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Pennsylvania's Land Recycling Program: Solving the Brownfields Problem with Remediation Standards and Limited Liability

Back in the 1980's, Bethlehem Steel Company closed a plant in Lebanon, Pennsylvania. It turned over 40 or 50 acres to the city of Lebanon for a dollar. What was located on that site were some old buildings that had been used in the steel industry for maybe up to a hundred years. It was turned over with an environmental study, it was turned over with the buildings intact, it was turned over in a condition that was not at all suitable for reuse or redevelopment.

Our city officials went to work. They acquired money, they borrowed money, they went to the State, they went everywhere they could go to tear down the buildings, build new roads, provide water, sewer, other infrastructure, do additional environmental tests. They spent over \$1 million in trying to bring this property back to being used and useful for the people of the Commonwealth of Pennsylvania. They found themselves, at the end of the 1980's, having an industrial park which had beautiful roads, curbs, street lights, water, sewer, infrastructure, and no customers, because, frankly . . . at that time the business community was scared to death to go into an industrial site where they had no real idea of what they were getting into and what the consequences would be to their purchasing land. They turned the property over to our redevelopment authority to market it, and as soon as people learned that the project was proposed to be on a used industrial site, they said, no thanks, we would like to go elsewhere.

—Senator Brightbill¹

I. INTRODUCTION

The above excerpt illustrates the continuous problem concerning the imposition of environmental liability in the United States—the chilling effect on economic development due to the fear of unlimited liability for purchasers or owners of industrial sites. Owners and developers of industrial sites often refuse to reuse former industrial sites because of the fear of environmental liability. Not only does this result diminish the market value of idle industrial sites, but future developers are forced to break

1. 1995 PA. LEGIS. J.-SENATE 193 (Mar. 1, 1995).

ground in pristine areas that were previously untouched by industry.

However, the fear of environmental liability is not the only factor which leads to abandoned industrial sites. Environmental statutes generally provide little or no guidance for parties interested in taking affirmative action to clean up an industrial site.² Most environmental cleanup is approved on an ad-hoc basis, and standards for cleanup of industrial sites generally are uncertain, providing little direction for developers and less assurance that their actions will result in a "clean bill of health" for the site. Under this scenario, the goals of environmental protection that formed the basis of various environmental liability statutes foster the destruction of new lands and encourage the abandonment of former industrial sites.³ This dilemma is commonly referred to as the "Brownfields problem."⁴

In recognition of this trend and in response to the draconian imposition of environmental liability and the lack of incentives to clean up Brownfields, Pennsylvania recently passed the Pennsylvania Land Recycling Program (the "Program").⁵ The purposes of this comment are to focus on the Program, analyze the Program's

2. Pennsylvania's environmental laws, not unlike the laws of other states, create a two-pronged problem for parties seeking to develop former industrial sites—"unrealistic cleanup standards and unending liability for past and present owners and lenders." *Pennsylvania Passes Legislation to Ease Brownfield Redevelopment*, NEW STEEL, Aug. 1995, at 10 [hereinafter NEW STEEL]. Thus, "[w]hen you finished cleaning up a site, you didn't necessarily get a full release from liability." *Id.*

3. One author has referred to this problem as the "CERCLA paradox," noting that the Brownfields problem is a manifestation of the very problem that the federal statute, Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. §§ 9601-9675 (1988), was designed to remedy—instead of cleaning up large numbers of hazardous waste sites, CERCLA is actually exacerbating the abandonment of potentially contaminated properties. See Daniel Michel, Comment, *Great Lakes Symposium: The CERCLA Paradox and Ohio's Response to the Brownfield Problem: Senate Bill 221*, 26 U. TOL. L. REV. 435, 437 (1995).

4. The term "Brownfield" generally refers to abandoned urban property, intentionally ignored for reuse due to potential contamination and resulting liability. Michel, *supra* note 3, at 438. The United States Environmental Protection Agency (the "EPA") defines a Brownfield site as a previously productive industrial property now unused due to uncertainty over who bears responsibility for undertaking an environmental cleanup, the extent of contamination, and the cost of cleanup. Terry J. Tondro, *Reclaiming Brownfields to Save Greenfields: Shifting the Environmental Risks of Acquiring and Reusing Contaminated Land*, 27 CONN. L. REV. 789, 790 n.2 (1995) (citing REMARKS AT THE THIRD THOMAS F. GALLIVAN, JR. CONFERENCE ON REAL PROPERTY LAW 139 (Oct. 14, 1994)).

5. The Pennsylvania Land Recycling Program, as described in this article, consists of three acts. See 1995 Pa. Legis. Serv. 21 (Purdon) (to be codified at PA. STAT. ANN. tit. 35, §§ 6026.101-908); 1995 Pa. Legis. Serv. 43 (Purdon) (to be codified at PA. STAT. ANN. tit. 35, §§ 6027.1-14); 1995 Pa. Legis. Serv. 51 (Purdon) (to be codified at PA. STAT. ANN. tit. 35, §§ 6028.1-5).

requirements and provisions, and provide an explanation of how the Program attempts to solve the Brownfields problem. Section II of this comment describes the background and history of environmental laws that led to the Brownfields problem. Section III outlines attempts to cure the Brownfields problem prior to the enactment of Pennsylvania's Land Recycling Program. Section IV analyzes the internal structure of the Program itself, the Program's organization and the Program's mandates and requirements. Section V analyzes the Program's implications and its probable effects on the development of industrial sites.

II. BACKGROUND

A. *Environmental Liability under Federal Statutes*

Environmental concerns made their way to the forefront of the political spectrum in the late 1970's by way of several publicized hazardous waste catastrophes that shocked the conscience of the public.⁶ In response to this public concern, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") in 1980.⁷ Federal environmental statutes that existed prior to CERCLA had failed to adequately address the problems that arose as a result of contaminated industrial sites.⁸ CERCLA addressed the federal government's inability to effectively respond to hazardous waste sites.

6. In particular, crises such as that which occurred at New York's Love Canal in the late 1970's provided the incentive for Congress to pass environmental protection legislation. For a recapitulation of the Love Canal crisis, see Julia A. Solo, Comment, *Urban Decay and the Role of Superfund: Legal Barriers to Redevelopment and Prospects for Change*, 43 BUFF. L. REV. 285, 290 n.23 (1995).

7. 42 U.S.C. §§ 9601-9675. CERCLA is also commonly referred to as the "Superfund." ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 289 (1992).

8. See, e.g., The Clean Water Act, 33 U.S.C §§ 1251-1387 (1994) (imposing strict liability for oil spills); The Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992 (1988) (attempting to control hazardous and solid waste disposal).

In fact, the Environmental Protection Agency (the "EPA") and the United States Department of Justice had, prior to 1980, attempted to respond to releases of hazardous substances on certain industrial sites by seeking to hold parties responsible through section 6973 of the Resource Conservation and Recovery Act, 42 U.S.C. § 6973. See PERCIVAL ET AL., *supra* note 7, at 289. At the time, Section 6973 authorized suits to abate situations in which "any solid or hazardous waste is presently an imminent and substantial endangerment to health or the environment." *Id.* (citing 42 U.S.C. § 6973). The government unsuccessfully attempted to apply this provision to abandoned hazardous waste dump sites. *Id.*

B. CERCLA's Liability Scheme

CERCLA's primary goal is twofold: (1) clean up dangerous or potentially dangerous hazardous waste sites; and (2) find parties to be held accountable for these cleanups.⁹ CERCLA mandates the imposition of liability when the government incurs costs in responding to a release or a threatened release of "any hazardous substance."¹⁰ Liability is imposed upon a broad class of parties referred to as "potentially responsible parties" ("PRP's").¹¹ CERCLA imposes liability on responsible parties strictly, jointly and severally.¹²

In order to establish liability under CERCLA, a plaintiff, usually the government, must show: (1) the defendant is a PRP; (2) the site of the cleanup is a "facility" under CERCLA; (3) there is a release or a threatened release of hazardous substances at the facility; (4) the plaintiff has incurred response costs at the facility; and (5) the remedial actions which the plaintiff undertook

9. See Solo, *supra* note 6, at 286 (citing H.R. REP. No. 253 (III), 99th Cong., 1st Sess. 15 (1985)); Stephen M. Feldman, Comment, *CERCLA Liability, Where It Is and Where It Should Not Be Going: The Possibility of Liability Release for Environmentally Beneficial Land Transfers*, 23 ENVTL. L. 295, 298 (1993); Elizabeth F. Mason, Comment, *Contribution, Contribution Protection, and Nonsettlor Liability under CERCLA: Following Laskin's Lead*, 19 B.C. ENVTL. AFF. L. REV. 73, 74 (1991). For a further discussion of the purposes of CERCLA, see *In re Jensen*, 995 F.2d 925 (9th Cir. 1993), *U.S. v. Arrowhead Refining Co.*, 829 F. Supp. 1078 (D. Minn. 1992) and *City and County of Denver v. Adolph Coors Co.*, 829 F. Supp. 340 (D. Col. 1993).

10. See PERCIVAL ET AL., *supra* note 7, at 289-93. Under § 9604 of CERCLA, the President is authorized to undertake removal or remedial action to respond to actual or potential releases of hazardous substances. See 42 U.S.C. § 9604; PERCIVAL ET AL., *supra* note 7, at 290. A "hazardous substance" is defined very broadly within CERCLA, including certain lists of hazardous wastes promulgated by the EPA, as well as encompassing the definition of hazardous waste under any of four other environmental laws. See Solo, *supra* note 6, at 291-92 n.28. Although liability is generally imposed when the government seeks to hold parties responsible for costs, there is also a "citizen suit" provision of CERCLA which allows public citizens and/or organizations to sue responsible parties when these citizens/organizations undertake cleanup and incur costs. See 42 U.S.C. § 9659.

11. 42 U.S.C. § 9607(a). These parties include: (1) current owners and operators of facilities where hazardous substances are released or threatened to be released; (2) owners and operators of facilities at the time substances were disposed; (3) persons who arranged for transportation or disposal or treatment of such substances; and (4) persons who accepted such substances for transport for disposal or treatment. *Id.* The parties are responsible for: (A) remediation and removal costs incurred by the federal government, (B) response costs incurred by others, (C) damages for injury to natural resources, and (D) costs of health assessments. *Id.*

12. *Id.* § 9607. Under CERCLA, the EPA identifies and prioritizes hazardous waste sites and promulgates regulations which publicly identify the hazardous sites, allowing the EPA to take action to clean up the hazardous sites. *Id.* §§ 9605-9608. When the EPA takes action to clean up a hazardous site, it likewise identifies responsible parties which can be held liable for the cleanup costs. *Id.* § 9607.

conform to the National Contingency Plan.¹³

When these elements are met, as noted above, liability may be imposed jointly, strictly and severally. Under the joint and several liability scheme, a frequent scenario often occurs which leaves those parties who are best able to pay—such as developers and lenders—liable for the full amount of response costs when the actual owner who directly caused the environmental damage is bankrupt or insolvent.¹⁴

C. Environmental Liability under Pennsylvania Legislation

In addition to federal environmental liability, responsible parties also are vulnerable under Pennsylvania's Hazardous Sites Cleanup Act ("HSCA"), Pennsylvania's CERCLA counterpart.¹⁵ HSCA allows the Commonwealth to take advantage of state participation in the cleanup of hazardous waste sites identified by the EPA under CERCLA as being priority cleanup sites, while also enabling it to take action at sites that were not placed on the list.¹⁶ HSCA allows the Commonwealth's Department of Environmental Protection (the "DEP")¹⁷ to recover from responsible parties for costs associated with abating public nuisances, responding to releases of hazardous substances, or damages to natural resources.¹⁸

13. See *United States v. Alcan Aluminum Corp.*, 990 F.2d 711 (2d Cir. 1993); *Environmental Transp. Sys., Inc. v. ENSCO, Inc.*, 969 F.2d 503 (7th Cir. 1992); *Reading Co. v. City of Philadelphia*, 823 F. Supp. 1218 (E.D. Pa. 1993).

14. See, e.g., *United States v. Fleet Factors Corp.*, 901 F.2d 1550 (11th Cir. 1990). For a discussion of the *Fleet Factors* decision, see *infra* notes 28-33 and accompanying text.

15. See PA. STAT. ANN. tit. 35, § 6020.101 (1989). See also Joel R. Burcat & Linda Shorey, *Lender Liability Under Pennsylvania Environmental Law*, 28 DUQ. L. REV. 413, 427 (1990). It should be noted that various other environmental statutes have been enacted in Pennsylvania which can impose liability on parties who are not in compliance. See, e.g., The Clean Streams Law, PA. STAT. ANN. tit. 35, § 691.1-1001 (1993); Solid Waste Management Act, PA. STAT. ANN. tit. 35, § 4001 (1960). However, it is specifically CERCLA and HSCA liability that are the impetus for the Brownfields problem.

16. See Burcat & Shorey, *supra* note 15, at 427 (citing PA. STAT. ANN. tit. 35, § 6020.102 (1989)). Thus, not only are cleanup actions permitted on some 1300 sites under CERCLA, but the Commonwealth could also take action on additional sites potentially identifiable under HSCA. See Harry F. Klodowski, Jr., *Redevelopment Under State Superfund Laws*, 42 RISK MGMT. 29 (1995), available in LEXIS, NEWS Library, ASAPII File.

17. In 1995, the Pennsylvania Department of Environmental Resources was divided into the Department of Environmental Protection and the Department of Environmental Conservation. See 1995 Pa. Legis. Serv. 110, 136, § 501 (Purdon) (to be codified at PA. STAT. ANN. tit. 71, §§ 1340.501-509).

18. PA. STAT. ANN. tit. 35, § 6020.702 (1993). The Commonwealth and municipalities can assess civil damage penalties against such responsible parties as well.

Similar to CERCLA, HSCA established three classes of "responsible persons" that are liable for cleaning up hazardous waste sites: (1) site owners or operators; (2) generators of the hazardous substances; and (3) transporters of the hazardous substances.¹⁹ Also similar to CERCLA's liability scheme, the Commonwealth can recover response costs from responsible persons, including damages to natural resources due to environmental contamination, or an assessment of civil penalties.²⁰ It is generally thought that because HSCA was essentially a state codification of CERCLA, HSCA liability should and will be imposed similarly.²¹ Because of HSCA's similarity to CERCLA, parties must be as much, or more, wary of liability from the HSCA statute, which covers a greater number of identified industrial sites, as from liability under CERCLA.

D. Environmental Liability for Lenders

The overwhelmingly broad language of CERCLA and HSCA favors imposing liability on virtually every party that has an interest in the subject land. The interpretation of CERCLA's PRP provisions resulted in several landmark cases that have created the current fear of environmental liability for lenders and, correspondingly, have led to the Brownfields problem.²²

In *United States v. Maryland Bank & Trust Co.*,²³ a federal district court held that a lender could be held liable under CERCLA for the response costs to clean up an industrial site in which the lender held a security interest.²⁴ Maryland Bank and Trust Co. (the "lender") had foreclosed on and took title to an industrial site after the site's original owner defaulted on its payments.²⁵ After the lender took title, the Government discovered

Id. §§ 6020.1104-1105.

19. *Id.* § 6020.701.

20. *Id.* § 6020.509 (1993). After a judgment has been obtained, a lien is established against the responsible party and that party's property. *Id.* The judgment creditor can thereafter take steps to make the judgment lien official against the party's property. See Burcat & Shorey, *supra* note 15, at 429; PA. STAT. ANN. tit. 35, § 6020.509(a).

21. See Burcat & Shorey, *supra* note 15, at 434. However, HSCA does address and attempt to correct problems with the imposition of liability on financial institutions and similar persons by providing for limited exemptions from liability. *Id.* at 433. See PA. STAT. ANN. tit. 35, § 6020.701(b)(1). Yet, even with the limited exemptions, fear of liability by these institutions has remained prevalent. Burcat & Shorey, *supra* note 15, at 435.

22. Solo, *supra* note 6, at 297.

23. 632 F. Supp. 573 (D. Md. 1986).

24. *Maryland Bank & Trust*, 632 F. Supp. at 581.

25. *Id.* at 575.

that hazardous waste had been released on the property and subsequently initiated action to clean up the property.²⁶ The Government then sought to hold the lender liable for the cleanup costs as a "responsible person," and the court's narrow interpretation of CERCLA's security interest exemption compelled the court to find the lender liable for the cleanup costs.²⁷

In the landmark case of *United States v. Fleet Factors Corp.*,²⁸ the Eleventh Circuit held a lender liable for cleanup costs associated with an industrial site in which the lender held a security interest.²⁹ *Fleet Factors Corp.* (the "lender") held a security interest in a textile factory.³⁰ The owner of the textile factory declared bankruptcy and the lender undertook a "workout" program with the owner.³¹ The Government discovered contamination on the property, undertook cleanup of the site, and sought to hold the lender liable for the cleanup costs.³² The court narrowly construed the security interest exemption, holding that a lender may be held liable without being an actual operator of the facility:

[B]y participating in the financial management of a facility to a degree indicating a capacity to influence the corporation's treatment of hazardous wastes . . . a secured will be liable if its involvement with the management of the facility is sufficiently broad to support the inference that it could affect hazardous waste disposal decisions if it so chose.³³

Maryland Bank & Trust and *Fleet Factors* reflect the general view that courts will interpret environmental liability statutes broadly to find liability. In lieu of the court decisions holding lenders liable for arguably something less than "ownership" of an industrial site, parties who may be in a similar position, such as economic developers and trustees, have likewise shied away from involvement with these sites. Unfortunately, courts have seemed to ignore the fact that the parties who have the most resources to pay damages for environmental liability are also the parties who are best able to undertake remedial development of these sites.

26. *Id.*

27. *Id.* at 581.

28. 901 F.2d 1550 (11th Cir. 1990).

29. *Fleet Factors*, 901 F.2d at 1560.

30. *Id.* at 1552-53.

31. *Id.* The lender agreed to a workout program in which it would operate under the lending agreement even though the owner had filed for bankruptcy. *Id.*

32. *Id.* at 1553.

33. *Id.* at 1557. The court also held that it was not necessary for the lender to actually involve itself in the day-to-day operations of the facility or actually participate in management decisions relating to hazardous waste. *Id.*

E. The Result of Imposing Liability on Lenders

The mere possibility of environmental liability based on the previous cases sent shockwaves through the lending community. Thereafter, the financing required to purchase commercial properties for redevelopment instantly disappeared for industrial sites suspected of containing hazardous waste dumps. Lenders weighed the only known constant—unlimited liability—against the many uncertainties inherent in these properties and determined that potential liability outweighed any benefit from financing industrial sites. Naturally, this led to unoccupied and vacant urban real estate. For instance, in 1993 in Allegheny County, Pennsylvania, nearly two-thirds of the leasable industrial park space consisted of Brownfields.³⁴ It is this recurring fear of liability for involvement with Brownfield sites which prevents them from being purchased or used.³⁵

III. RESPONSES TO THE BROWNFIELDS PROBLEM

A. The Federal Government's Brownfields Program

Recognizing the possible harsh consequences of imposing strict liability on lenders, the EPA promulgated a final rule (the "rule") limiting the scope of liability for lenders.³⁶ Under the rule, the EPA more clearly defined CERCLA's "participation in management" in order to exclude lenders from liability.³⁷ Further, the EPA defined actions which are not to be considered participation in management to include policing and "working out" programs that lenders use to protect their security interests.³⁸

However, in *Kelley v. EPA*,³⁹ a District of Columbia Circuit panel struck down the lender liability regulations on the ground that CERCLA does not delegate to the EPA the authority to determine or promulgate rules regarding the scope of liability

34. Paul Kengor, *Update: The Brownfields and the Greenfields—Industrial Site Reuse Legislation May Unlock Development Opportunities That Could Make Pennsylvania Competitive Again*, 13 EXECUTIVE REP., Jan. 1995, at 25, available in LEXIS, NEWS Library, EXEC File.

35. Kengor, *supra* note 34, at 25.

36. 57 Fed. Reg. 18344 (1992), *codified at* 40 C.F.R. § 300.1100 (1992), *vacated*, *Kelley v. EPA*, 15 F.3d 1100 (D.C. Cir. 1994).

37. *Id.* Under the rule, participation in management is narrowly defined to allow for liability only when the person exercises direct decision-making control, as if a manager, over the facility. *Id.*

38. *Id.* As noted above, it was the participation in the "workout" of a loan which led to lender liability in *Fleet Factors*.

39. 15 F.3d 1100 (D.C. Cir. 1994).

under CERCLA.⁴⁰ The court held that only the judiciary could determine liability issues under CERCLA.⁴¹

Even though the court in *Kelley* struck down the EPA's authority to issue the rule as a binding regulation, the EPA and the Department of Justice have recently issued a policy statement which attempts to exempt from liability lenders that are merely protecting a security interest.⁴² This statement provides that lenders who do not actively participate in the daily management of a Superfund site will not be subject to administrative or legal action by the federal government.⁴³

More recently, the EPA announced a "Brownfields Action Agenda" that allows for the funding of redevelopment projects on abandoned, contaminated industrial and commercial land.⁴⁴ Under this program, funding is targeted at states, cities, towns, counties and Indian tribes, for the purpose of providing environmental assessments.⁴⁵

Further, two bills have been introduced in the House of Representatives which would directly address the Brownfields problem.⁴⁶ The first bill, H.R. 2500, would prevent federal government action against responsible persons in those states which have remediation programs accepted by the federal government.⁴⁷ This would allow parties undertaking cleanup and remediation actions in these states to simply follow the state land recycling standards in order to receive final assurance that there would not be future liability.⁴⁸ Obviously, if this legislation is passed, state programs such as Pennsylvania's become even more important to developers and site owners who under-

40. *Kelley*, 15 F.3d at 1109; see also PERCIVAL ET AL., *supra* note 7, at 343 (1992 and Supp. 1995).

41. *Kelley*, 15 F.3d at 1107.

42. *Lender Liability: EPA, DOJ Establishes Policy Freeing Lending Institutions From Liability*, 42 HAZARDOUS WASTE NEWS, Oct. 16, 1995, available in LEXIS, NEWS Library, IACEV File [hereinafter *Lender Liability*].

43. *Lender Liability*, *supra* note 42. However, this policy statement provides no protection for lenders from the citizen suit provisions of CERCLA. See 42 U.S.C. § 9659.

44. Steven G. Brooks, *Cities Look to Brownfields for Greenbacks—Commercial or Industrial Properties that are not in Use Because of Environmental Considerations*, 18 NATION'S CITIES WKLY., Sept. 4, 1995, at 36.

45. Brooks, *supra* note 44, at 36. The costs of cleanup and redevelopment are initially determined by environmental assessments, which can be extremely expensive. As of July of 1995, EPA-funded projects under this program were underway or approved in 18 cities. *Id.*

46. See *Superfund States Would Gain Control of Cleanups Under Oxley's Superfund Reform Bill*, 42 HAZARDOUS WASTE NEWS, Oct. 23, 1995, available in LEXIS, NEWS Library, IACEV File [hereinafter *Superfund States*].

47. *Superfund States*, *supra* note 46.

48. *Id.*

take remediation of Brownfields.⁴⁹

A second bill, H.R. 2178, also addresses the Brownfields problem.⁵⁰ The bill would allow the EPA to make grants to eligible applicants who are interested in cleaning up designated Brownfield sites.⁵¹ These applicants would also have access to interest-free loans for assessment, cleanup and technical assistance involved in restoring Brownfield sites.⁵²

The bills represent a substantial step toward a more successful Brownfields agenda. Past problems with attempts to cure the Brownfields problem have been given little credence due to the lack of statutory authority. With a clear statutory mandate, as opposed to a regulatory policy statement, it appears that courts will no longer be able to override the direction of a Brownfields agenda. Further, even though some states have instituted a Brownfields agenda, a piece of federal legislation may set the stage for subsequent state bills which follow the lead of Congress and provide a statutory basis for solving the Brownfields problem.

B. Pennsylvania's Response to the Pervasive Question: "How Clean is Clean?"—The Greenfields Program

In 1993, the Pennsylvania Department of Environmental Resources (the "DER") first addressed the Brownfields problem by initiating a "Greenfields Program."⁵³ Similar to the current Land Recycling Program, the Greenfields Program encouraged the reuse and redevelopment of vacant industrial premises.⁵⁴ The Greenfields Program contained four major components: (1) liability protection; (2) financial support; (3) liability of economic development agencies; and (4) an environmental audit and property transfer policy.⁵⁵ Shortly thereafter, the DER issued soil

49. *Id.*

50. "Brownfield" Cleanup Bill Introduced by Rep. Brown, 42 PESTICIDE & TOXIC CHEMICAL NEWS, Aug. 16, 1995, available in LEXIS, NEWS Library, IACEV File [hereinafter *Brownfield Cleanup Bill*].

51. *Brownfield Cleanup Bill*, *supra* note 50.

52. *Id.*

53. Letter of Arthur A. Davis, Secretary, Department of Environmental Resources, Mar. 9, 1993, reprinted in PENNSYLVANIA ENVTL. LAW, COURSE MANUAL 38-49 (1994) [hereinafter *Letter*].

54. Letter, *supra* note 53. Estimates indicate that nearly two-thirds of the leasable industrial park space in Allegheny County in 1993 consisted of Brownfields. Kengor, *supra* note 34, at 25.

55. Letter, *supra* note 53, at 38-40. An environmental audit is either "an independent assessment of the current status of party's compliance with applicable environmental requirements . . . [or a]n independent evaluation of a party's environmental compliance policies, practices, and controls." ROBERT L. BRADY ED., ENVIRONMEN-

cleanup standards that attempted to answer the pervasive question: "How clean is clean?"⁵⁶ Although the standards were generic, the soil cleanup standards were the first attempt by the DER to answer the pervasive question.

Under the Greenfields Program, a lead policy was later issued that addressed the cleanup level for lead at Pennsylvania industrial sites.⁵⁷ A later component of the Greenfields Program was the availability of "Buyer-Seller" and "Orphan Site" agreements that encourage the return of contaminated property to the marketplace.⁵⁸ These agreements were expected to spur developers to reassess properties that were previously considered undesirable because of environmental liability.⁵⁹ The success of the Greenfields Program was limited⁶⁰ due to the lack of statutory,

TAL COMPLIANCE IN PENNSYLVANIA, vol. 1, at Glossary-3 (1995).

56. Cleanup Standards for Contaminated Soils, Pa. DER, DER # 1651 2/94, Dec., 1993, reprinted in PENNSYLVANIA ENVTL. LAW, COURSE MANUAL 193 (1994). The authors label the question "How clean is clean?" as the "pervasive question" associated with environmental remediation of industrial sites because of the universal absence of objectively defined standards that could be applied to industrial sites. See, e.g., Alex S. Karlin, *How Clean is Clean? The Temporal Dimension to Protecting Human Health Under Superfund*, 9 NATURAL RESOURCES & ENV'T 6 (Summer 1994); Mark K. Dowd, *New Jersey's Reform of Contaminated Site Remediation*, 18 SETON HALL LEGIS. J. 207 (1993); Robert S. Berger et al., *Recycling Industrial Sites in Erie County: Meeting the Challenge of Brownfield Redevelopment*, 3 BUFF. ENVTL. L.J. 69 (1995).

57. Lead Policy, Pa. DER, Aug. 31, 1994, reprinted in PENNSYLVANIA ENVTL. LAW., COURSE MANUAL 214.

The lead policy required the creation of "buffer zones" between the contaminated property and streams or wetlands. *Id.* at 215. The land within a buffer zone was required to be remediated to background levels, i.e., to the state of the land prior to contamination. *Id.* If it were impossible for the background levels to be achieved in a buffer zone, controls would be implemented to prevent lead migration from the buffer zone. *Id.*

58. Timothy J. Bergage, *New Incentives to Buy Contaminated Property; DER Policy Reduces Risk of Liability for Site Contamination*, LEGAL INTELLIGENCER, Aug. 16, 1994, at 9. The buyer-seller agreements limit liability for existing contamination to the buyer, an agreement by the seller to clean up the contamination, and an agreement by the buyer to permit the seller and the DER to access the site for remediation activities. *Id.* Thus, the agreement contains a DER "covenant not to sue" the buyer. *Id.*

An Orphan Site agreement pertains to contaminated property for which there is no known or economically viable party to perform the remediation. *Id.* An orphan site agreement limits a buyer's liability to existing conditions. *Id.* The buyer is required to perform a thorough investigation of the site, agrees to clean up environmental problems that pose an immediate threat, agrees to provide the DER access to the site, and the DER agrees to provide the buyer with a "covenant not to sue." *Id.*

59. Bergage, *supra* note 58, at 9.

60. *DER Secretary Hails Agreement to Clean Up Industrial Site*, PR NEWSWIRE, Feb. 4, 1994, available in LEXIS, NEWS Library, PRNEWS File. An Orphan Site agreement was signed by the DER to permit contaminated land to be used for a recycling center, and required the developer to remove all waste contain-

as opposed to regulatory, authority.⁶¹ Although the Greenfields Program posed an answer to some of the questions surrounding the Brownfields problem, the connected liability dilemma remained without a legislative response. Without a legislative response, courts remained the final arbiter of the determination of environmental liability. In lieu of previous court decisions broadly interpreting liability under environmental statutes, potential owners, lenders and developers justifiably steered away from suspect industrial sites.

C. *The Legislature Contemplates the Pervasive Question*

The Pennsylvania General Assembly became more active in the Brownfields debate during the 1994 session. House Bill 2700 proposed relaxed cleanup standards to new businesses willing to situate on Brownfield sites.⁶² The bill also considered actual risks and the intended use of the property when determining a cleanup standard.⁶³ Liability for pollution caused by prior owners of the site would be limited.⁶⁴ However, industry criticized House Bill 2700 for the absence of differing cleanup levels that are based on the presence of contaminants in an area.⁶⁵

Senate Bill 972 went beyond House Bill 2700 in that it did not limit an application of the relaxed cleanup standards to Brownfields, but also permitted the use of the standards for all remediation activities in Pennsylvania.⁶⁶ Yet, Senate Bill 972 was criticized because of the application of the relaxed standards to Greenfield properties.⁶⁷ The bill's sponsor, Senator David Brightbill, responded by stating that the proffered detrimental effect of the relaxed standards was spurious.⁶⁸ However, the

ers, eliminate immediate threats to the public health, and sample and monitor the contamination. *Id.* The DER provided a \$30,000 grant to the developer to perform the site assessment. *Id.*

61. According to the Pennsylvania Environmental Council, Pennsylvania has lost 1.9 million acres of farmland to development since 1954. Lydia Strohl, *Sustainable Development: Economic Growth and Environmental Stewardship are Compatible—They Have to be*, EXECUTIVE REP., July 1994, at 22.

62. See H.R. 2700, 178th Leg. (1993).

63. *Id.*

64. *Id.*

65. John J. Tyrrell, *New Technologies Improve Site Cleanup; As Pa. Ponders New Standards, Business Takes a Step Ahead*, LEGAL INTELLIGENCER, Nov. 16, 1994, at S10. Industry feared being required to remediate to pristine, background levels, while surrounding properties remained contaminated. *Id.*

66. See S. 972, 178th Leg. (1993).

67. Dan Hopey, *Two Approaches to Old Plant Sites*, PITTSBURGH POST-GAZETTE, Sept. 27, 1995, at B6.

68. Hopey, *supra* note 67, at B6. The article states:

1994 session closed without any legislation addressing the Brownfields problem.

IV. THE LAND RECYCLING PROGRAM—PENNSYLVANIA RESPONDS

The bipartisan support for these bills, from their sponsorship to their final passage, reflects the broad recognition that we must begin effectively restoring to productive use these old industrial sites that have contamination . . . Together, these bills create a comprehensive national model.

— Pennsylvania Governor Tom Ridge⁶⁹

On May 19, 1995, Governor Tom Ridge signed into law three bills, Acts 2, 3, and 4, that established Pennsylvania's Land Recycling Program (the "Program").⁷⁰ The Program creates a three-part framework that sets remediation standards for the cleanup of Brownfields, releases certain eligible parties from liability, and funds environmental studies and cleanups.⁷¹ Key to the imple-

Brightbill called fears of increased pollution a phony issue, and said efforts to spur economic development in the state required more than the DER's "Band-Aid approach."

"First of all, the criticism that businesses will move to greenfields and pollute is folly," he said. "That behavior is illegal, and it's unrealistic to predict that businesses will engage in that type of behavior, which will end up costing them more money.

"(Bill) 972 creates an incentive to use brownfields, but creates no disincentive to use greenfields," he said.

Id.

69. *Pennsylvania Governor Ridge Applauds Industrial Site Cleanup Bills' Passage*, PR NEWSWIRE, May 3, 1995, available in LEXIS, NEWS Library, PRNEWS File [hereinafter *Pennsylvania Governor*].

70. The bills followed from six days of public hearings around the state in September of 1993, when two state Senate committees heard sixty-seven witnesses. *Pennsylvania Governor*, *supra* note 69. The two committees then sought comments from more than 2,000 individuals, businesses and citizen and environmental groups. *Id.* In November of 1994, the committees heard testimony from state officials in Texas and Massachusetts on setting environmental cleanup standards. *Id.* Senator David J. Brightbill sponsored Senate Bill 1, referred to in this comment as "Act 2" or "LRERSA." *Id.* Senator William J. Steward sponsored Senate Bill 11, referred to in this comment as "Act 3" or "LPA." *Id.* Senator Albert Belan sponsored Senate Bill 12, referred to in this comment as "Act 4" or "ISEAA." *Id.*

71. Although Pennsylvania was not the first state to tackle the Brownfields problem, its legislation is the most comprehensive in terms of liability protection, funding, and remediation standards.

Several states have legislatively preceded the Pennsylvania legislature's confrontation of the Brownfields problem with legislation that limits liability and creates remediation standards. Representative of these states is New Jersey's Industrial Sites Recovery Act, which governs the environmental remediation of that state's industrial properties. See N.J. STAT. ANN. § 13:1K-6-13:1K11.11 (1993).

Ohio's "Voluntary Action Program" allows the issuance of a "no further action" letter if an owner can demonstrate that there is no evidence of a release, that a release occurred but is within applicable standards, or that remediation has achieved those standards. See OHIO REV. CODE ANN. §§ 3746.01-99 (Anderson 1994).

mentation of the Program are the detailed remediation standards that give parties statutory authority for undertaking remediation of industrial sites. Coupled with funding provisions and a clear mandate of limiting liability for developers, lenders and trustees, the Program covers all aspects of the environmental cleanup process.

A. Remediation—The Land Recycling and Environmental Remediation Standards Act

The Land Recycling and Environmental Remediation Standards Act ("LRERSA")⁷² is the core of the Program and provides a statutory scheme for the remediation of contaminated property.⁷³ Primarily, LRERSA provides a detailed framework to clean up sites through objective remediation standards, uniform procedures, liability limits, and direct financial incentives.⁷⁴ Owners, developers and any other person⁷⁵ that participates in the cleanup of a commercial site can obtain a liability release if one of LRERSA's standards is attained.⁷⁶ Most financially attractive

For a brief treatment of Ohio's program, see Michel, *supra* note 3, at 435 (discussing the impact of the Ohio program on CERCLA).

Wisconsin's Land Recycling Act ("Act 453") creates an exemption from liability for a purchaser of property that conducts a thorough site investigation and remediates the property. See WIS. STAT. ANN. § 144.765 (West 1994). See generally Jane F. Clokey, *Wisconsin's Land Recycling Act: From Brownfield to Greenfield*, 2 WIS. ENVTL. L.J. 35 (1995). Act 453 is criticized for several reasons. Most notably, the liability exemption only applies to preexisting conditions. *Id.* It also requires a two-phase investigation that could prove lengthy and costly and also requires long term monitoring that also will raise the costs of a transaction. *Id.* Further, Act 453 only applies to purchasers of property and does not address present owners that desire to remediate and redevelop their own property. *Id.*; see also WIS. STAT. ANN. § 144.765(2).

72. 1995 Pa. Legis. Serv. 21, §§ 101-908.

73. DEPARTMENT OF ENVIRONMENTAL PROTECTION, COMMONWEALTH OF PENNSYLVANIA, LAND RECYCLING PROGRAM TECHNICAL MANUAL, ch. I, at 1 (1995) [hereinafter TECHNICAL MANUAL]. The DEP issued the Technical Manual to assist parties undertaking LRERSA remediation. Although the manual does not have the force of legislation or regulation, it is the only guidance available from the DEP which oversees the Land Recycling Program.

74. TECHNICAL MANUAL, *supra* note 73, ch. I, at 1. Environmental groups had suggested that remediation standard legislation should target old sites, maintain high remediation standards for Greenfields, and ensure meaningful public involvement in restricted-use cleanups. Thomas Scott & Brian Hill, *Look Inside Legislation on the Cleanup of Contaminated Sites*, PITTSBURGH POST-GAZETTE, Sept. 28, 1994, at C3.

75. LRERSA includes all of the following under the term "person:" individuals, firms, corporations, associations, partnerships, consortiums, joint ventures, commercial entities, authorities, nonprofit corporations, interstate bodies or other legal entities that are recognized by law as the subject of rights and duties. 1995 Pa. Legis. Serv. at 23-25, § 103. Also included are the federal government, state government, political subdivisions, and Commonwealth instrumentalities. *Id.*

76. TECHNICAL MANUAL, *supra* note 73, ch. I, at 1. See PA. STAT. ANN. tit. 35,

industrial sites have the benefits of infrastructure, location, and zoning, but remain undeveloped due to the fear of liability. LRERSA seeks to remove the final impediments to redeveloping industrial sites.⁷⁷ The fundamental objective of LRERSA is to eliminate health and environmental hazards while returning contaminated commercial and industrial land to productive use.⁷⁸ The Pennsylvania General Assembly considered the use and reuse of these sites instrumental for employment, housing and recreation.⁷⁹ LRERSA also encourages the use of private funds to develop and implement cleanup plans through incentives, thus reducing the need for public funding or adversarial enforcement actions.⁸⁰

A major problem with antecedent environmental statutes is the absence of clearly defined remediation standards that provide a property owner with a determinable financial appraisal before remediation activities begin.⁸¹ Prior to undertaking remediation activities, the uncertainty surrounding cleanup standards led to difficulty in actually assessing the extent of cleanup required,⁸² and the transaction costs for selling those properties were resultingly high.⁸³ LRERSA is the first Pennsylvania environmental statute to emphasize and consider "actual risk" when

§ 6020.702 (HSCA holds responsible persons strictly liable); *Id.* § 6020.706 (1993) (HSCA permits DEP to enter into "covenants not to sue" in order to "encourage the voluntary and timely cooperation of responsible parties."); *Id.* § 6020.707 (de minimis settlements under HSCA). Permits are not required for LRERSA remediation activities, but the federal government can require permits for federally funded and authorized state programs. TECHNICAL MANUAL, *supra* note 73, ch. I, at 2.

77. Gov. Casey and House Democratic Leadership Announce New Industrial Sites Cleanup Legislation, PR NEWSWIRE, Apr. 6, 1994, available in LEXIS, NEWS Library, PRNEWS File.

78. 1995 Pa. Legis. Serv. at 22, § 102(1). Governor Ridge stated at the signing of the acts: "The laws enacted today are part of a new type of environmental program that focusses on getting the environmental results we want—site cleanups—while at the same time providing significant economic benefits—putting people back to work." NEW STEEL, *supra* note 2, at 10.

79. 1995 Pa. Legis. Serv. at 22, § 102(1). The legislature cited as its policy statement: "The reuse of industrial land is an important component of a sound land-use policy that will help prevent the needless development of prime farmland, open-space areas and natural areas and reduce public costs for installing new water, sewer and highway infrastructure." *Id.*

80. *Id.* § 102(2). Adversarial enforcement actions by the DEP generally only serve to delay cleanups and increase costs. *Id.*

81. *Id.* § 102(3), (4). The General Assembly noted the necessity to adopt a statute which sets environmental remediation standards to provide a uniform framework for cleanup decisions because of the failure to set concrete cleanup standards. *Id.*

82. For example, companies often made unnecessary and costly remediation efforts to make a sale possible because there were no objective standards.

83. Transaction costs were high, in part, because of the necessity of defining legal responsibility if a cleanup were required by the DEP.

dealing with contamination and its remediation.⁸⁴ Ideally, a LRERSA remediation plan addresses actual risk by treating, removing or destroying regulated substances when "technically and economically feasible."⁸⁵

LRERSA creates three alternate remediation standards that, when one is attained, entitle a remediating party to liability protection.⁸⁶ LRERSA's standards will be used for all mandatory site cleanups in Pennsylvania.⁸⁷ The creation of objective and reasonable remediation standards enables owners to sell industrial property while containing pre-sale remediation costs.⁸⁸

LRERSA's remediation standards may be utilized for remediation activities undertaken pursuant to any of Pennsylvania's environmental statutes.⁸⁹ The DEP may use existing remediation standards for a period of up to three years so that parties seeking to perform remediation can do so before final regulations are issued.⁹⁰ LRERSA's standards do not supersede less stringent standards contained in prior agreements and con-

84. 1995 Pa. Legis. Serv. at 22, § 102(6). LRERSA requires that cleanup plans be based on the actual risk that a site may pose to the environment and humans, while considering current and future use, and the threat of contamination spreading. *Id.* It is not the policy of the Commonwealth to require that cleanup plans return every site to pristine condition. *Id.*

85. *Id.* § 102(7). Cleanup activity under LRERSA will parallel former DEP permitting policies. *Id.* § 102(8). Pre-LRERSA DEP permitting policies "determine when contamination will and will not pose a significant risk to public health or the environment." *Id.*

86. *Id.* § 301(a).

87. TECHNICAL MANUAL, *supra* note 73, ch. I, at 1.

88. NEW STEEL, *supra* note 2, at 10. "For steelmakers holding hundreds of acres of underused real estate, the legislation should help them sell the properties and put a cap on future remediation costs." *Id.*

89. 1995 Pa. Legis. Serv. at 26, § 106(a). LRERSA's remediation standards qualify for liability protection for cleanup voluntarily conducted or required under The Clean Streams Law, PA. STAT. ANN. tit. 35, § 691.1, The Solid Waste Management Act, PA. STAT. ANN. tit. 35, § 6018.101, The Infectious and Chemotherapeutic Waste Law, PA. STAT. ANN. tit. 35, § 6019.1 (1993), The Hazardous Sites Cleanup Act, PA. STAT. ANN. tit. 35, § 6020.101 (1993) and The Storage Tank and Spill Prevention Act, PA. STAT. ANN. tit. 35, § 6021.101 (1993).

LRERSA is intended to cover the remediation of sites under the state and federal Superfund programs, and to encourage private persons to undertake that remediation. TECHNICAL MANUAL, *supra* note 73, ch. IV, at 4. Although LRERSA's remediation standards may be utilized for CERCLA-related cleanups, the EPA will not recognize an LRERSA private party cleanup for sites on the National Priority List. *Id.* ch. IV, at 5. Remediation under HSCA requires the DEP to reopen the administrative record for sites listed on the Pennsylvania Priority list that propose a cleanup plan significantly different than the remedies selected under HSCA. *Id.* LRERSA does not affect the civil or criminal penalties of those acts. 1995 Pa. Legis. Serv. at 26, § 106(a).

90. 1995 Pa. Legis. Serv. at 26-27, § 107(a); *see also* TECHNICAL MANUAL, *supra* note 73, ch. I, at 2. *See also, e.g.,* PA. STAT. ANN. tit. 35, § 6020.504 (HSCA remediation).

sent orders.⁹¹ However, LRERSA has been criticized because the new remediation standards will actually lower standards at Greenfield sites while providing industry with more attractive Brownfield standards than were previously available.⁹²

The first step in selecting a remediation standard is to divide the regulated substances identified in LRERSA into two categories: (1) hazardous substances identified in HSCA; and (2) regulated substances not considered "hazardous."⁹³ Hazardous substances commonly require groundwater and soil remediation.⁹⁴ Secondary contaminants mandate site remediation where surface waters or water supplies are impacted, a point-source discharge is created, or air quality is affected.⁹⁵ If a release has occurred at the site, data must be provided to the DEP indicating that the regulated substances have been remediated to a selected standard in order to receive LRERSA's liability release.⁹⁶ Determining the possible level of remediation for each substance is of primary importance in selecting a remediation standard. A party undertaking remediation under the Program will likely strategically assess the relative costs and benefits of achieving one of the remediation standards. The three remediation standard possibilities are: (1) the Background Standard;⁹⁷ (2) the Statewide Health Standard;⁹⁸ and (3) the Site Specific Standard.⁹⁹

1. Attaining the Background Standard

The Background Standard requires a demonstration that the regulated substances on the site are at or below the level of that particular regulated substance before any release occurred.¹⁰⁰

91. 1995 Pa. Legis. Serv. at 27, § 107(b). However, attainment for a regulated substance will not be less than the EPA's practical quantitation limit ("PQL"). *Id.*

92. Kengor, *supra* note 34, at 25. One critic commented upon predecessor bills, and noted that application of the standards should be limited to sites with previous industrial activity. *Id.*

93. TECHNICAL MANUAL, *supra* note 73, ch. III, at 1. HSCA hazardous substances are listed in Appendices A and B of the Technical Manual. The hazardous waste listing procedure is found in 25 PA. CODE §§ 261.10, .11 (1989). Regulated substances that are not considered hazardous, referred to as secondary contaminants, are identified in Chapter 93 of Title 25 of the Pa. Code.

94. TECHNICAL MANUAL, *supra* note 73, ch. III, at 1.

95. *Id.* A point source is a location where pollutants are discharged or emitted, such as a pipe, ditch, or ship. *Id.*

96. *Id.*

97. 1995 Pa. Legis. Serv. at 27-29, § 302.

98. *Id.* § 303.

99. *Id.* § 304.

100. *Id.* § 103. Specifically, background is defined under LRERSA to mean "the

Attainment of the Background Standard must be demonstrated for each regulated substance in the site's water, soil, and air.¹⁰¹ If soil and groundwater contaminants are already below the Background Standard, a Background Standard determination study need not be performed.¹⁰² Only an evaluation of the impact of the site on surface water and air quality then need be made to demonstrate that the Background Standard has been attained.¹⁰³ If the Background Standard limitations are surpassed, the party may wish to perform a Background Standard evaluation based on the specific features of the site.¹⁰⁴

The DEP suggests that groundwater can satisfy the Background Standard by testing upstream water with downstream water and "point of discharge" water.¹⁰⁵ Demonstration of Background Standard attainment for air contaminants is made through soil contaminant levels.¹⁰⁶ LRERSA prohibits persons

concentration of a regulated substance determined by appropriate statistical methods that is present at a site, but is not related to the release of regulated substances at the site." *Id.* A release is defined as "[s]pilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of a regulated substance into the environment in a manner not authorized by the . . . [DEP]. The term includes the abandonment or discarding of barrels, containers, vessels, and other receptacles containing a regulated substance." *Id.*

101. *Id.* § 302(a). Attainment is demonstrated through representative samples from each medium by the application of statistical tests set forth in a demonstration of a mathematically valid application of statistical tests or in the regulations. *Id.* § 302(b)(1). The person performing the remediation must submit a final report describing the procedures and conclusions of the site investigation concerning the regulated substances, the basis for selecting the environmental medium of concern, descriptions of removal or decontamination procedures performed, summaries of samples, and analytical results that demonstrate the attained remediation. *Id.* § 302(b)(2). If remediation does not involve removal or treatment of a contaminant, the final report must demonstrate that the remaining contaminants will meet the Statewide Health Standards, discussed *infra* at notes 111 to 122 and accompanying text, and must show compliance with any postremediation procedures required to meet the Statewide Health Standard. *Id.* § 302(b)(3).

102. TECHNICAL MANUAL, *supra* note 73, ch. III, at 2.

103. *Id.*

104. *Id.*

105. *Id.* More specifically:

A person can determine if a groundwater discharge to a surface water is above background by comparing upstream surface water quality with surface water quality at the point of interface and with downstream water quality. If no difference exists, the surface water Background Standard for the site has been demonstrated. Where contaminated surface water discharges from a site to a surface water, the surface discharge has achieved the Background Standard when the water quality is the same as the upstream water quality.

Id.

106. *Id.* Particularly, "[a]ir contaminant discharges to the atmosphere achieve the Background Standard when primary contaminants in soil are at Background levels established for soils at the site. Other regulated substances meet the Background standard for air contaminant discharges if no visible fugitive emissions or

from using institutional controls¹⁰⁷ to attain the Background Standard after remediation takes place.¹⁰⁸ When selecting a remediation standard, a party must also consider that the DEP can require further remediation if the Background Standard is selected and not attained.¹⁰⁹ The Background Standard is the "default" standard under LRERSA, as its provisions are used when the Statewide Health Standard or the Site Specific Standard are more demanding than the Background Standard.¹¹⁰

The Background Standard may be attractive to those parties that are undertaking remediation on industrial sites having measurable, but limited, environmental damage. When an industrial site has limited environmental damage, a party may be able to undertake cost-effective remediation to achieve liability protection under LRERSA by simply remediating the site to its previous condition, rather than attempting to meet the somewhat stricter Statewide Health Standard or the potentially more costly Site Specific Standard.

2. Attaining the Statewide Health Standard

The Environmental Quality Board (the "EQB") is required under the Program to develop statewide standards based on the "medium specific concentrations" (the "MSC's") for each regulated substance.¹¹¹ Essentially, the MSC's will set a standard that is

odors are detectable within the site." *Id.*

107. Section 103 defines an institutional control as a "measure undertaken to limit or prohibit certain activities that may interfere with the integrity of a remedial action or result in exposure to regulated substances at a site. These include, but are not limited to, fencing or restrictions on the future use of the site." 1995 Pa. Legis. Serv. at 23-25, § 103.

108. 1995 Pa. Legis. Serv. at 28, § 302(4).

109. *Id.* Persons attaining the Background Standard are not subject to the deed acknowledgement requirements of HSCA. *Id.* § 302(d); see also TECHNICAL MANUAL, *supra* note 73, ch. IV, at 6.

110. 1995 Pa. Legis. Serv. at 30, § 303(d). If the Statewide Health Standard is numerically less than the Background Standard, the Statewide Health Standard is not required to be met and the Background Standard applies. *Id.* In addition, the concentration of a regulated substance in an environmental medium of concern is not required to meet the Site Specific Standard if the Site Specific Standard is numerically less than the Background Standard, and the Background Standard applies. *Id.* § 304(h). Thus, the default standard under LRERSA is the Background Standard.

111. *Id.* § 303(a). The standards must include existing numerical residential and non-residential standards. *Id.*

LRERSA empowers the EQB to establish the Statewide Health Standards, and determine appropriate mathematically valid statistical tests to define compliance with LRERSA. *Id.* § 104(a). In order to assist the EQB in defining and developing Statewide Health Standards and other technical matters, LRERSA created a thirteen-member Cleanup Standards Scientific Advisory Board (the "CSSAB"). *Id.* § 105(a). Members of the CSSAB are required to have a scientific background or

uniform throughout the Commonwealth.¹¹² Based on the MSC's, the EQB will propose Statewide Health Standards for both residential and non-residential sites.¹¹³

The MSC's for aquifers is the maximum contaminant level ("MCL") or, in the absence of an MCL, the lifetime highest allowable level ("HAL") of the particular contaminant, unless an alternative HAL is more protective.¹¹⁴ Only the MCL's and HAL's are used as final standards for obtaining liability release for groundwater under LRERSA.¹¹⁵ The concentration of a regulated substance in groundwater located in aquifers used for drinking water or for agricultural purposes must comply with the MCL established for drinking water.¹¹⁶

Residential soil standards require that the regulated substance not exceed either the direct contact soil medium-specific concentration,¹¹⁷ or the soil-to-groundwater pathway numeric value throughout the soil column.¹¹⁸ The concentration of a regulated

experience that relates to issues likely to be encountered by the CSSAB. *Id.* § 105(b).

Any regulated discharge during or after attainment of the Statewide Health Standard into surface water or emissions to the outdoor air must comply with the applicable laws and regulations relating to surface water discharge or air emissions. *Id.* § 303(b)(1), (2).

112. *Id.* § 303.

113. *Id.* § 303(a). The Statewide Health Standards must not be more rigid than those adopted by the federal government. *Id.* Nonresidential property is:

Any real property on which commercial, industrial, manufacturing or any other activity is done to further either the development, manufacturing or distribution of goods and services, intermediate and final products, including, but not limited to, administration of business activities, research and development, warehousing, shipping, transport, remanufacturing, stockpiling of raw materials, storage, repair and maintenance of commercial machinery and equipment, and solid waste management. This term shall not include schools, nursing homes, or other residential-style facilities or recreational areas.

Id. § 103.

114. TECHNICAL MANUAL, *supra* note 73, ch. III, at 2. MCL's are listed in the Technical Manual, Appendix B. An MCL is the highest allowable level of a contaminant in drinking water established pursuant to federal drinking water standards. *Id.*

115. *Id.*

116. 1995 Pa. Legis. Serv. at 29, § 303(b)(3).

117. The concentration is based on residential exposure factors within a depth of up to 15 feet from the existing ground surface. 1995 Pa. Legis. Serv. at 29, § 303(b)(4).

118. 1995 Pa. Legis. Serv. at 29, § 303(b)(4). The soil-to-groundwater pathway is determined by any of the following methods:

(i) a value which is 100 times the medium-specific concentration for groundwater;

(ii) a concentration in soil at the site that does not produce a leachate in excess of the medium-specific concentrations for groundwater in the aquifer when subjected to the Synthetic Precipitation Leaching Procedures, Method 1312 of SW 846, Test Methods for Evaluating Solid Waste, promulgated by

substance in non-residential soil also may not exceed either the direct contact soil MSC or the soil-to-groundwater pathway numeric value.¹¹⁹

The MSC for the ingestion of groundwater, inhalation of soils, ingestion and inhalation of volatiles and particulates are calculated by the DEP using valid scientific methods, reasonable pathway assumptions, and exposure factors for residential and non-residential land use which will not be more stringent than that already established by the EPA.¹²⁰ LRERSA also establishes levels of risk for carcinogens and systemic toxicants.¹²¹ Attainment of the Statewide Health Standard is documented by collection and analysis of representative samples of soils and groundwater from aquifers at the point of compliance.¹²²

The Statewide Health Standard appears to allow parties undertaking remediation a more concrete standard than either the Background or Site Specific Standards. Because the standards are uniform throughout the Commonwealth, achievement of the Statewide Health Standard may be an efficient and consistent method of remediation for parties who plan to undertake remediation of multiple industrial sites. Even though the State-

the United States Environment Protection Agency; or

(iii) a generic value determined not to produce a concentration in groundwater in the aquifer in excess of the medium-specific concentration for groundwater based on a valid, peer-reviewed scientific method which properly accounts for factors affecting the fate, transport and attenuation of the regulated substance throughout the soil column.

Id. § 303(b)(4).

119. *Id.* § 303(b)(5).

120. *Id.* § 303(c).

121. *Id.* § 303(c)(1). For carcinogens, the concentration represents an excess of upper bound lifetime cancer target risk of between 1 in 10,000 and 1 in 1,000,000. *Id.* For systemic toxicants, the concentration human populations could be exposed by direct ingestion or inhalation on a daily basis without appreciable risk of deleterious effects of the exposed population. *Id.* § 303(c)(2).

122. *Id.* § 303(e)(1). A final report documenting attainment of the Statewide Health Standard must be submitted to the DEP and must include:

[T]he description of the procedures and conclusions of the site investigation to characterize the nature, extent, rate of movement of the site and cumulative effects, if any, volume, composition and concentration of contaminants in environmental media, the basis of selecting the environmental media of concern, documentation supporting the selection of residential and nonresidential exposure factors, descriptions of removal or treatment procedures performed in remediation, summaries of sampling methodology and analytical results which demonstrate that the contaminants have been removed or treated to applicable levels and documentation of compliance with postremediation care requirements if they are needed to maintain the Statewide health standard. Institutional controls such as fencing and future land use restrictions on a site may not be used to attain Statewide health standards.

Id. § 303(e)(2). Institutional controls may be used to maintain the Statewide Health Standard. *Id.* § 303(e)(3).

wide Health Standard may be more difficult to achieve than another standard, it provides parties with a concrete method of guidance that may require a less costly background environmental assessment in determining the extent of required remediation.

3. Attainment of the Site Specific Standard

Potentially the most complex in terms of investigation, assessment and reporting, and therefore the most costly, is the Site Specific Standard.¹²³ The Site Specific Standard is most attractive to owners of sites that were previously considered too risky to remediate because the Site Specific Standard looks to whether the site poses a threat of contamination to surrounding properties.¹²⁴ Environmental groups criticized the availability of a Site Specific Standard out of a fear that all owners will be lured by limited remedial efforts such as capping and fencing.¹²⁵ Furthermore, if a risk assessment reveals no human health risks, the owner can attain the Site Specific Standard without performing any remediation on the land.¹²⁶ If the Site Specific Standard is selected, or where the Background or Statewide Health Standard is selected but not attained, remedial investigation,¹²⁷ risk assessment,¹²⁸ cleanup plans and final reports are required to

123. *But see, e.g.,* Cliff Tuttle, *The Hot New Properties: Old Industrial Sites; New "Brownfield" Laws Should Entice Developers, Lenders*, PA. L. WKLY., Oct. 30, 1995, at 13 ("The site-specific standard offers the greatest opportunity to renew properties previously considered too expensive for voluntary remediation.").

124. Tuttle, *supra* note 123, at 27. The "fate and transport analysis" is essential to the determination of whether the Site Specific Standard can be beneficial for the owner:

Rather than focusing on the levels of contamination within the property, this approach seeks to determine how pollutants from the property will affect surrounding properties

If this study establishes that there are no pathways for the existing contamination to spread beyond the property boundaries . . . no risk assessment, cleanup plan or remedy is required. On the other hand, when the study shows that pathways exist, at least a risk assessment is required.

Id.

125. *See* Scott & Hill, *supra* note 74, at C3 ("Most will undoubtedly choose the 'site specific' standard because it includes such minimal efforts as capping and fencing.").

126. Don Hopey, *Ridge's DEP Under Scrutiny; Is Pennsylvania Backsliding on the Environment?*, PITTSBURGH POST-GAZETTE, Jan. 7, 1996, at A7.

127. Remedial investigation refers to "an in-depth study designed to gather the data necessary to determine the nature and extent of contamination[;] . . . establish criteria for cleaning up the site; identify preliminary alternatives for remedial actions; and support the technical and cost analyses of the alternatives." BRADY, *supra* note 55, at Glossary-8.

128. A "risk assessment" is a "qualitative and quantitative evaluation performed

comply with the requirements of the Site Specific Standard.¹²⁹

Groundwater Site Specific Standards for carcinogens and systemic toxicants will be established under LRERSA, and will vary depending upon whether groundwater is in aquifers.¹³⁰ The procedure for determining Site Specific Standards for aquifer groundwater involves a determination of the actual and potential use of the aquifer as a source of drinking water,¹³¹ identification of sources of contaminants and potential receptors,¹³² and an evaluation of natural conditions affecting the fate and transport of contaminants.¹³³ Groundwater not in aquifers will be evaluated using future exposure scenarios.¹³⁴

Site Specific soil concentrations of regulated substances must be less than:¹³⁵ values based on human ingestion of soil where direct contact exposure to the soil may occur;¹³⁶ values calculated to protect groundwater in aquifers;¹³⁷ and values calculated with respect to discharges or releases to surface water or emissions to the outdoor air.¹³⁸

Factors considered in determining soil and groundwater clean-

in an effort to define the risk posed to human health and/or the environment by the presence or potential presence and/or use of specific pollutants." BRADY, *supra* note 55, at Glossary-8.

129. 1995 Pa. Legis. Serv. at 31, § 304(a). Soil and groundwater standards are to represent levels at which the human population could be exposed to on a daily basis without appreciable risks of deleterious effect to the exposed population. *Id.*

130. *Id.* § 304(d). An aquifer is a "geological formation, group of formations or part of a formation capable of a sustainable yield of significant amount of water to a well or spring." *Id.* § 103.

131. *Id.* "The current and probable future use of groundwater shall be identified and protected. The DEP will consider groundwater to be an aquifer without further hydrogeologic study or evaluation if a developed spring or a typically constructed well is drilled in a formation or group of formations yields water year round in an amount greater than 200 gallons/day." *Id.*

132. *Id.* § 304(d)(1)(ii).

133. *Id.* § 304(d)(1)(iii). "Fate and transport . . . describe[s] the degradation of a chemical over time, and where chemicals are likely to move given their physical and other properties and the environmental medium they are moving through." *Id.* § 103.

134. 1995 Pa. Legis. Serv. at 32, § 304(d)(2). When a person is exposed to groundwater by ingestion or other avenues, "appropriate management actions" are to be instituted at the point of exposure in order to protect human health and environment. *Id.* However, "appropriate source management actions" must be undertaken by the responsible party to achieve an equivalent level of protection. *Id.*

135. *Id.* § 304(e). Soil concentrations must take into account the effects of institutional and engineering controls and must be based on scientific principles, "including fate and transport analysis of the migration of a regulated substance in relation to receptor exposures." *Id.*

136. *Id.* § 304(e); *see also id.* § 304(b)-(c).

137. 1995 Pa. Legis. Serv. at 32, § 304(e); *see also id.* § 304(b)-(d).

138. 1995 Pa. Legis. Serv. at 32, § 304(e); *see also id.* § 304(g).

up standards include:¹³⁹ use of appropriate standard exposure for the land use of the site;¹⁴⁰ use of appropriate statistical techniques;¹⁴¹ the potential of human ingestion of regulated substances in surface water;¹⁴² and the potential of human inhalation of regulated substances from the outdoor air.¹⁴³

The Site Specific Standard can be attained through a combination of remediation activities that can include treatment, removal, engineering or institutional controls.¹⁴⁴ A Site Specific Standard plan that consists solely of institutional measures will automatically be rejected by the DEP.¹⁴⁵ A final Site Specific Standard remediation plan must be submitted and must include remediation alternatives and a final remedy.¹⁴⁶ The final remedy must consider the following factors: long-term risks and effectiveness of the proposed remedy;¹⁴⁷ reduction of the toxicity, mobility or volume of regulated substances;¹⁴⁸ short-term risks and effectiveness of the remedy;¹⁴⁹ the ease or difficulty of implementing the proposed remedy;¹⁵⁰ the costs of the remediation

139. 1995 Pa. Legis. Serv. at 32, § 304(f).

140. *Id.* § 304(f)(1). The appropriate standard for land use considers current land use and the effectiveness of institutional or legal controls placed on the future use of the land. *Id.*

141. *Id.* § 304(f)(2).

142. *Id.* § 304(f)(3). The potential for human ingestion must also include other site surface water exposure pathways. *Id.*

143. *Id.* § 304(f)(4).

144. 1995 Pa. Legis. Serv. at 32, § 304(i).

145. *Id.* Thus, "the DEP will disapprove a site-specific plan that consists solely of fences, warning signs or future land use restrictions unless the site-specific standard is developed on the basis of exposure factors which are no less stringent than those which would apply to the site at the time the contamination is discovered." *Id.*

146. *Id.* § 304(j).

147. *Id.* § 304(j)(1). Consideration of long-term risks includes: the magnitude of risks remaining after the remedial action; post-remediation care required; potential for human exposure to regulated substances remaining at the site; long-term reliability of engineering and institutional controls; potential need for repair, maintenance, or replacement of components of the remedy; and time to achieve cleanup standards. *Id.*

148. *Id.* § 304(j)(2). This includes the quantity of the regulated substances that will be removed, the degree of expected reduction in toxicity, mobility or volume, and the type, quantity, toxicity and mobility of regulated substances remaining after attainment of the standard. *Id.*

149. 1995 Pa. Legis. Serv. at 33, § 304(j)(3). This includes the short-term risks that may be posed to the community, workers or the environment during implementation of the remedy and the effectiveness and reliability of protective measures to address short-term risks. *Id.*

150. *Id.* § 304(j)(4). The proposed remedy should encompass commercially available remedial measures which are the Best Available Demonstrated Control Technology ("BADCT"), the degree of difficulty associated with constructing the remedy, the expected operational reliability, the available capacity and location of needed treatment, the storage and disposal services for wastes, and the time to initiate remedial efforts and approvals necessary to implement the remedial efforts. *Id.*

measure;¹⁵¹ and an incremental health and economic cost/benefit analysis.¹⁵²

Remediators selecting the Site Specific Standard are required to submit numerous reports and evaluations to the DEP.¹⁵³ Persons attaining compliance of the Site Specific Standard are subject to the deed notice requirements, including a statement whether residential or nonresidential exposure factors were used to comply with the Site Specific Standard.¹⁵⁴

Even though the Site Specific Standard may prove to be more costly than achieving another standard, the Site Specific Standard opens up the possibility of remediation on those industrial sites which may have never been capable of achieving the Background or Statewide Health Standards. In a sense, the Site Specific Standard is an unwritten realization by the General Assembly that limited remediation on severely contaminated sites is more favorable than no remediation at all.

4. DEP Review of Proposed Remediation

Any planned remediation activity must be reviewed by the DEP.¹⁵⁵ Parties undertaking remediation activities must submit

151. *Id.* § 304(j)(5). Cost considerations include capital costs, operation and maintenance costs, net present value of capital and operation and maintenance costs, and the total costs and effectiveness of the system. *Id.*

152. *Id.* § 304(j)(6).

153. *Id.* § 304(l). A remedial investigation report that includes the following must be submitted: documentation from the site investigation to characterize the substances; the regulated substance concentrations in environmental media of concern; existing or potential public benefits of the use of the site for employment, housing, open space, recreation or other uses; an optional fate and transport analysis; and, if no exposure pathway exists, a risk assessment report and cleanup plan are not required and no remedy is required to be proposed or completed. *Id.* § 304(l)(1).

The DEP may require a risk assessment report that describes the potential adverse upon both current and planned future conditions caused by the presence of a regulated substance in the absence of any further control, remediation or mitigation measures. *Id.* § 304(l)(2). A baseline risk assessment report is not required when it is determined that a specific remediation measure can be implemented to attain the Site Specific Standard. *Id.*

When remediation is necessary, a cleanup plan must be submitted that evaluates the relative abilities and effectiveness of potential remedies to achieve the requirements for remedies. *Id.* § 304(l)(3). The plan shall select a remedy which achieves the requirements for remedies described in section 304(k). *Id.* The DEP may require a further evaluation of the selected remedy after the community involvement responses have been received. *Id.*

Lastly, a required final report demonstrating that the approved remedy has been completed in accordance with the cleanup plan completes the attainment of the selected standard. *Id.* § 304(l)(4).

154. 1995 Pa. Legis. Serv. at 34, § 304(m).

155. *Id.* § 304(n).

a Notice of Intent to Remediate (the "NIR") to the DEP, which provides a description of the location of a site, a listing of the contaminants involved, and the proposed remediation.¹⁵⁶ A copy of the NIR must be provided to the municipality in which the site is located, and a summary of the notice must be published in a newspaper of general circulation serving the site area.¹⁵⁷ The notices must include a 30-day public and municipal comment period during which time the municipality may request to be involved in the development of the remediation and reuse plans for the site.¹⁵⁸

If the DEP does not respond to the NIR within ninety days, the report is deemed approved.¹⁵⁹ Persons using Site Specific Standards are required to develop a public involvement plan which involves the public in the cleanup and use of the property if the municipality requests involvement.¹⁶⁰ The Program is concretely clear in setting guidelines and standards for parties undertaking remediation. However, the DEP review creates a "safety net" which assures that remediation activities are undertaken in compliance with the statute and guarantees that parties undertaking the remediation activities are set on a path to achieving environmental cleanup.

5. Special Industrial Areas¹⁶¹

The Program specifically confronts the Brownfields problem by

156. *Id.* § 304(n)(1)(i). The DEP then publishes an acknowledgement of receipt of the NIR in the Pennsylvania Bulletin. *Id.*

To date, the DEP has published numerous Acknowledgement of Notices of Intent to Remediate. See 25 Pa. Bull. 4711, 4720 (Special Industrial Area); 25 Pa. Bull. 4545, 4555 (Statewide Health Standards); 25 Pa. Bull. 4372, 4387 (Statewide Health Standards); 25 Pa. Bull. 4239, 4252 (Special Industrial Area); 25 Pa. Bull. 4145, 4157 (Statewide Health Standards); 25 Pa. Bull. 3880, 3901 (Statewide Health Standards); 25 Pa. Bull. 3736, 3758 (Statewide Health Standards); 25 Pa. Bull. 3591, 3614 (Site Specific Standard).

157. 1995 Pa. Legis. Serv. at 34, § 304(n)(1)(i).

158. *Id.* § 304(n)(1)(ii). At the request of a municipality, the person undertaking the remediation must develop and implement a public involvement program plan. *Id.* Persons undertaking the remediation are encouraged to develop a proactive approach to working with the municipality in developing and implementing remediation and reuse plans. *Id.*

Comments issued by the municipality must also be provided to the DEP each time a report is submitted to demonstrate compliance with the Site Specific Standard, and the DEP must review the report or plan within 90 days of its receipt or notify the person of any deficiencies. *Id.* § 304(n)(2).

159. *Id.* § 304(n)(3).

160. *Id.* § 304(o).

161. *Id.* § 305.

placing special emphasis on abandoned industrial property.¹⁶² LRERSA provides unique treatment for orphan sites—industrial property for which there is no financially viable responsible person—and land located within enterprise zones by providing separate review procedures for persons conducting remediation activities who neither caused nor contributed to the contamination of the property.¹⁶³ Environmental remediation of “Special Industrial Areas” (“SIA’s”) must meet either the Background, Statewide Health, or Site Specific Standards.¹⁶⁴ A baseline remedial investigation report must be conducted on the SIA property based on a work plan approved by the DEP, and a baseline environmental report must be submitted to the DEP to establish a reference point showing existing contamination of the site.¹⁶⁵ The report describes the proposed remediation measures to be undertaken within the limits of the cleanup liability of LRERSA.¹⁶⁶

The DEP and the person undertaking the reuse of an SIA site must enter into an agreement outlining cleanup liability based on the environmental report.¹⁶⁷ A person entering into an SIA remediation agreement cannot interfere with any subsequent remediation efforts by the DEP to remedy the contamination identified in the baseline environmental report.¹⁶⁸ The unique treatment of SIA’s reflects the General Assembly’s concerted effort to give attention to industrial sites which have become the core of the Brownfields problem.

6. *Evaluating Sites under LRERSA*

The establishment of remediation standards alludes to a possible reason for their absence from previous legislation—they are very complex. Before remediation is undertaken, persons should evaluate the site conditions based on the recommendations of the DEP.¹⁶⁹ The purpose of the initial evaluation is to select the

162. 1995 Pa. Legis. Serv. at 35-36, § 305.

163. *Id.* § 305(a). Enterprise zones are designated by the Department of Community Affairs pursuant to the Enterprise Zone Program. 16 PA. CODE § 23 (1988). The purpose of the Enterprise Zone Program is to promote economically disadvantaged municipalities. *Id.* §§ 23.1, .2.

164. 1995 Pa. Legis. Serv. at 35, § 305(a).

165. *Id.* § 305(b).

166. *Id.* The report must also include a description of the existing or potential public benefits in terms of employment opportunities, housing, open space, and recreation. *Id.*

167. *Id.* § 305(e).

168. *Id.* § 305(f).

169. TECHNICAL MANUAL, *supra* note 73, ch. II, at 1. The DEP recommends pre-approval of site assessment work plans for the Background and Statewide Health

proper LRERSA remediation standard.¹⁷⁰ An assessment study is the first step in the process and determines contaminant concentrations, the extent of contamination, discharges, and other site conditions that pose unacceptable health risks or make remediation more difficult.¹⁷¹ The DEP created the Environmental Investigation Guidelines (the "EIG's") to standardize data reporting and final report submission, create consistency, and ensure that the data are necessary and valid, and that a thorough investigation of the site results.¹⁷² The EIG's are based on a four phase protocol.¹⁷³

Phase I involves a historical evaluation to ascertain the use and potential release of regulated substances at the site.¹⁷⁴ Phase II includes soil and groundwater screening to detect the release of regulated substances.¹⁷⁵ A more extensive determination of contamination occurs in Phase III, in which the horizontal extent and the vertical extent of contamination are determined.¹⁷⁶ Phase IV forms physical and chemical parameters to determine the effectiveness of remedial technology and pathway elimination options or, in the alternative, site specific data for developing a model and predicting possible movement of hazardous substances on the site.¹⁷⁷ Because the EIG's will be used for all remediation projects in Pennsylvania, the procedural requirements of the four-phase protocol are essential to the implementation of the Program and worth mentioning below.

a. PHASE I—Preliminary Site Evaluation

All of the information required by the Phase I Preliminary Site Evaluation can be obtained from existing sources.¹⁷⁸ The first

Standards. *Id.* Pre-approval reduces disagreement over sampling results, format, and evaluation methodology when the post-remediation final report is submitted. *Id.* Prior submission of work plans for DEP review and comment is required for Site Specific and Special Industrial Area cleanups. *Id.*

170. *Id.*

171. *Id.*

172. *Id.* The EIG's are the DEP's guidance for surface and subsurface environmental remediation and investigation. *Id.*

173. *Id.*

174. TECHNICAL MANUAL, *supra* note 73, ch. II, at 1. Phase I, referred to as Preliminary Site Evaluation, is to determine the existence of current remediation agreements that predate LRERSA. *Id.*

175. *Id.* Phase II is referred to as Initial Site Characterization. *Id.* ch. II, at 2.

176. *Id.* ch. II, at 1. Phase III is referred to as Final Site Characterization. *Id.* ch. II, at 2.

177. *Id.* ch. II, at 2. Phase IV is referred to as Site Remediation. *Id.*

178. *Id.* ch. II, at 4. American Society of Testing Materials ("ASTM") Guidance E 1527 and E 1528 are allowed to be used as sources for general guidance. *Id.* The

component of the Phase I Report is an explanation of the circumstances that prompted the Preliminary Site Evaluation.¹⁷⁹ The second component of the Phase I Report is a Site History identifying previous owners, uses, activity and investigations of the site.¹⁸⁰ The third component of the Phase I Report is a Site Description, in narrative or map form, including information regarding nearby water supplies, utility lines, wells, and features on the site and within 2500 feet of the site pertaining to parks, endangered species' habitats, and the like.¹⁸¹ The fourth component of the Phase I Report is a description of geology and

purpose of *E 1527* is "to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of [CERCLA]." *Id.*

179. TECHNICAL MANUAL, *supra* note 73, ch. II, at 4.

180. *Id.* First, the Site History must include a list of past and present owners and operators, including current mailing addresses and telephone numbers. *Id.* Secondly, LRERSA requires a description of past and present uses of the site, such as commercial, industrial, and manufacturing activities. *Id.* Third, LRERSA requires the Phase I Report to include chemicals and compounds "used, treated, stored, disposed or generated through past and present uses." *Id.* Fourth, the Site History Report must include a chronology of "on-site disposal methods for regulated substances including an identification of disposal areas and types and quantities of materials disposed." *Id.* The fifth requirement is a chronology of all releases to the environment to the site and adjacent properties. *Id.* Finally, the Site History must include "a brief description of inspections conducted by the . . . [DEP] or EPA, violations notices or administrative orders issued, and/or consent order and agreements executed. A list of any environmental permits issued for activities at the site including dates issued and, if applicable, dates expired or canceled." *Id.*

181. *Id.* The Site Description must include, but is not limited to, all of the following:

1. Site location representation including a site or topographic map at a scale of 1 inch = 200 feet;
2. The names and locations of private and public water supplies on and around the site;
3. The names, locations, and elevations of surface water bodies within 2500 feet of the site. This includes springs, streams, ponds, lakes, wetlands and natural dams and irrigation ditches;
4. The locations of municipal or private water supply lines, natural gas lines, sanitary or sewer lines, or other subsurface utility lines;
5. The locations of all on-site wells, floor drains, piping, septic systems, storage tanks, outdoor storage areas, and other places where chemicals were used, stored, treated, or disposed;
6. The present conditions of the site pertaining to releases, and identification of areas of uncontained aqueous and non-aqueous phase liquids (NAPL);
7. The location of coal mines, oil wells, mine pool discharge points, landfills, storage tanks, and surface disposal areas within 2500 feet of the site; and
8. The presence of "threatened or endangered species habitat, recreational river corridors, State and Federal forests and parks, historic and archaeological sites, National Wildlife refuges, State natural areas, prime farm land, wetlands, special protection watersheds designated under Chapter 93 (relating to water quality standards) and other features."

Id.

hydrogeology based on soil surveys, geologic maps, and reports on nearby properties.¹⁸² The fifth requirement of the Phase I report is an evaluation of short-term corrective action to reduce contaminant migration that can pose an immediate health risk, an immediate impact on the environment, or which could migrate off-site.¹⁸³ Finally, the Phase I Report must contain conclusions, interpretations and recommendations in regards to remediation of the industrial site.¹⁸⁴

b. Phase II—Initial Site Characterization

Phase II involves the preparation of a work plan and a report.¹⁸⁵ The Phase II Work Plan provides a summary of the Phase I information, a description of the areas to be investigated, and a conceptual model of site conditions.¹⁸⁶ The major component of the Phase II Work Plan is a site characterization which is designed to evaluate the chemical and physical characteristics of the site.¹⁸⁷ The Work Plan also must include a Sampling and Analysis Plan that identifies all regulated substances to be analyzed.¹⁸⁸ The Phase II Work Plan must also include a Quality Assurance/Quality Control Plan,¹⁸⁹ a Health and Safety

182. *Id.* ch. II, at 5.

183. *Id.* ch. II, at 6.

184. TECHNICAL MANUAL, *supra* note 73, ch. II, at 6. The conclusions should identify contaminated areas that warrant further study. *Id.* Completion of a Final Report should be considered if the Phase II initial site characterization reveals contaminant levels below the default Background Standards or Statewide Health Standards. *Id.* If the levels are above Background or Statewide Health Standards, then a Phase II EIG evaluation should be considered. *Id.*

185. *Id.*

186. *Id.*

187. *Id.* Site characterization must include site maps, surface drainage and water locations, proposed assessment reconnaissance techniques, proposed characterization and construction details of soil borings, piezometers and groundwater monitoring wells, proposed tests for estimating hydraulic properties of aquifers, and potentiometric surfaces, hydraulic gradients, and groundwater flow directions. *Id.* ch. II, at 6, 7.

188. *Id.* ch. II, at 7. The Sampling and Analysis Plan must sample groundwater in accordance with ASTM Standard D 4448. *Id.* Soil should be sampled in accordance with ASTM Standard D 4700, *Description and Sampling of Contaminated Soils: A Field Pocket Guide* (EPA/625/12-91-002), or other accepted methods. *Id.* The Sampling and Analysis plan should also include "proposed sampling of affected or potentially affected surface water bodies." *Id.* Also, the Sampling and Analysis Plan should include non-aqueous phase liquids ("NAPL") samples for physical properties and chemical composition. *Id.* ch. II, at 8.

189. TECHNICAL MANUAL, *supra* note 73, ch. II, at 8. The Quality Control Plan ensures "accuracy, precision, comparability, representativeness, and completeness of the data generated as relevant to sampling, analytical, and field measurement techniques." *Id.*

Plan,¹⁹⁰ Interim Measures,¹⁹¹ and a Schedule.¹⁹²

The Phase II Report should also provide a summary of the Initial Site Characterization including all areas of concern and an updated site model.¹⁹³ The approach, methods, results, and interpretation of the data obtained during Phase II must be included in the final Phase II Report.¹⁹⁴

c. Phase III—Final Site Characterization

Final Site Characterization, or Phase III, is a more focused extension of Phase II.¹⁹⁵ The necessity, extent, and details of Phase III is dependent on the results of the Phase II Initial Site Characterization.¹⁹⁶ Prior to implementing Phase III activities, a Work Plan should be submitted for DEP approval.¹⁹⁷ In addition to the requirements of a Phase II Work Plan, a Phase III Work Plan must include a proposed remediation technology.¹⁹⁸ A Phase III Report presents a more thorough understanding of site conditions.¹⁹⁹

190. *Id.* The DEP does not have authority to approve the Health and Safety Plan, which should adhere to applicable OSHA and NIOSH regulations. *Id.*

191. *Id.* The Interim Measures section considers any necessary short-term corrective action required as a result of immediate public health risks or immediate impacts on the environment. *Id.*

192. *Id.* The Schedule presents a timetable for implementation of the Phase II Work Plan and submission of the Phase II Report. *Id.*

193. *Id.*

194. TECHNICAL MANUAL, *supra* note 73, ch. II, at 8. The Phase II Report must include: an Executive Summary; Physical Site Characteristics; a characterization of the released materials; the source and extent of the release; Background concentrations, if the Background standard is chosen; the vertical and horizontal extent of contamination; affected aquifers; migration pathways; the estimated volume of contaminated water and soil; illustrations of Phase II results on a map; conclusions and recommendations for Phase III—Final Site Characterization; and, various appendices. *Id.* ch. II, at 8-10.

195. *Id.* ch. II, at 10.

196. *Id.*

197. *Id.*

198. *Id.* ch. II, at 11. "If a Site Specific Standard is selected, the remedy should be evaluated in accordance with the requirements of . . . [1995 Pa. Legis. Serv. at 33, § 304(j)]. The proposal may include a plan to bench test or pilot test the remedial option." *Id.* ch. II, at 11-12.

199. TECHNICAL MANUAL, *supra* note 73, ch. II, at 12. The Phase III Report must also provide a detailed discussion of the revised conceptual site model, include fate and transport interpretation, and support conclusions with data collected during the Phase II and Phase III Characterizations. *Id.*

d. Phase IV—Remediation

The final element of the Environmental Investigation Guidelines is Site Remediation, or Phase IV.²⁰⁰ Phase IV develops remediation actions that will achieve the remediation standard selected.²⁰¹ Site Remediation involves the following: a technical meeting,²⁰² Phase IV Cleanup Plan,²⁰³ Remedial Action Status Reports,²⁰⁴ and a Final Report.²⁰⁵

As noted above, the four-phase protocol is instrumental in implementing the Land Recycling Program. The protocol allows the DEP to become substantially involved in all remediation activities and provides a step-by-step process by which parties can proceed through the remediation process. Particularly, the strict investigation and reporting requirements ensure that no stone will be left unturned and no option left unconsidered in the remediation process. The required extent of Phase IV is directly related to the findings of Phases I, II and III.

7. Public Participation

In order to receive the liability protection available under LRERSA, persons must also observe public notice and involvement requirements.²⁰⁶ Specifically, municipal and public notice requirements arise at two stages of the remediation process—the initiating NIR and contemporaneously with the plans and reports submitted to the DEP for review or approval.²⁰⁷

The DEP encourages that the NIR contain the Phase I, II, and III EIG findings, which will provide information on site media contamination and site-related contaminants.²⁰⁸ In addition to

200. *Id.* ch. II, at 14.

201. *Id.* The purpose of the remedial action is to implement remedial technologies to achieve the standard. *Id.*

202. *Id.*

203. *Id.* The Phase IV Cleanup Plan summarizes the Phase III Site Characterization Report, interprets the conditions of the site, and discusses the remediation methods. *Id.*

204. TECHNICAL MANUAL, *supra* note 73, ch. II, at 16. The DEP recommends submission of quarterly reports that contain monitoring data from the Remedial Action Status Plans, the volume of material excavated, removed, or treated at the site, and an overall evaluation of the remediation, including proposed modifications. *Id.*

205. *Id.* All data necessary to demonstrate attainment must be incorporated into the Final Report. *Id.* When the standard is attained, all structures must be closed in accordance with ASTM D 5299. *Id.*

206. *Id.* ch. V, at 1.

207. *Id.* ch. V, at 2.

208. *Id.*

sending the NIR to the DEP, a copy of the NIR must be sent to the municipality where the site is located, and a summary of the NIR must be published in a newspaper of general circulation serving the area of the site.²⁰⁹ The DEP must receive proof of both publication and municipal notification, and then must publish an acknowledgement of the receipt in the Pennsylvania Bulletin.²¹⁰ Remediation at a Special Industrial Area, or under the Site Specific Standard, requires a 30-day public and municipal comment period.²¹¹ Remediation under the Background or Statewide Health Standard that demonstrates attainment of the standard when the final report is submitted within 90 days of the release does not require public notification of the NIR to the DEP.²¹² The public notification requirements are an attempt to involve all parties in the cleanup and remediation of Brownfields. No longer will ad hoc environmental remediation take place without notice to the public at large. Although public participation in the complex remediation process may be limited, the open-door policy allows citizens to maintain a voice in a problem that affects the entire community.

B. Limitations on Liability

The second prong of the Program focuses on limiting liability to various individuals and organizations which meet certain requirements. First, the Program limits future liability against a person who complies with the remediation standards outlined in the Program.²¹³ Under this protection, no liability can attach to these persons if the contamination had been previously contained in the report submitted to the DEP pursuant to the remediation action.²¹⁴ Furthermore, the Program also affords protection from citizen suits and contribution actions from other responsible persons.²¹⁵

Also, any person included in an SIA agreement²¹⁶ cannot be

209. TECHNICAL MANUAL, *supra* note 73, ch. V, at 3.

210. *Id.* The DEP may publish its comments on the content of the NIR. *Id.*

211. *Id.*

212. *Id.*

213. 1995 Pa. Legis. Serv. at 37, § 501. These remediation standards are explained in Part A of this Section. LRERSA provides liability protection to the following individuals: (1) the current or future owner of the identified property or any other person who participated in the remediation of the site; (2) a person who develops or otherwise occupies the identified site; (3) a successor or assign of any person to whom the liability protection applies; and (4) a public utility to the extent the public utility performs activities on the identified site. *Id.* § 501(a).

214. *Id.* § 501(a).

215. *Id.*

216. See *supra* notes 161-68 and accompanying text for a discussion of SIA

held liable under environmental laws via citizen suits, contribution actions by responsible persons not participating in the property's remediation, or any DEP action.²¹⁷ The person undertaking the cleanup under the SIA agreement can only be held liable for the costs of any immediate, direct or imminent threat to the public health or environment which would prevent the property from being occupied for its intended purpose.²¹⁸ The person acting under the SIA agreement is also relieved from liability for the remediation of any contamination identified in the environmental report to the DEP.²¹⁹

The Pennsylvania General Assembly also included within the program a clear and concise statutory limitation of liability for economic development agencies, commercial lenders and trustees.²²⁰ The Assembly cited several policy declarations, many of which have been discussed in this comment,²²¹ that formed the basis for the need of liability limitation legislation.²²²

However, for whatever policy reasons the General Assembly may have cited, the Program is quite clear and unambiguous. The Program is broad and all-encompassing because it limits the liability of EDA's and lenders not only under Pennsylvania's Superfund law (HSCA) but also virtually every other environmental protection act in the Commonwealth.²²³

The lender liability provisions of the Program affect three broad classes of organizations: economic development agencies,

agreements.

217. 1995 Pa. Legis. Serv. at 37-38, § 502. The DEP may, however, bring suit to enforce the terms of the SIA agreement. *Id.*

218. *Id.* § 502(b)(1).

219. *Id.* Of course, an SIA agreement does not relieve any person from liability for contamination later caused by that person on the property. *Id.*

220. *Id.* §§ 1-14.

221. See *supra* notes 6-35 and accompanying text for a discussion of many of the implications of both federal and state Superfund laws.

222. 1995 Pa. Legis. Serv. at 43-44, § 2. The General Assembly noted thirteen policy declarations in the bill, essentially maintaining that economic development agencies have become reluctant to fund or develop former industrial sites and that commercial lenders refuse to foreclose on industrial property for fear of liability, leaving many sites abandoned and producing a lack of funding for development. *Id.*

223. The Program limits liability for EDA's and lenders that potentially could arise under the following laws: The Clean Streams Law, PA. STAT. ANN. tit. 35, § 691.1, The Air Pollution Control Act, PA. STAT. ANN. tit. 35, § 4001, The Solid Waste Management Act, PA. STAT. ANN. tit. 35, § 6018.101, The Worker and Community Right-to-Know Act, PA. STAT. ANN. tit. 35, § 7301 (1993), The Infectious and Chemotherapeutic Waste Law, PA. STAT. ANN. tit. 35, § 6019.1, The Hazardous Sites Cleanup Act, PA. STAT. ANN. tit. 35, § 6020.101, The Storage Tank and Spill Prevention Act, PA. STAT. ANN. tit. 35, § 6021.101, The Hazardous Material Emergency Planning and Response Act, PA. STAT. ANN. tit. 35, § 6022.101 (1993) and The Oil Spill Responder Liability Act, PA. STAT. ANN. tit. 35, § 6023.1 (1993).

commercial lenders and fiduciaries.²²⁴ Under the economic development agency section, an EDA²²⁵ that holds an indicia of ownership²²⁶ in property as a security interest for purposes such as developing or redeveloping the property, or even to finance an economic development or redevelopment activity can avoid liability under any environmental act in four ways.²²⁷ First, an EDA cannot be held liable as a "responsible person," unless the EDA directly causes an immediate release, or directly contributes to a release of a regulated substance on or from the property.²²⁸ Second, an EDA "which forecloses on or assumes

224. 1995 Pa. Legis. Serv. at 47-49, §§ 4-6.

225. The Program defines "economic development agencies" as including:

- (1) any redevelopment authority created under the Urban Redevelopment Law;
- (2) any industrial development agency as that term is defined in the Pennsylvania Industrial Development Authority Act;
- (3) any industrial and commercial development authority created under the Economic Development Financing Law;
- (4) any area loan organization as that term is defined in the Capital Loan Fund Act;
- (5) any other Commonwealth or municipal authority which acquires title or an interest in property;
- (6) Municipalities or municipal industrial development or community development departments organized by ordinance under a home rule charter which buy and sell land for community development purposes;
- (7) tourist promotion agencies or their local community-based nonprofit sponsor which engage in the acquisition of former industrial sites as part of an "Industrial Heritage" or similar program;
- (8) conservancies engaged in the renewal or reclamation of an industrial site.

1995 Pa. Legis. Serv. at 45, § 3.

226. "Indicia of ownership" is defined in the Program as:

Any legal or equitable interest in property acquired directly or indirectly:

- (1) for securing payment of a loan or indebtedness, a right of reimbursement or subrogation under a guaranty or the performance of another obligation;
- (2) evidencing ownership under a lease financing transaction where the lessor does not initially select or ordinarily control the daily operation or maintenance of the property; or
- (3) in the course of creating, protecting or enforcing a security interest or right of reimbursement of subrogation under a guaranty.

The term includes evidence of interest in mortgages, deeds of trust, liens, surety bonds, guaranties, lease financing transactions where the lessor does not initially select or ordinarily control the daily operation or maintenance of the property, other forms of encumbrances against property recognized under applicable law as vesting the holder of the security interest with some indicia of title.

1995 Pa. Legis. Serv. at 46, § 3.

227. 1995 Pa. Legis. Serv. at 47-48, § 4.

228. *Id.* The final version of the statute omitted sections which stated that an EDA would be exempt from liability upon satisfying one of three conditions:

- (i) The economic development agency exercised reasonable maintenance of the property when it had possession of the property.
- (ii) The economic development agency, including its employees and agents did not cause or exacerbate a release of regulated substances on or from the prop-

possession of a property shall remain within the exemption from liability under the Program.²²⁹ Third, an EDA that conducts remedial action in accordance with an agreement with the DEP cannot be held liable as a "responsible party, owner, operator or occupier . . . for a release or potential release of any regulated substance."²³⁰ Fourth, an EDA cannot be held liable as long as it cooperates with government agencies performing a remedial action, by taking no action inconsistent with the government agency action and by allowing access by the agencies to the property.²³¹

Limitations to lender liability are likewise set out in detail under the Program.²³² The scheme which limits liability to lenders is no less clear and unambiguous than the EDA limitation provisions.²³³ No commercial lender may be held liable by virtue of the fact that the lender engages in commercial lending practices except for two limited exceptions.²³⁴ The first exception permits liability to be imposed upon a lender if the lender, its employees or agents directly cause an immediate release or directly exacerbate a release of regulated substances on or from the property.²³⁵ Second, liability could be imposed on a lender if the lender, its employees or agents knowingly and willfully compel a borrower to cause an immediate release of regulated substances or knowingly and willfully cause the borrower to violate an environmental act.²³⁶

Even though the exceptions to liability appear to be very limited, the Program adds further limitations in the event that one of the exceptions could be shown.²³⁷ First, the Program limits any liability that may be imposed under the exceptions to the costs

erty.

(iii) The property is an industrial site.

Id. The General Assembly, in omitting these technical elements and replacing them with the "directly causes" language of the final version, again expresses the active intent of a clear, concise and unambiguous limitation of liability.

229. *Id.* § 4(2).

230. *Id.* § 4(4)(iii).

231. *Id.* § 4(4).

232. 1995 Legis. Serv. at 48, § 5. The program pertains to lenders who "engage in activities involved in the routine practices of commercial lending, including, but not limited to, the providing of financial services, holding of security interests, work-out practices, foreclosure or the recovery of funds from the sale of property." *Id.* § 5(a).

233. See *supra* notes 220-21 and accompanying text for a discussion of the General Assembly's clear intent of limiting liability under the Program.

234. 1995 Pa. Legis. Serv. at 48, § 5(a).

235. *Id.* § 5(a)(1).

236. *Id.* § 5(a)(2)(i)-(ii).

237. *Id.* § 5(b).

for a response action which may be "directly attributable" to the lender's activities.²³⁸ Second, the lender can only be held liable for the portion of the response action needed that arises from a release of regulated substances that occurred after foreclosure commenced.²³⁹ Third, if the lender discovers a regulated substance in the course of conducting environmental due diligence, such a release of regulated substances will be considered a prior release, thereby insulating the lender from liability.²⁴⁰

The third class of individuals or organizations which enjoys the limitations to environmental liability under the Program is fiduciaries.²⁴¹ The scheme limiting fiduciary liability is similar to the EDA and lender liability limitations, yet tailors the limitations to the factual circumstances surrounding fiduciary administration.²⁴² Fiduciary environmental liability cannot be imposed on one acting as a fiduciary unless three factors are met.²⁴³ First, an event which constituted a release of a regulated substance must have occurred at the time when the fiduciary services were actively provided.²⁴⁴ Second, the fiduciary must have had the express power and authority to control the property in question.²⁴⁵ Third, the fiduciary must have acted with gross negligence or willful misconduct.²⁴⁶

The liability limitation provisions are vital to the participation in the remediation process of those parties most able to afford the costs and risks of remediation. Without liability protection, the Brownfields problem persists. However, with a co-existent remediation program, liability protection provides the missing ingredient—financial incentive—for undertaking the cleanup of an industrial site. The potential for profit motivates developers and lenders to invest money in industrial sites which may have valuable infrastructure, but are suspected of containing high levels of contamination. The intent of the Program appears to fo-

238. *Id.* Further, the lender's actions must be the "proximate and efficient cause" of the release or violation. *Id.*

239. 1995 Pa. Legis. Serv. at 48, § 5(b).

240. *Id.*

241. *Id.* § 6. The Program broadly defines "fiduciary" as any person who is considered such under the Employee Retirement Income Security Act of 1974, 29 U.S.C. § 1002(21) (1994), or anyone who "acts as trustee, executor, administrator, custodian, guardian of estates, conservator, committee of estates of persons who are disabled, personal representative, receiver, agent, nominee, registrar of stocks and bonds, assignee or in any other capacity for the benefit of another person." *Id.* § 3.

242. *Id.* § 6.

243. *Id.* § 6(b).

244. 1995 Pa. Legis. Serv. at 48, § 6(a)(1).

245. *Id.* § 6(a)(2).

246. *Id.* § 6(a)(3).

cus on obtaining financial contribution not through the imposition of liability, but rather through rewarding parties which contribute with limited liability and the possibility of a return on investment.

C. Funding

The third portion of the Program provides for the funding of various activity undertaken in compliance with the program.²⁴⁷ LRERSA creates two funds to financially assist parties seeking remediation,²⁴⁸ and the separate Industrial Sites Environmental Assessment Act (the "ISEAA") creates a third fund to provide grants for conducting environmental assessments of industrial sites.²⁴⁹

The first of the two funds created under LRERSA is the Industrial Land Recycling Fund (the "LRF").²⁵⁰ The purpose of the LRF is to stimulate industrial remediation activity and allow for the efficient implementation of the Program by the department.²⁵¹ Funds for the LRF originate from several sources, including the General Assembly, federal government, private contributions and fines and penalties paid under the Program.²⁵² These funds are to be utilized for the internal operations of the DEP in implementing the Program.²⁵³

The second fund created under LRERSA is the Industrial Sites Cleanup Fund (the "ISCF").²⁵⁴ The ISCF provides financial assistance to parties who undertake a voluntary cleanup of contaminated property.²⁵⁵ The financial assistance can be in an amount up to 75% of the cost incurred in completing an environmental study or implementing a cleanup plan by an eligible applicant.²⁵⁶

Several different categories of parties are eligible to receive funding from the ICSF.²⁵⁷ Political subdivisions or local EDA's

247. *Id.* §§ 701-703; *Id.* §§ 1-6.

248. 1995 Pa. Legis. Serv. at 39-40, §§ 701-703.

249. *Id.* §§ 1-6.

250. *Id.* § 701.

251. *Id.* § 701(b). The Governor approves the appropriation of monies from the fund. *Id.* § 701(c).

252. *Id.* § 701(c).

253. 1995 Pa. Legis. Serv. at 39, § 701(c).

254. *Id.* § 702.

255. *Id.* § 702(b). The funding is only available to parties who did not cause or contribute to the contamination on the property that was used for industrial activity. *Id.*

256. *Id.* The financial assistance may be in the form of grants or low-interest loans at a 2% rate. *Id.*

257. *Id.* § 702(c).

may receive grants or loans from the ICSF if these parties own the site on which the cleanup is being conducted and the parties are overseeing the cleanup.²⁵⁸ However, the real crux of the financial assistance under the ISCF is set forth in Section 702(e).²⁵⁹ Priorities include public benefit, cost effectiveness, the applicant's financial capabilities, and the potential for future development.²⁶⁰

In addition to the two funds created under LRERSA, the Program also establishes the Industrial Sites Environmental Assessment Fund (the "ISEAF").²⁶¹ The ISEAF provides grants for conducting environmental assessments on industrial sites.²⁶² The ISEAF allows the DOC to make grants to local authorities, municipalities, nonprofit economic development agencies and similar agencies so that these parties can conduct environmental assessments of industrial sites which have been designated as distressed communities.²⁶³ The ISEAF allows further funding by the Department of Commerce (the "DOC") to cities to conduct environmental assessment and remediation of industrial sites on which industrial activity was previously conducted.²⁶⁴

V. CONCLUSION

As discussed at the outset of this comment, the ramifications of a "polluter pays" liability-based environmental responsibility

258. 1995 Pa. Legis. Serv. at 39, § 702(c). However, the total amount of grants awardable to these parties cannot exceed 20% of the total amount of the ISCF. *Id.*

259. *Id.* § 702(e).

260. *Id.* Section 702(e) outlines the priorities for financial assistance and mandates that the Department of Commerce (the "DOC") take into account all of the following factors when determining which applicants are to receive financial assistance: (1) the benefit of the remedy to public health, safety and the environment; (2) the permanence of the remedy; (3) the cost effectiveness of the remedy in comparison with other alternatives; (4) the financial condition of the applicant; (5) the financial or economic distress of the area in which the cleanup is being conducted; and (6) the potential for economic development.

Id. The DOC is required to consult with the DEP when determining priorities under the ISCF. *Id.* The emphasis in this section on factors such as the financial condition of the applicant, the financial or economic distress of the area and the potential for economic development signifies the legislative intent to assist the very brownfield areas which are the focus of this comment. *Id.* See *Pennsylvania Governor, supra* note 69.

The source of funding for the ISCF is: General Assembly appropriations, transferred funds from the HSCA fund, outstanding loan repayments under the ISCF, and interest from the loans under the ISCF. 1995 Pa. Legis. Serv. at 40, § 702(g).

261. *Id.* §§ 1-6.

262. *Id.*

263. 1995 Pa. Legis. Serv. at 43-44, § 2.

264. *Id.* § 2(c).

scheme can be damaging to the purposes of the legislation. Yet, the strict liability-based approach to environmental protection may have been a necessary forerunner to the result-based approach demonstrated by Pennsylvania's Land Recycling Program. What was needed at the time of CERCLA's enactment, and later when Pennsylvania's HSCA was passed, was an approach that included everyone in the environmental cleanup process, at whatever cost. However at this point in the process, an incentive-based scheme more efficiently encourages affirmative action by capable parties to effect environmental cleanup.

Avoidance behavior is prevalent among financial institutions, economic development agencies and other industrial owners and investors. In other words, if individuals and organizations that seek to develop and invest in real estate can be held liable for millions of dollars in damages for cleanup costs of former industrial sites, these individuals and organizations will take their business elsewhere. When this occurs, more Brownfields arise and Greenfields become scarce. Further, avoidance behavior is likewise prevalent when parties undertake remediation, i.e., the most cost-effective method is always utilized. The Program addresses both of the aforementioned dilemmas.

Pennsylvania's Land Recycling Program focuses not on liability and punishment, but on returning Brownfields to productive use. At last, the legislature has realized that what is important in protecting the environment is reaching the result—a safer environment—rather than catching the "rascal." The Program's best attribute is its focus on providing clear standards and guidelines that will result in the cleanup of industrial sites, while preventing parties from avoiding "real" remediation. Likewise, vital to the Program is its targeting of parties capable and willing to undertake environmental cleanup and keeping these parties free from liability while providing standards and funding for development.

The enforcement-based approach stemming from the public outrage surrounding environmental damage has been replaced by an analytical framework based on results. In fact, Pennsylvania's incentive-laden Land Recycling Program is being used as a model to amend CERCLA as it comes up for reauthorization in the next year.²⁶⁵ Ideally, a broad-based, uniform combination of federal and state legislation that provides incentives for industry and investment organizations to clean up industrial sites will lead to a two-fold utopia: (1) a cleaner and safer environment; and (2)

265. Klodowski, *supra* note 16, at 29.

benefits to those organizations and individuals who are responsible for the better environment. The Program provides the impetus to return Brownfields, the former foundation of Pennsylvania's economy, to their productive role as catalysts in the Commonwealth's industrial development and growth.

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