. 51 (1998).

*Cooper Industries v. Avall Services*¹¹ merit particular note.

In *Bestfoods*, the Court opened the door to corporate structural arrangements designed to minimize CERCLA liability. The Court held that CERCLA did not modify, but rather incorporated, state corporate law principles that parent corporations are not legally responsible for the liabilities of their subsidiaries, including wholly owned subsidiaries.¹² Thus, a parent corporation cannot be held liable under CERCLA for the costs of cleaning up contamination at a site owned and operated by a wholly owned subsidiary even though the parent may have reaped the financial benefits that accrued from the subsidiary's decision *not* to invest in responsible environmental practices that would have prevented the contamination in the first place or enabled it to be more expeditiously contained. Although the *Bestfoods* opinion is somewhat qualified,¹³ the Court's holding likely is enough to dissuade regulators from proceeding against a parent corporation even when the parent corporation capitalized the subsidiary in such a way that that the subsidiary might have been expected to forego costly waste management systems.

Bestfoods, at least, might be justified on the federalism principle that Congress should not be presumed to have modified background state law liability principles unless Congress states so explicitly in the language of the applicable statute. *Cooper Industries*, however, appears to undermine CERCLA's explicit remedial purpose without resort to any normative principle that might justify that result.¹⁴ In *Cooper Industries*, the Court held that a landowner who wants to clean up her property to meet CERCLA standards cannot sue for recovery of the cleanup costs

¹¹ 125 S. Ct. 577 (2004).

¹² 524 U.S. at 61–62.

¹³ Notably, the Court leaves open the possibility that a parent corporation could be liable as an operator—as opposed to as an owner—of a subsidiary's facility if the parent corporation has decision-making authority over disposal practices at the facility. *See id.* at 64–68.

¹⁴ The only normative principle invoked by the Court in *Cooper* is fealty to the “natural meaning” of the statutory phrase “[a]ny person *may* seek contribution . . . *during* or *following* any civil action under section 9606.” 125 S. Ct. at 583 (quoting 42 U.S.C. § 9613 (2000)). However, contrary to the Court's conclusion, this phrase does not necessarily mean that no one may ever seek contribution prior to, or in the absence of, a civil action under § 9606. The phrase could be read as meaning that contribution is available after commencement of a § 9606 action, but whether contribution is available earlier or otherwise remains an open or unresolved question.

against parties who generated the contamination, unless the landowner is or was subject to a government enforcement action under CERCLA.¹⁵ Taken together, the Congressional refusal to fund CERCLA programs and *Cooper Industries'* limit on private recovery of CERCLA cleanup costs means that not only do federal and state governments lack the resources to initiate enforcement actions, but also that private landowners are barred from engaging in the private enforcement actions necessary to fill the gap left by the failure of public enforcement.

The changes in Congressional and judicial attitudes toward CERCLA seem to track changes in popular culture and within policymaking and academic sub-cultures. In the popular imagination, the federal and state CERCLA programs have become an emblem of bureaucratic overreaching. CERCLA is perceived as the kind of program John Stossel parodies in his excruciating *Give Me a Break* television spots,¹⁶ as a program where a tremendous amount of money produces negligible results. The public may think that millions have been spent so that children can eat barrels full of dirt without having to absorb the same amount of heavy metals as they would absorb if they accidentally swallowed one copper penny.¹⁷ The federal and state CERCLA programs have also become tarred by the perception that they principally have enriched “the lawyers” involved in CERCLA litigation, and other supposedly non-productive entities.¹⁸ Once set, perceptions can be difficult to shake, and the federal and state CERCLA programs now have, in many quarters, tarnished reputations.

¹⁵ *Id.* at 583–85.

¹⁶ See ABC News, John Stossel's Web Page, <http://abcnews.go.com/2020/ABCNEWSspecial/> (last visited Oct. 12, 2005).

¹⁷ See STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION* 12 (1993) (characterizing CERCLA remediation as making sites safe for children to eat dirt).

¹⁸ See, e.g., Brad Knickerbocker, *Superfund Program: A Smaller Cleanup Rag*, *CHRISTIAN SCI. MONITOR*, Nov. 14, 2003, at 2 (discussing the view that “much (in some cases, most) of the cost of Superfund goes for lawyers, consultants, private investigators, and administrative overhead rather than for actual cleanup”).

B. *The Broad Scope of State Brownfields Programs*

Because federal and state CERCLA programs are in decline, it is now likely that any cleanup of a newly identified site, even a seriously contaminated one, will be done via a state brownfields program. The unavailability of regulatory resources to initiate new CERCLA actions means that contaminated sites with large economic potential will be redeveloped without any remediation, with remediation outside any regulatory framework, or with remediation in the regulatory context of a state brownfields program. As long as there is any significant remaining prospect of CERCLA liability, landowners and developers of the most seriously contaminated sites (and hence the sites that could give rise to the greatest CERCLA liability if a CERCLA enforcement action ever were brought) will find it worthwhile to proceed within the context of a brownfields program and to receive the corresponding protections from future liability under the federal CERCLA statute and state analogues.¹⁹

State eligibility criteria for sites in brownfields programs allow for the inclusion of very seriously contaminated sites.²⁰ In almost all states, any site that is not currently being remediated under one of the federal hazardous waste statutes (most notably CERCLA) is eligible for inclusion in a brownfields program.²¹ In a handful of states, the principal limitation on a landowner's participation in the program is not the seriousness of the contamination, but whether the landowner contributed to the

¹⁹ As I have argued elsewhere, voluntary regulatory programs such as the brownfields programs exist in the shadow of—and substantially because of the threat of—coercive regulation such as CERCLA. See David A. Dana, *The New "Contractarian" Paradigm in Environmental Regulation*, 2000 U. ILL. L. REV. 35 (2000). The decline of the CERCLA regime as a coercive threat should adversely affect brownfields programs, because developers may decide that any small threat of CERCLA liability is not worth the cost of participating in a brownfields program. Developers who have or are interested in low-risk sites are more likely than those who own or are interested in high-risk sites to forego brownfields cleanups in response to a decline in the strength of the CERCLA liability regime. Thus, the decline in the CERCLA regime may result in fewer sites included in brownfields programs, but a higher percentage of very seriously contaminated sites within those programs.

²⁰ See ENVTL. LAW INST., AN ANALYSIS OF STATE SUPERFUND PROGRAMS: 50-STATE STUDY, 2001 UPDATE 115–18 (2002), available at http://www.elistore.org/reports_detail.asp?ID=10746 (follow "CLICK HERE to Download this report for free" hyperlink).

²¹ See *id.*

contamination, and if so, how recently and with what degree of knowledge or intent.²²

Nor does federal law operate so as to discourage the exclusion of very seriously contaminated sites from state brownfields programs. In proposed guidance in 1997, the EPA suggested limiting federal concurrence in state promises not to seek enforcement actions to those brownfields sites in state programs that contained only low-risk contamination prior to remediation.²³ After receiving substantial criticism from the states, EPA withdrew this proposal.²⁴ Additionally, the 2002 Small Business Liability Relief and Brownfields Revitalization Act, which effectively amended CERCLA, limits liability for participants in brownfields sites largely without regard to the seriousness of the contamination at the sites prior to the brownfields cleanups.²⁵ In sum, as a matter of both state and federal law, there is simply no reason to imagine that the scope of brownfields programs is limited to minimally or even moderately contaminated sites.

C. *Some Cleanup May Not Always Be Better Than None*

State brownfields programs have unclear standards and varying results. One might argue that, regardless of the quality of a brownfields cleanup, and even if the quality is significantly lower than would be required under CERCLA, some cleanup is better than no cleanup. All else being equal, perhaps some cleanup is always better than no cleanup. But all else is not equal: before a

²² See *id.* These states are Florida, North Carolina and Pennsylvania. *Id.* at 115.

²³ See Notice of Availability of Final Draft Guidance for Developing Superfund Memoranda of Agreement (MOA) Language Concerning State Voluntary Cleanup Programs, 62 Fed. Reg. 47495, 47497 (Sept. 9, 1997).

²⁴ See Withdrawal of Proposal: Final Draft Guidance for Developing Superfund Memoranda of Agreement Concerning State Voluntary Cleanup Programs, Memorandum from Timothy Fields, Jr., Acting Assistant Adm'r, Office of Solid Waste and Emergency Response, U.S. EPA and Steven A. Herman, Assistant Adm'r, Office of Enforcement and Compliance Assurance, U.S. EPA, to Regional Adm'rs, Regions 1-10, Nov. 26, 1997, <http://www.epa.gov/swerosps/bf/html-doc/withdraw.htm>. See also Joel B. Eisen, *Brownfields Policies for Sustainable Cities*, 9 DUKE ENVTL. L. & POL'Y F. 187, 212 (1999).

²⁵ 42 U.S.C. § 9601(39)(A), (B)(viii) (2005) (defining a brownfields site without reference to the seriousness of site contamination *per se*, except for the notable exclusion of portions of sites contaminated with polychlorinated biphenyls (PCBs)).

brownfields cleanup, a site may well not be in use or may be only minimally in use, such that there are no or few contact points between site contamination and human beings. After a cleanup and redevelopment, a site may be the subject of intensive, daily use by a large number of people. In other words, while one effect of a brownfields cleanup may be to reduce the level of contamination, another effect may be to increase human exposure to the contamination on the site. To the extent that the second effect dominates the first, a brownfields cleanup may, putting other benefits from redevelopment aside, make matters worse. Some cleanup, in certain instances, may be worse than none.

Of course, deficiencies in a brownfields cleanup can, in theory, be addressed after the cleanup is complete and the site is redeveloped and dedicated to a new use. But such follow-up to a brownfields cleanup is unlikely to occur. Once a site is back in operation as a productive facility and looks clean, community members are likely to stop raising questions regarding contamination. The owners of a redeveloped brownfields site will resist any efforts that may arise to test conditions on the site, lest significant health and ecological risks be identified. The owners understandably will wish to avoid a chain of events that could result in new regulatory costs, a disturbance of business operations, and a reduction in market value of their site.²⁶

State regulators have their own reasons *not* to revisit completed brownfields cleanups. Unless they have adequate public funding, which seems unlikely, regulators would want to secure private funding for any additional remediation, and brownfields agreements with developers make additional funding from the developer available only if certain contractually-specified conditions can be established.²⁷ Given the effort required to

²⁶ See Daniel A. Schenck, Comment, *The Next Step for Brownfields: Government Reinsurance of Environmental "Cleanup" Policies*, 10 CONN. INS. L. J. 401, 415–16 (2004) (suggesting that the fear of triggering re-opening cleanups will discourage landowners from testing their sites).

²⁷ The United States Supreme Court in *United States v. Winstar Corp.*, moreover, suggested that such regulatory contracts regarding future liability cannot be construed liberally to favor the government, as earlier case law arguably suggested. 518 U.S. 839, 840 (1996). For an argument that *Winstar* wrongly deviated from prior case law and doctrine regarding contracts with the government in its capacity as a regulator, see David A. Dana & Susan P. Koniak, *Bargaining in the Shadow of Democracy*, 148 U. PA. L. REV. 473 (1999). For an argument that *Winstar* is inconsistent even with general principles of private contract law, see Richard E. Speidel, *Contract Excuse Doctrine and*

attempt to establish that one or more of the contractual conditions for re-opening a brownfields cleanup has been satisfied, and the risk that such efforts will fail,²⁸ regulators may be inclined not to take the effort to learn about the need for additional remediation at all, and instead to devote their limited time and energy to other matters.

There is an additional reason why regulators likely will resist re-opening brownfields cleanups except in the most compelling cases of public health concern: people and institutions prefer not to admit that they were wrong, particularly about a public health matter, either to themselves (which is psychologically upsetting) or to others (which is damaging to one's reputation). Once a state agency has expressly approved, even subsidized in many cases, a brownfields cleanup, its staff may not relish acknowledging that the site poses some health or environmental risk and that more remediation is therefore necessary. After all, doing so would be perceived (rightly or wrongly) as an acknowledgement that the original cleanup plan approved by regulators was inadequate or inadequately supervised by those regulators.

The very limited available data supports this account. Some states with brownfields programs have statutory or regulatory provisions for post-cleanup inspection. For example, New Jersey, one of the most environmentally protective states, requires a review of at least some types of brownfields redevelopments once every five years.²⁹ But other states have less demanding formal requirements. Pennsylvania, for example, does not appear to mandate any post-cleanup review.³⁰ Moreover, there is no publicly available data as to how many inspections are actually done pursuant to the requirements on the books, what these inspections have revealed, or how data collected in any inspections is reviewed and used. What we do know is that the rate of re-opening of

Retrospective Legislation: The Winstar Case, 2001 WISC. L. REV. 795 (2001).

²⁸ Eisen notes, for example, that satisfying the conditions for re-opening a cleanup in some states entails "significant hurdles" and would be "particularly difficult if the nature of the development on the site was such that it obscured the contamination." Eisen, *supra* note 24, at 217. For a summary of the differences among state provisions regarding re-opening cleanups, see ENVTL. LAW INST., *supra* note 20, at 48-49.

²⁹ U.S. EPA, STATE BROWNFIELDS AND VOLUNTARY RESPONSE PROGRAMS: AN UPDATE FROM THE STATES 28 (2005), available at http://www.epa.gov/swerosps/bf/pubs/st_res_prog_report.htm.

³⁰ See ENVTL. LAW INST., *supra* note 20, at 123.

brownfields cleanups to date appears to be exceedingly low; according to a study conducted by the Environmental Law Institute and Cleveland State University, the rate is only 0.1 percent for completed brownfields cleanups.³¹ Of course, with additional study, we could discover a higher rate of re-opening of brownfields cleanups, but this aspect of the brownfields programs, like virtually all of the interesting aspects of such programs, is not being adequately documented by the relevant state agencies and shared with the public in an accessible form.

D. *The Promise of Brownfields*

In arguing that the stakes in brownfields program are high, I do not mean to suggest that brownfields programs present only substantial risks. They also present substantial opportunities for improvements upon the federal and state CERCLA programs that came before them. The CERCLA approach to remediation, as its critics have repeatedly noted, is very expensive and has entailed much resistance by those asked to bear the costs. But expense is not the CERCLA approach's only drawback. The CERCLA federal and state regulatory regime has been less innovative than one might hope. Perhaps because of bureaucratic risk aversion, CERCLA cleanups have not helped to generate new approaches to water and solid waste remediation, such as bioremediation (remediation using living organisms).³² The CERCLA regime also has entailed too narrow a view of the kinds of problems posed by contamination. The view is overly narrow both in terms of geography, in the sense that the focus has been a single property at a time rather than a cluster of sites or neighborhood, as well as in terms of considered risks, because the focus has been on human cancer risk to the exclusion of an array of environmental, health, and other social welfare risks associated with contaminated sites. In the best of all scenarios, the states, through brownfields

³¹ Robert A. Simons et al., *Quantifying Long-Term Environmental Regulatory Risk for Brownfields: Are Reopeners Really an Issue?*, 46 J. ENVTL. PLAN. & MGMT. 257, 266 (2003) (reporting that of 11,497 sites that were remediated as part of a state voluntary cleanup program, only twelve of the site cleanups have been re-opened).

³² See Susan J. Timian & D. Michael Connolly, *The Regulation and Development of Bioremediation*, 7 RISK 279, 283 (1996) ("CERCLA . . . require[s] the use of the 'best demonstrated available technology' (BDAT), for treatment and cleanup. This creates artificially high standards which cannot be reached with biological technologies.").

programs, would serve as “laboratories of democracy,” yielding improvements upon the flawed CERCLA approach. But, as explained below, brownfields programs are not being administered in a way that resembles in any fashion a series of laboratory experiments. And it is precisely for that reason that brownfields programs may not yield many important lessons at all or may not yield them in time to be put to good use.

II. THE BROWNFIELDS LABORATORIES, IN THEORY AND IN PRACTICE

A. *Five Conditions for Brownfields Programs to Function as Laboratories of Democracy*

Brandeis’ famous “laboratories of democracy” metaphor³³ is often invoked in favor of regulatory devolution from the federal government to the states.³⁴ But what does it mean to say that state programs that attempt to solve a problem that occurs nationally are serving as laboratories for possible solutions? Are there circumstances where an array of state programs addressing the same problem should not be deemed worthy of the “laboratory” label, which carries a positive connotation? And if so, what are the variables (if they can be so conceptualized) of state programs within the national experiment?

There are five basic elements of a laboratory experiment:

1. different conditions between test groups;
2. a careful delineation of what those differences are;
3. measurement of a pre-experiment baseline for each test group with regard to variables of concern;
4. measurement of experimental outcomes for each test group, based on a comparison of post-experiment results with the pre-experiment baseline; and
5. a common metric among measured outcomes such that the outcomes among the test groups can be meaningfully compared to one another.³⁵

³³ See *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

³⁴ See, e.g., David L. Markell, *States as Innovators: It’s Time for a New Look to our “Laboratories of Democracy” in the Effort to Improve our Approach to Environmental Regulation*, 58 ALB. L. REV. 347 (1994).

³⁵ As Shelley Metzenbaum of the Kennedy School’s Performance Management Project has emphasized, “if we’re going to have these laboratories

Without each of these elements, neither laboratory experiments nor laboratory results are possible.³⁶

Thus, in order for the state brownfields programs to be akin to laboratories that yield experimental results, five requirements need to be present:

1. a diversity of approaches among brownfields programs;
2. a delineation of the particular approach taken at each brownfields site within a state program;
3. a measurement of the baseline variables of concern at each site, to be used for comparison against the post-cleanup measurement of these variables;
4. a measurement of the post-cleanup variables and a corresponding assessment of the outcome of the cleanup; and
5. a common metric among the assessed outcome of brownfields cleanups, so as to facilitate comparisons of approaches to site remediation.

If these conditions were met, brownfields programs could be used to test different approaches to site remediation. For example, one of the most important questions in brownfields programs is what role the public, notably residents in the neighborhoods surrounding contaminated sites, should play. Brownfields cleanups could be categorized by the presence or absence, and extent or nature, of public participation in the cleanup. Possible categories could include:

- no public notice/participation;
- formal public notice and a single hearing only;
- ongoing participation by pre-existing community groups or an ad-hoc community advisory group; or
- ongoing participation by community groups provided with funding for independent technical assistance.

[of democracy], you can't have them if there are no scientists in the laboratory evaluating the experiments and if they're all using different kinds of instruments to evaluate it with. You've got to have some comparable metrics." Colloquy, *A Conversation on Federalism and the States: The Balancing Act of Devolution*, 64 ALB. L. REV. 1091, 1119 (2001).

³⁶ For his part, "Justice Brandeis does not appear to view 'experimentation' as a metaphor. His government policymakers operate 'in the fields of social and economic science.'" Ann Althouse, *Vanguard States, Laggard States: Federalism and Constitutional Rights*, 152 U. PA. L. REV. 1745, 1751 (2004) (quoting *New State Ice Co.*, 285 U.S. at 311 (Brandeis, J., dissenting)).

Outcomes could be measured by the following metrics:

- extent to which specific cleanup requirements are met and maintained on-site;
- extent of health risks remaining on-site after required cleanup completion;
- increased property values, or decreased indicia of social dysfunction (such as crime or vandalism) in areas near sites; and
- change in local residents' satisfaction with local land use conditions after cleanup is completed, as indicated by pre-and post-cleanup surveys.

Another possible variable that could be explored in the brownfields laboratories is the efficacy of engineering and institutional controls under different circumstances. The term "institutional controls" refers to legal controls, such as easement restrictions and zoning limitations, that are designed to ensure that a brownfields site is used only for uses that are considered safe given a less-than-complete remediation of contamination on site.³⁷ "Engineering controls" refer to physical barriers, such as fences and concrete caps, used to contain contamination left on a brownfields site. At the crudest level, a comparison could be made of the extent of health risk reduction at sites in cleanups that (a) rely on neither institutional nor engineering controls, (b) rely only on either institutional or engineering controls, or (c) rely on duplicative/redundant engineering and institutional controls. At a more refined level, cleanups with certain types of engineering and institutional controls could be compared to one another in terms of their effectiveness in reducing health risks.³⁸ A comparison could also be made of the efficacy of institutional and engineering controls when combined with or without ongoing public participation by community groups.

Yet another fruitful area for comparative analysis could be the use of private licensed professionals to certify cleanup design and implementation. Some states, such as Massachusetts and Ohio, heavily rely on such licensed professionals, while others

³⁷ See John Pendergrass, *Sustainable Development of Brownfields: Using Institutional Controls to Protect Public Health*, 29 ENVTL. L. REP. 10243, 10244 (1999).

³⁸ See *id.*

apparently do not encourage or permit their use.³⁹ Brownfields cleanups in which licensed professionals, as opposed to public regulators, are used to certify cleanups could be compared to cleanups under regulatory supervision. This comparison could focus in terms of a range of possible outcomes of the cleanups. On a more refined level, one could compare cleanups in jurisdictions where there is a provision for regulatory review of the licensed professionals' certification decisions with those where there is no such provision. The effects of different levels of review also might be assessed.

Comparative assessments of brownfields cleanups within and among states certainly involve difficult empirical issues; the best that may be achieved may fall far short of what might be considered best practices in academic social science. Differences in outcomes among sites may occur due to variables other than the ones under review. Precision in measuring outcomes may be impossible to attain, particularly with respect to factually complex outcomes, such as the level of health risk at a site before and after implementation of a cleanup. But without some effort on the part of states to describe sites before and after cleanups and to specify the details of the cleanup programs, it will be impossible to make any real progress toward drawing lessons from the brownfields revolution in site remediation.

B. *The Gap Between the Laboratories of Democracy Ideal and Brownfields Programs as Currently Implemented by States*

None of the five conditions that are required in order for the laboratories of democracy metaphor to apply in the brownfields context are satisfied at this time, except, to some extent, the first condition: a diversity of approaches among brownfields programs. There certainly are some notable differences among state brownfields statutes and regulations, but states make no effort to specify and make public the details of particular cleanups. We do not know which cleanups fail to follow formal requirements, comply with those requirements or go beyond them. Nor is there available data on the pre-cleanup conditions at particular sites that

³⁹ See Heidi Gorovitz Robertson, *Legislative Innovation in State Brownfields Redevelopment Programs*, 16 J. ENVTL. L. & LITIG. 1, 7, 60 (2001). For an overview of state approaches, see generally *id.*

might serve as baselines for assessments of post-cleanup outcomes. Other than the raw number of cleanups actually completed, states publicize almost no data regarding their brownfields programs.⁴⁰ Some states do report maintaining databases on brownfields sites,⁴¹ and it is possible that these states are measuring and recording site-specific information and outcomes and not publicizing that data. However, given the states' tight budgets and state regulators' incentives not to inquire too forcefully or too often about the efficacy of cleanups they have approved, there is good reason to doubt that this is so.

The paucity of our knowledge about the actual results of state brownfields programs is evidenced by the descriptive thinness of the three best state-by-state analyses of brownfields programs—the federal EPA's *State Brownfields and Voluntary Response Programs: An Update from the States* ("EPA Report"),⁴² the Environmental Law Institute's *An Analysis of State Superfund Programs: 50-State Study* ("ELI Report"),⁴³ and the Northeast-Midwest Institute's *Brownfields State of the States* ("NMI Report").⁴⁴ To see what more we need to know, one need only look at how much we are *not* told in these reports.

The EPA Report appears to base its description of state programs largely on published state statutes and published regulations.⁴⁵ Less formal agency documents, such as written policies and memos, as well as any actual anecdotes or aggregate data regarding brownfields projects, are entirely absent. The focus of the limited information included within the report is the financial incentives available to developers under each state brownfields program. For many states there is no discussion in

⁴⁰ See KRIS WERNSTEDT ET AL., RES. FOR THE FUTURE, DISCUSSION PAPER 04-46, THE BROWNFIELDS PHENOMENON: MUCH ADO ABOUT SOMETHING OR THE TIMING OF THE SHREWD? 4-6, (2004), available at <http://www.rff.org/rff/Documents/RFF-DP-04-46.pdf>. The authors conclude that the focus of discussion remains "the promotion of successful real estate transactions" and that "critical appraisals of the reality and outcomes of brownfield redevelopments are sorely needed." *Id.* at 21.

⁴¹ ENVTL. LAW INST., *supra* note 20, at 126-27.

⁴² U.S. EPA, *supra* note 29.

⁴³ ENVTL. LAW INST., *supra* note 20.

⁴⁴ CHARLES BARTSCH & RACHEL DEANE, NORTHEAST-MIDWEST INST., BROWNFIELDS STATE OF THE STATES: AN END-OF-SESSION REVIEW OF INITIATIVES AND PROGRAM IMPACTS IN THE 50 STATES (5th ed. 2002), available at http://www.nemw.org/brown_stateof.pdf.

⁴⁵ See generally U.S. EPA, *supra* note 29.

terms of outcomes of brownfields cleanups. For some states there is a reference to an estimate of aggregate economic benefits to the state from all brownfields redevelopment (e.g., 4,000 jobs created),⁴⁶ but no substantiation of the economic estimate and no discussion of efficacy of cleanups in terms of human health, ecology or neighborhood perceptions of well-being. At best, the report provides a beginning point for an exploration of how state programs may operate differently in practice.

The ELI Report attempts a more meaningful comparison among the states, but it focuses heavily on the contents of published statutes and regulations and formal state agency policies.⁴⁷ The ways in which programs operate in practice and the outcomes of cleanups are not included in the report. The ELI has done some important case study work on institutional controls, but the review is limited to four major remediation projects under CERCLA, not under state brownfields programs.⁴⁸

The NMI Report, the sketchiest of the three, draws a good deal of its information from published statutes.⁴⁹ The report does include a “Lessons and Advice” category for each state,⁵⁰ but the entries for this category, once again, are mostly instructive for what is *not* there. For most states, the entry for this category is simply “N/A.”⁵¹ A few states have entries in the vague language of public relations, such as the entry for Massachusetts, which states that: “The partnerships between state and federal agencies, as well as the public and private sectors, have been critical to making brownfields redevelopment a success in Massachusetts. Massachusetts has been recognized as a leader in its brownfield efforts.”⁵² In sum, the NMI Report, like the other two reports, tells us next to nothing about the specific attributes of brownfields cleanups and the outcomes associated with those specific

⁴⁶ *Id.* at 6.

⁴⁷ For example, the report does attempt a comparison of funding mechanisms and public participation criteria among the states. *See* ENVTL. LAW INST., *supra* note 20, at 19–28, 30–32, 77–96, 102–03.

⁴⁸ *See* ENVTL. LAW INST., PROTECTING PUBLIC HEALTH AT SUPERFUND SITES: CAN INSTITUTIONAL CONTROLS MEET THE CHALLENGE? iii (1999), available at http://www.elistore.org/reports_detail.asp?ID=543 (follow “CLICK HERE to Download this report for free” hyperlink).

⁴⁹ *See generally* BARTSCH & DEANE, *supra* note 44.

⁵⁰ *See generally id.*

⁵¹ *See, e.g., id.* at 4 (Alaska), 8 (Arizona), 12 (Colorado).

⁵² *Id.* at 45.

attributes.

*C. Objections to the Laboratories Approach to
Brownfields Remediation*

Even if the five elements required to make brownfields programs serve as laboratories of democracy could be fulfilled, some might object that these programs should not be part of what would be, in essence, a national experiment on human beings and human communities. There are three primary concerns.

First, from a philosophical perspective, one might argue that human health should not be experimented with in regulatory programs; the states should try to be equally protective of every potentially affected individual. The reality, however, is that even without the collection, recording, and publication of data that would be involved in the satisfaction of the five laboratories-of-democracy conditions described above, affected individuals (and communities) right now are almost certainly exposed to very different levels of health risk at different redeveloped brownfields sites. The collection, recording, and publication of data at least might help us know how different people and communities have fared so far under brownfields programs, and hence which approaches might be best to follow in the future.

Second, an assessment of outcomes at brownfields sites might discourage developers from participating in brownfields programs in the first place. Brownfields programs are voluntary, and an overriding goal of state regulators to date appears to be to encourage more and more volunteers over time. Developers might not want outcomes at their sites measured for fear that the data would be used by regulators as a basis for re-opening the brownfields cleanups pursuant to re-opener clauses in the agreements between developers and the state government. In addition, inasmuch as a qualification for the federal waiver of liability for participants in state brownfields programs is that contamination is “not known” to the state “in selecting or conducting the cleanup,”⁵³ developers may fear that a site examination for the purpose of assessing an outcome also could yield data that could then expose the developer to liability under CERCLA. Thus, from the developer’s perspective, less follow-up

⁵³ 42 U.S.C. § 9628(b)(1)(B)(iv) (Supp. 2005).

by regulators is always better. The prospect of more regulatory follow-up *ex post* may reduce a developer's *ex ante* assessment of the value of participation in a brownfields redevelopment project.

There are two responses to the concern that outcome assessment would deter developers. First, the loss of some developer participation, particularly by developers who are leery of outcome measurement, may be worth the value of learning how we can better craft brownfields redevelopment. Second, the effect of any regulatory follow-up should be tested in the laboratories of democracy, comparing the willingness of developers to participate in programs that include outcome measurement and those that do not. An alternative test would compare programs that keep the names of the sites associated with certain outcomes non-public and preclude their use as a basis for re-opening cleanups, and those that make all outcome information public and do not restrict its use by regulators. Yet another test would compare the effect of outcome monitoring and publicity where developers have the opportunity to purchase subsidized environmental insurance in connection with the brownfields development (as they do in some states, to varying extents)⁵⁴ and states where the purchaser of insurance is not encouraged through subsidy.

A third objection to making brownfields laboratories of democracy is cost: brownfields cleanups are relatively inexpensive for states in part because such scant attention, if any, is directed to verifying and recording conditions for cleanup and making baseline and post-cleanup assessments that bear on conclusions regarding outcomes. Collecting and recording data is not free. Indeed, site-specific risk assessments can be extremely costly.⁵⁵ However, the use of samples of sites, as opposed to the whole inventory of sites as a means of comparing different brownfields approaches would help contain costs to a large extent. Moreover, the costs of data collection and recording must be compared to the costs of ignorance of what works and does not work in brownfields remediation.

⁵⁴ Anne M. Waeger, *Current Insurance Policies for Insuring Against Environmental Risks*, SK095 ALI-ABA 427, 455–57 (2005).

⁵⁵ For example, the average cost of a CERCLA site investigation in 1993 was \$1 million. See THE BUS. ROUNDTABLE, *supra* note 4, at 3.

III. A PROPOSED AMENDMENT TO CERCLA

If the laboratory approach and its attendant data collection, recording, and publication requirements are such a good idea, why is it that the states are not already striving to meet these requirements?

A public choice perspective provides one explanation: it may be that developers, interested in profits from brownfields opportunities, have “captured” state governments. This effect may be exacerbated if budget-strapped city officials are primarily concerned with converting non-tax-revenue-generating properties into tax-revenue-generating ones by facilitating rapid, easy brownfields redevelopment. Revenue-hungry state officials may not be interested in an exploration of various approaches, particularly if that exploration results in the adoption of more costly approaches to brownfields redevelopment.

But there is perhaps an even better explanation rooted not in interest group politics but information economics. Information regarding the impacts associated with different brownfields approaches would be a public good from which all states could and would be able to benefit. As is typical in the production of public goods, potential investors may be inclined toward a strategy of free-riding on the efforts of others since the resulting public good will be available to all.⁵⁶ This free-rider problem may explain the apparent lack of investment by states in assessing brownfields approaches.

Of course, the states do have a coordination mechanism that can overcome free-riding: the federal government and Congress in particular. Under recent Tenth Amendment case law, Congress can not simply order states to engage in more systematic data collection regarding brownfields outcomes.⁵⁷ Congress could condition federal funding on the states’ meeting the laboratories of democracy requirements I have set out, but in an era of declining

⁵⁶ See Edward L. Rubin & Malcolm Feeley, *Federalism: Some Notes on a National Neurosis*, 41 UCLA L. REV. 903, 925 (1994) (“Experiments are likely to be public goods; once produced, their products are available to all states regardless of each state’s investment. As a result, individual states will have no incentive to invest in experiments that involve any substantive or political risk, but will prefer to wait for other states to generate them . . .”).

⁵⁷ See *New York v. United States*, 505 U.S. 144, 161 (1992) (affirming that “Congress may not simply commandeer the legislative processes of the States by directly compelling them to enact and enforce a federal regulatory program”).

federal funding for states' environmental programs, this approach may seem harsh; it is impossible to impose new conditions on funding that is being eliminated, and possible, but difficult, to impose new conditions on funding that is being reduced.

The easiest approach would be for Congress to amend CERCLA to limit CERCLA liability for participants in brownfields programs only in states that certify that a version of the laboratories of democracy requirements are being met. The statutory amendment could direct the EPA to promulgate specific regulations establishing programs for data collection, recording and publication, and for a procedure for an annual certification of compliance by each participating state. One of the goals of the regulations would be to achieve a level of standardization in data-related practices among states sufficient to allow the integration of all state data into one or more national databases. EPA's proposed versions of the regulations would undoubtedly prompt a range of responses from the states and various interest groups and could serve as a focal point for a meaningful public policy debate regarding what social welfare values are most important in brownfields remediation, and hence what kinds of impacts should be measured in outcome assessments.

Will Congress enact such an amendment? There is no evidence that such an amendment is on the political horizon, and there is good reason (rooted in interest group dynamics) to expect that it will not be on the horizon any time soon. The same interest groups that have substantially shaped state brownfields legislation—the real estate industry and homebuilders—would surely oppose any conditions on waivers of federal liability that might make brownfields projects less profitable for developers.

Environmentalists probably could not overcome the opposition of developers to my proposed amendment to CERCLA. In my view, national environmental interest groups have a relatively small core of intensely interested members who rely for their political power, to the extent they have any, on their ability to mobilize a large mass of citizens who have a relatively thin commitment to environmental issues. "Environmentalists" at the federal level, in other words, are a hybrid of a small, high-individual-stakes group and a large, low-individual-stakes group. The small core of intensely interested members can most readily succeed in mobilizing the mass of low-individual-stakes environmentalists with dramatic, vivid, easily grasped issues;

brownfields redevelopment and the need for better data collection, recording and publicity of data in state brownfields programs is *not* such an issue. To state the point slightly differently, the Natural Resources Defense Council or the League of Conservation Voters can issue an alert regarding arsenic in drinking water, prompting thousands to write members of Congress, but an alert about the absence of adequate federal conditions on waivers of liability for participants in brownfields programs is simply not going to produce such a result.

What we may be confronted with, then, is a political Catch 22. National environmental groups cannot mobilize the public to push for better assessments of the outcomes of brownfields projects, and without those assessments, it is impossible to determine if there are any truly substantial health risks associated with any of those projects. If there were such risks and the relevant information were available to the public, national environmental groups might be able to mobilize the public around federal legislation designed to encourage improvements in the state programs, and state citizen groups might be successful in demanding improvements at the state legislative level even in the absence of new federal legislation. Thus, in the brownfields context, the question to be answered is how to structure the federal political process so that legislation is enacted which leads to more and better public information, even though concentrated interest groups fight for a status quo of public ignorance.⁵⁸

⁵⁸ Another context in which interest group politics acted to limit efforts to generate better information is the defeat by Congress of Clinton administration proposals to establish and fund a biological survey of the U.S. that could inform future efforts to preserve biodiversity. See John H. Cushman, Jr., *Timber! A New Idea is Crashing*, N.Y. TIMES, Jan. 22, 1995, at 5 (describing the proposed biological survey and Congressional opposition). The biological survey issue and the brownfields measurement of outcomes issue are similar in that both are the sort of issue around which environmental leaders cannot easily mobilize the mass of low-individual-stakes environmentalists, and both issues involve a relatively concentrated group (developers and the real estate industry) with an interest in blocking the gathering of more and better information by the public.