

**BUSINESS DEVELOPMENT TECHNICAL SEMINAR  
BROWNFIELDS PROGRAM**

INTRODUCTION

PURPOSE

REVIEW THE OVERALL BROWNFIELDS PROGRAM

REVIEW NEW NATIONAL INITIATIVES

REVIEW COMPETITION

REVIEW IT'S PROPOSED APPROACH AND ROLES IN THE MARKET

REINFORCE THAT IT WILL BE A PLAYER

*ENCLOSURES:*

1. "RISK-BASED BROWNFIELDS PROPERTY DEVELOPMENT".  
CYNTHIA A. HASSAN.
2. "STATE OF THE STATES ON BROWNFIELDS: PROGRAMS FOR  
CLEANUP AND REUSE OF CONTAMINATED SITES". OFFICE OF  
TECHNOLOGY ASSESSMENT.
3. " INNOVATIVE STATE APPROACHES TO VOLUNTARY CLEANUP  
PROGRAMS AND BROWNFIELDS REDEVELOPMENT". KENNETH S.  
KAMLET.
4. "EPA AND CITIES SEE GREEN IN CLEANUP OF "BROWNFIELDS"  
SITES". ENR, NOVEMBER 6, 1995.
5. "LIST OF CITIES RECEIVING EPA BROWNFIELDS GRANTS"

# **INTERNATIONAL TECHNOLOGY** **CORPORATION**

## ***INTRODUCTION***

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### ***PURPOSE OF SEMINAR***

- EDUCATION AND EXCHANGE OF INFORMATION
- REVIEW THE OVERALL NATIONAL MOVEMENT
- REVIEW NEW NATIONAL INITIATIVES
- REVIEW COMPETITION
- REVIEW IT'S PROPOSED APPROACH AND ROLES IN THE MARKET
- REINFORCE THAT IT WILL BE A PLAYER

**REVIEW THE NATIONAL BROWNFIELDS PROGRAM****BACKGROUND**

- **DEFINITION**

"BROWNFIELDS ARE ABANDONED, IDLED OR UNDER USED INDUSTRIAL AND COMMERCIAL FACILITIES WHERE EXPANSION OR REDEVELOPMENT IS COMPLICATED BY REAL OR PERCEIVED ENVIRONMENTAL CONTAMINATION".

- **MARKET SIZE ACCORDING TO GAO**

- 425,000 SITES
- CLEANUP COST ESTIMATE OF \$650 BILLION
- TOP TEN BROWNFIELDS STATES BASED ON NUMBER OF CERCLIS SITES:

CALIFORNIA	3,099
PENNSYLVANIA	2,916
TEXAS	2,597
MICHIGAN	1,730
NEW YORK	1,694
NEW JERSEY	1,678
ILLINOIS	1,662
INDIANA	1,627
OHIO	1,313
MISSOURI	1,288

- OVERALL PROGRAM IS DEFINITELY IN THE INFANCY

**REVIEW THE NATIONAL BROWNFIELDS PROGRAM (Cont.)**

**MARKET FORCES (REAL ESTATE DEVELOPMENT)**

- **RECOGNITION IN MARKET THAT THERE ARE SIGNIFICANT OPPORTUNITIES FOR REDEVELOPMENT**
  - **MANAGING THE STIGMA WITH REAL ESTATE INVESTORS AND FINANCIAL INSTITUTIONS HAS CREATED A PARADIGM SHIFT BECAUSE:**
- 1) **EPA DELISTING**
  - 2) **STATE VOLUNTARY PROGRAMS**
  - 3) **ABILITY TO QUANTIFY AND MANAGE RISK**

**RECENT INSURANCE INSTRUMENTS**

- **STOP LOSS REMEDIATION INSURANCE**
  - **ENVIRONMENTAL LIABILITY INSURANCE**
  - **PROSPECTIVE PURCHASER AGREEMENTS**
- **INFORMED AND AGGRESSIVE PARTIES ARE MOVING FORWARD**

**NATIONAL INITIATIVES**

- U.S. CONFERENCE OF MAYORS HAS ASKED PRESIDENT CLINTON TO MAKE BROWNFIELDS REDEVELOPMENT A MAJOR PART OF THE FY97 BUDGET.
- REP. BILL COYNE (PA) INTRODUCED A BILL TO PROVIDE A 50% TAX CREDIT FOR ENVIRONMENTAL REMEDIATION EXPENSES INCURRED DURING A BROWNFIELDS REDEVELOPMENT PROJECT.
- REP. PAUL MCHALE (PA) HAS INDICATED THAT HE WILL INTRODUCE × LEGISLATION THAT WILL REMOVE LIABILITY BARRIERS WHICH INCLUDE:
  - THREATS OF LIABILITY TO SITE OWNERS, PROSPECTIVE × BUYERS AND LENDERS
- ADDITIONAL STATES ARE ENACTING STATE VOLUNTARY PROGRAMS.

**COMPETITION (Cont.)**

- **TOTAL BUSINESS SOLUTION (TBS)- STRATEGIC ALLIANCE FOCUSED ON BROWNFIELDS SOLUTIONS AND OVERALL CORPORATE LIABILITY MANAGEMENT PROGRAMS. INCLUDES:**

FLUOR DANIEL  
HOWREY & SIMON  
NORTH AMERICAN REALTY ADVISORY SERVICE  
CAPITAL ENVIRONMENTAL

- **ENSR- STRATEGIC ALLIANCE WITH KOL DEVELOPMENT CORPORATION TO PROVIDE REMEDIATION SERVICES.**
- **MANY OTHER CONSULTING AND REMEDIATION COMPANIES (WESTON, GROUNDWATER TECHNOLOGY, RETEC, ETC HAVE INTERNAL BROWNFIELDS INITIATIVES.**
- **NO CLEAR MARKET LEADER.**

**ONLY A FEW INTEGRATED FIRMS ACTUALLY ACQUIRING AND REDEVELOPING PROPERTY**

**IT'S APPROACH AND ROLES IN THE MARKET (Cont.)****IT POSITIONS IN THE MARKET PLACE**

- BECAUSE OF THE COMPLEXITY OF THE PROGRAM, IT WILL INITIALLY MAINTAIN FLEXIBILITY AND INVESTIGATE THE FOLLOWING POSITIONS ON A CASE-BY-CASE BASIS.
  - ALTERNATIVE 1. DEVELOP ALLIANCES OR SPECIALIZED TEAMING ARRANGEMENTS WITH BROKERS THAT SPECIALIZE IN PUTTING TOGETHER DEALS TO PURCHASE AND SELL PROPERTIES.
  - ALTERNATIVE 2. PROVIDE CONSULTING SERVICES AND/OR REMEDIATION SERVICES TO OWNERS FOR VOLUNTARY CLEAN-UP EFFORTS.
  - ALTERNATIVE 3. SET UP A SEPARATE COMPANY THAT WILL PURCHASE, REMEDIATE AND DISPOSE OF CONTAMINATED SITES.
  - ALTERNATIVE 4. TAKE ON CLEANING UP BROWNFIELDS SITES ON A CASE-BY-CASE BASIS WITH IT FUNDING OF RECEIVABLES, CHARGING INTEREST FOR A CONTRACTUALLY SPECIFIC TIME FRAME UNTIL THE PROPERTY IS SOLD.
  - ALTERNATIVE 5. COMBINATIONS OF THE VARIOUS APPROACHES AS WELL AS OTHERS.
- IT WILL NOT FOCUS ON THE FEDERAL GRANT PROGRAM, UNLESS A CLIENT OR CONSORTIUM WANTS IT TO BE PART OF THE OVERALL TEAM.

**IT'S APPROACH AND ROLES IN THE MARKET (Cont.)*****PHASE II. DETAILED REGULATORY ANALYSIS AND PLAN PREPARATION FOR GROUP I***

- CONTACT STATE REGULATORY AGENCIES FOR INTELLIGENCE
- BUILD A NOTEBOOK FOR EACH STATE ON REGULATORY REQUIREMENTS, ETC.
- DEVELOP A SPECIFIC APPROACH BY EACH STATE
- DEVELOP MARKETING APPROACH/CLIENT TARGETS
  - LAW FIRMS
  - BANKS
  - NATIONAL CLIENTS (CORPORATE COUNSEL, REAL ESTATE DEPARTMENTS, ENVIRONMENTAL DEPARTMENTS
  - REAL ESTATE DEVELOPERS
- DEVELOP MARKETING MATERIAL AND MAKE ASSIGNMENTS FOR IMPLEMENTATION

***PHASE III. IMPLEMENT PLAN***

- COMPLETE THE DETAILED BUSINESS PLAN
- IMPLEMENT A FORMAL REVIEW MONTHLY PROGRESS REVIEW
- REPEAT THE SAME STEPS FOR THE REMAINING STATES IN GROUPS II AND III

***ENCLOSURE 1***

# **Risk-Based Brownfields Property Development**

**BY**

**Cynthia A. Hassan  
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## ***Abstract***

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Amidst the changing perspectives in environmental policy within the federal government, the USEPA has moved forward to create incentives for cleaning up contaminated sites. USEPA Administrator Carol Browner has described the USEPA's "Brownfield Action Agenda" and the "Brownfields Economic Initiative." The purpose of this paper is to describe the primary concepts of the brownfields strategy both by the federal and state governments, provide examples of the federal pilot projects or state-lead voluntary projects, and discuss the incorporation of the brownfields concept into the risk assessment approach at appropriate sites. "Brownfields" are defined as abandoned or unused commercial/industrial properties in urban areas and are in contrast to "greenfields" which are pristine sites typically located in suburban or rural areas. The goal of the brownfields strategy is to encourage the redevelopment of brownfield sites by identifying and removing impediments to redevelopment. Such impediments have historically included legal liabilities and high cleanup costs. The primary tenets underlying the strategy include limiting liability for innocent parties, building consensus among stakeholders, and creating flexibility for local decision-makers.

USEPA's brownfields strategy is further being addressed at the regional level. One example is the Proposed Region V Brownfields Strategy. When Region V began working on a strategy for brownfields, it was recognized that the state governments within the region had already developed or were in the process of developing programs to deal with brownfield issues. These strategies generally take the form of a voluntary cleanup program. The rules and guidance supporting these programs are in various stages of completion among the six states. Therefore, USEPA Region V has acknowledged that state governments should properly lead the brownfields redevelopment effort. The regional document describes the mechanisms by which the USEPA will lend support to the states programs.

sprawl". Furthermore, the relocation of these commercial and industrial resources have potential implications for environmental and economic justice issues since many of these sites are located in disadvantaged communities (USEPA Region V, 1994).

## ***2.0 Features of U.S. EPA's Brownfields Action Agenda***\_\_\_\_\_

In order to re-direct land use planning and stimulate re-development of brownfield sites, the USEPA has identified several steps and implemented a number of programs to address brownfield issues (USEPA, 1995a). The agency describes the agenda as a "work in progress" that is implemented under a wide variety of programs which address USEPA's goals. These goals can be generally categorized as:

- Removal of legal obstacles
- Reduction of costs
- Flexibility in the development of cleanup standards
- Funding of state and local government pilot projects
- Assistance to State Voluntary Cleanup Programs

### ***2.1 Removal of Legal Obstacles***

Several proposals have been advanced in order to limit the liability of current and future property owners at brownfield sites. In her introduction of the agenda, USEPA Administrator Carol M. Browner announced that, of the 38,000 sites in the Superfund inventory (CERCLIS), 25,000 sites would be deleted (Browner, 1995). She acknowledged that once a site was entered into CERCLIS, it was very difficult to remove—even in cases where there was no contamination. Therefore, she has proposed that those sites that no longer belong on the list be removed and no longer subject to the requirements of Superfund.

Relief from potential litigation also includes Prospective Purchaser Agreements which will expand the circumstances under which EPA will enter into agreements that promise not to file a lawsuit against a prospective purchaser of contaminated property for the contamination that existed before the purchase. Similar mechanisms will be made available to municipalities that often must assume ownership of abandoned or previously used property.

Another example of limiting liability concerns contaminated groundwater. Owners of property situated above groundwater that has been contaminated by neighboring facilities are concerned that they may be held responsible for cleanup. USEPA plans to issue a general policy statement assuring that USEPA does not anticipate suing owners under these circumstances.

### ***2.3 Flexibility in Development of Cleanup Levels***

In order to expedite cleanups in a more cost-effective and realistic manner, USEPA has modified its approach to developing cleanup levels for brownfield sites. Risk assessment policy within the Superfund program has traditionally required that the residential land use scenario be assumed in the evaluation of future exposures for most sites. Under the brownfields action agenda, the USEPA will allow more flexibility in the development of cleanup levels so that industrial/commercial exposure assumptions can be applied at sites which are intended to remain industrial/commercial properties. For example, risk-based numbers could be calculated on the basis of protecting a worker on the site during the course of a work day or an activity rather than protecting adults and children who would reside at a site if it were developed into residential property. Due to differences in the exposure variables used in each of the calculations, cleanup levels based upon occupational activities are less stringent. However, in cases where cleanup levels are based upon industrial/commercial scenarios, a deed restriction is typically required for the property.

USEPA intends to publish guidance which addresses land use issues (USEPA, 1995b). Although this document will be primarily developed for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) program, USEPA emphasizes community involvement in designating future land use and offers flexibility in considering site-specific land use plans.

### ***2.4 Funding of Pilot Programs***

Another important feature of the agenda is USEPA's funding of Economic Redevelopment Pilots. USEPA plans to fund at least fifty brownfield pilots in 1995 and 1996 at up to \$200,000 each to support creative two-year demonstrations of redevelopment solutions (Browner, 1995). The intent is to use these pilot sites as laboratories to test models, provide guidance and bring together communities and investors to return the land to productive use. Cities within federally designated Empowerment Zones (EZ) and Enterprise Communities (EC) are encouraged to apply for these pilots. Federally funded pilot programs are currently in progress in Cleveland, Ohio; Bridgeport, Connecticut; and Richmond, Virginia. For example, the Cleveland, Ohio pilot program involves two local education institutions joined with the Cuyahoga County Planning Commission (CPC) in a pilot program to assess and increase the redevelopment potential for contaminated, unused urban lands (USEPA, 1995c). Urban workforce training issues and environmental education and awareness at the community level will be explored by the educational institutions. Cuyahoga Community College will

- State issuance of a covenant-not-to-sue or equivalent document at site completion—limited to existing contamination —but designed to bring closure to liability issues at hand and designed to satisfy the lending community, and
- Remedies directly related to the future use of the site.

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USEPA Region V has stated in its guidance that owners of property will know, for example, that "if they clean up their site in accordance with a state voluntary cleanup program which Region V supports, federal Superfund activities, in the absence of new contamination of the site, would be unlikely. This will not eliminate risk entirely, but will enable investors to make informed decisions" (USEPA, Region V, 1995). This intention will be reflected in a "comfort letter" issued by USEPA Region V to the property owner.

### 3.0 Role of Risk Assessment in Voluntary Cleanup Programs—

States in Region V have developed their own risk assessment policies. From a technical standpoint, the risk assessment process has the potential to figure significantly in the approaches used for brownfield sites, in general, and state voluntary cleanup programs, in particular. The assumptions for these values vary with each state. However, most states allow for application of industrial/commercial exposure calculations under the future land use assumption at brownfield sites. The first comparison that can be made is between the default assumptions for the residential and industrial/commercial scenarios that the Superfund guidance documents allow for the calculation of risk or calculation of Preliminary Remediation Goals (PRGs, USEPA, 1991a). These values are compared in the following table.

**Comparison of Standard Default Exposure Factors**

Land Use	Exposure Pathway	Daily Intake Rate	Exposure Frequency	Exposure Duration	Body Weight
Residential	Ingestion of potable water	2 liters	350 days/year	30 years	70 kg
	Ingestion of soil and dust	200 mg (child) 100 mg (adult)	350 days/year	6 years 24 years	15 kg (child) 70 kg (adult)
	Inhalation of contaminants	20 m <sup>3</sup> (total) 15 m <sup>3</sup> (indoor)	350 days/year	30 years	70 kg
Commercial/ Industrial	Ingestion of potable water	1 liter	250 days/year	25 years	70 kg
	Ingestion of soil and dust	50 mg	250 days/year	25 years	70 kg
	Inhalation of contaminants	20 m <sup>3</sup> /workday	250 days/year	25 years	70 kg

Source: U.S. Environmental Protection Agency, 1991b.

calculated by the Agency using traditional assumptions from Superfund guidance. Tier II allows for different types of sites such as industrial and residential. Tier III allows for a hybrid approach utilizing risk-based models with established default values for both residential and non-residential scenarios. This tier would be applied for sites with unique types of contaminants, environmentally sensitive conditions or other site-specific conditions.

### ***3.3 Michigan Environmental Response Act (Section 307)***

Although the state does not have a voluntary cleanup program per se, provisions of the Environmental Response Act (1982 PA 307, as amended) and Environmental Bond Program (1988 PA 328) provide tools to help state and local governments and private developers to return sites to productive use (Michigan Department of Natural Resources, 1994). The state has established cleanup standards for both soil and water that allow unrestricted use of the property. However, Michigan's cleanup standards allow the person(s) implementing the cleanup to select levels of remediation that will protect human health and natural resources, but are tailored to specific existing or proposed land uses. There are three choices in the determination of cleanup levels. Type A levels are background levels or chemical detection limits. Type B is comprised of risk-based, pre-determined values based on residential scenarios. Type C allows for a risk assessment to be performed using site-specific assumptions (Indiana DEM, 1994).

### ***3.4 Minnesota Voluntary Investigation and Cleanup (VIC) Program***

Under the Voluntary Investigation and Cleanup (VIC) Program for the State of Minnesota (Minnesota Pollution Control Agency, 1994), voluntary response actions must meet the same standard for protection of public health and welfare and the environment that apply to Superfund sites. Where groundwater is or could be used as a drinking water supply, contaminated groundwater must be restored to be acceptable as a potable water supply. In these cases, groundwater cleanup and degradation prevention goals are contingent upon site-specific evaluation of risks and based on the following: Minnesota Department of Health (MDH) Recommended Allowable Limits (RALs), MDH Health Risk Limits (HRL), and 1 in 100,000 cumulative risk for carcinogens or USEPA Maximum Contaminated Limits (MCLs) whichever is more stringent (Minnesota Pollution Control Agency, 1993a). The procedures for soil cleanup levels include establishing cleanup levels for the following routes of exposure: ingestion, dermal contact, inhalation of contaminated particulates, and soil to groundwater. The first three routes of exposure are based on procedures from RAGS (USEPA, 1989). The soil-to-ground water route assumes that groundwater immediately beneath the contaminated soil is the point of groundwater use. A model was developed to establish numerical cleanup

food chain exposures, surface water quality and terrestrial ecosystems. The regulations further require that soil cleanup standards account for protection of groundwater at the site.

Procedures for determining cleanup standards include two options: 1) generic residual contaminant levels which are determined by using tables and methods published in the regulation and 2) a site-specific process. The site-specific process may be used when residual contaminant levels are not practicable to achieve. Although further land use is expected to be classified as non-industrial, the industrial land use scenario is acceptable if certain criteria are met. These criteria are outlined in the regulation. The regulation also specifies default exposure assumptions for both non-industrial and industrial land use.

#### ***4.0 Future Opportunities***

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As USEPA continues to refine programs and policies under the Brownfield Action Agenda and states become more involved in existing or emergency voluntary cleanup programs, the role of consultants in assisting owners, developers, lenders and other interested parties with the technical, legal and financial processes will continue to increase. In order to meet the needs of clients with potential brownfield sites, careful tracking of developments on the federal, state and local levels will be imperative. Since public involvement is a key component of these programs, information in the form of information packets, guidance documents, fact sheets and newsletters tends to be relatively accessible.

In addition to having a thorough understanding of the technical aspects of brownfield redevelopment or voluntary cleanup programs, it may be necessary to interpret the legal implications—especially in cases where property transfer is involved. Engineering firms may find opportunities to team with law firms so that a full complement of technical and legal skills can be applied at brownfield sites.

Consultants need to be prepared for pre-qualification or certification procedures. Some states in these programs offer guidance on selecting consultants to perform this work. For example, the State of Minnesota has published a guidance document describing the selection of a consultant, listing possible questions to be asked, and briefly explaining how consultants charge for work. The State will also provide a list of consultants from which to choose and suggests that consultants be "pre-qualified" (Minnesota Pollution Control Agency, 1993a).



and Solid Waste Division, Minnesota Pollution Control Agency, Minneapolis, MN, December.

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Ohio Environmental Protection Agency, 1994b, *How to Participate as a Certified Professional/Certified Laboratory*, Fact Sheet, Ohio Voluntary Action Program, Ohio Environmental Protection Agency, Columbus, OH, September.

U.S. Environmental Protection Agency, 1989, *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Part A*; (EPA 540/1-89/002) Office of Emergency and Remedial Response; December.

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U.S. Environmental Protection Agency, 1994b, *Draft Soil Screening Guidance (EPA/540/R-94/101), Issues Document (9355.4-16)*, Office of Solid Waste and Emergency Response, December.

U.S. Environmental Protection Agency, Region V, 1994, *Proposed Region V Brownfields Strategy*, Region V, U.S. Environmental Protection Agency, Chicago, IL, June 30.

***ENCLOSURE 2***

**OFFICE OF TECHNOLOGY ASSESSMENT  
CONGRESS OF THE UNITED STATES**

**State of the States on Brownfields:  
Programs for Cleanup and  
Reuse of Contaminated Sites**

**OTA-8P-ETI-153  
JUNE 1995**

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The Technology Assessment Board approves the release of this report. The views expressed in this report are not necessarily those of the Board, OTA Advisory Council, or individual members thereof.

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# State of the States on Brownfields: Programs for Cleanup and Reuse of Contaminated Sites

**B**rownfields consist of land and/or buildings that are abandoned or underutilized where expansion or redevelopment is complicated, in part, because of the threat of known or potential contamination. Federal and state laws governing the treatment of these sites may require remediation (cleanup) of property before redevelopment and can contribute to uncertain liability for property owners or users. As a result of these and other factors, redevelopment and reuse of these sites can be hindered.<sup>1</sup> Redevelopment of brownfield sites is a particular problem in many central cities and inner suburbs of U.S. metropolitan areas that need to create jobs and attract commercial and industrial development. Because of this, a number of states and cities have developed programs to facilitate assessment, cleanup, and redevelopment of brownfields.

Congress, in considering the reauthorization of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),<sup>2</sup> commonly known as Superfund, is interested in the issue of brownfields and in their potential return to productive use. As a result, the House Subcommittee on Commerce, Trade and Hazardous Materials of the Committee on Commerce requested the Office of Technology Assessment (OTA) to prepare a background paper on issues surrounding cleanup and redevelopment of brownfields.

Cleanup of hazardous waste sites in the United States is often associated with the federal Superfund law. The law established a federal program to identify and clean up the nation's worst known sites that are assessed and placed on the Environmental Protection Agency's (EPA) National Priorities List (NPL).<sup>3</sup> While some hazardous waste sites require federal attention and funds

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<sup>1</sup>Brownfields may also have redevelopment problems due to, for instance, poor location, old and obsolete infrastructure, and other less tangible factors often associated with neighborhood decline.

<sup>2</sup> 42 U.S.C. Secs. 9601-9675.

<sup>3</sup>The list of hazardous waste sites in the United States that have been evaluated by EPA and determined to pose a serious threat to human health and the environment.

these laws creates an unclear picture of the real risk of liability, which serves as a disincentive for involvement at a site. In addition, financial constraints at brownfields act as another deterrent to activity, since assessment and cleanup costs can be high and financing is often unavailable. Uncertainties involving more technical issues of site assessment and cleanup levels also frustrate action on brownfields. This becomes a particular problem when cleanup requirements are unclear and a process for remediation has not been defined. Because public opposition can hinder brownfield redevelopment, defining an appropriate role for public involvement at some brownfield sites, especially larger sites, can be important. Finally, demand for these sites will vary depending on the location, with some sites having limited redevelopment potential even after cleanup.

States have developed a number of approaches to resolve some of the reuse problems of hazardous waste sites in general, and, in some cases, brownfields in particular. While state policies vary considerably, the three most common approaches are state superfund programs, property transfer laws, and voluntary cleanup programs. Each includes a process for site assessment and remediation, with state superfunds and property transfer laws operating on an enforcement-driven basis.

Voluntary cleanup programs for brownfields are currently receiving the most attention and interest in the states. They are being developed at a rapid pace with 17 of the 21 existing programs in the country having been adopted since 1991. In many states, voluntary programs are targeted specifically to overcome the barriers associated with brownfields activity and to better integrate both cleanup and redevelopment of a site. Many offer technical assistance, liability

assurances, and financial incentives for participation that are not available through other cleanup programs in the state. Voluntary programs are particularly popular because they allow private parties to initiate cleanups and work cooperatively with state agencies to avoid some of the costs and delays that would likely occur if the sites were subject to state superfund or other enforcement-driven programs. Since many voluntary programs are new, there has been no formal evaluation of their merits or problems. However, a number of states have completed cleanups in this way.

Many state legislatures are rethinking their policies toward hazardous waste sites to facilitate brownfields activity. Such activity is also bolstered by action at the federal level. Environmental Protection Agency initiatives include brownfields pilot projects and development of liability guidance, and congressional activity involves Superfund reauthorization and lender liability legislation. As changes occur and programs continue to evolve, more information should become available on promising approaches and still unresolved issues.

## THE NATURE AND EXTENT OF THE BROWNFIELDS PROBLEM

Brownfields have nearly as many definitions as there are interested parties. EPA has adopted one which seems to embody many features of definitions promoted by others.

Brownfields are abandoned, idled or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.<sup>5</sup>

<sup>5</sup>Timothy Fields, Jr., Deputy Assistant Administrator, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, "Federal Agency Brownfields Initiatives," presented at the Environmental Law Institute's Redeveloping Brownfields Workshop, Washington, DC, Mar. 28, 1995.

ment of previously unused land on the urban fringe, leading to urban sprawl and its associated problems, including increased traffic congestion and loss of open space.<sup>8</sup>

Some might wonder why brownfields are suddenly demanding so much attention when their existence has certainly been a part of the urban landscape for decades. Old, abandoned infrastructure, such as factories, mill sites, and warehouses that have been "mothballed" due to obsolescence for a number of reasons, were not considered a threat to either human health or the environment until the mid-1970s when concern for contamination became more apparent.<sup>9</sup> Over time, and with the creation of the Superfund law in 1980, in the wake of Love Canal, people slowly began to understand some of the complicated environmental and liability issues at stake for many of these properties. Throughout the 15 years of CERCLA's existence, some issues involving hazardous waste sites have been clarified while others are still unresolved.

Addressing the problem of brownfields is a complex task due partly to the many stakeholders who have a significant interest in decisions that will have some impact on these sites. Brownfield discussions necessarily involve a variety of parties including: property owners, developers, bankers, environmental consultants, insurance providers, environmental and community development organizations, and regulators from all levels of government. Each stakeholder group brings to the table interests and concerns that must be considered in the context of the alternative perspectives represented by other parties. Based on a review of the brownfields literature and reports from the major brownfields forums recently under way

(in Chicago and Cuyahoga County), there appears to be some agreement on the primary issues related to brownfield activities and possible avenues for improvement.

## MAJOR ISSUES

The brownfields debate centers around a core group of issues that represent the primary barriers and concerns related to brownfield cleanup and redevelopment. Stakeholders have identified technical issues related to remediation, liability concerns associated with contamination, financial barriers to cleanup and reuse, community concerns, and prospects for redevelopment as issues that require some attention and resolution in order to promote greater interest by developers and business in brownfield sites.

### Technical Issues

The technical issues surrounding brownfields involve accurately assessing the type and extent of contamination present, and deciding on cleanup standards and procedures that must be followed. When the level of cleanup required and the process for remediation is unclear, uncertainties about the time and money needed at brownfield sites become a disincentive for action. In addition, the difficulty in ensuring that site contamination is fully and accurately assessed contributes to uncertainty regarding liability, since future owners may be responsible for cleanup of prior contamination.

In order to address remediation at brownfield sites, regulators must determine what level of initial site investigation is necessary to identify the type and extent (or absence) of contamination at a site. Identification generally be-

<sup>8</sup>Larry S. Bourne, "Reurbanization and Urban Land Development: U.S. Cities in a Comparative Context," contractor report prepared for the Office of Technology Assessment, May 1995. Many of the broader issues concerning urban sprawl and analysis of brownfields vs. greenfields development will be addressed in the assessment report on the *Technological Reshaping of Metropolitan America*, expected to be released in fall 1995.

<sup>9</sup>In 1976, the Resource Conservation and Recovery Act was enacted by Congress, and New Jersey adopted the New Jersey Spill Compensation and Control Act, a state "superfund" law.

Depending on the type and extent of contamination, as well as the current capacity (active or inactive) of a brownfield site, enforcement action may be warranted under the federal Superfund program, state superfunds, the Resource Conservation and Recovery Act (RCRA),<sup>12</sup> and other federal and state environmental laws.<sup>13</sup>

The law most often associated with liability at brownfield sites is CERCLA, later amended in 1986 with the Superfund Amendment and Reauthorization Act (SARA).<sup>14</sup> The statute was passed in order to identify and clean up chemical spills and abandoned hazardous waste sites that pose a threat to human health and the environment. CERCLA is particularly significant due to its far-reaching enforcement capability. It applies strict, joint and several, and retroactive liability to the environmental cleanup of hazardous substances.<sup>15</sup> The law identifies a number of parties that may be held responsible for a site cleanup including:

- current owners or operators of contaminated property,
- owners or operators of property at the time it became contaminated,

- persons who arrange for treatment or disposal of hazardous substances, and
- transporters of hazardous substances.

The extensive reach of CERCLA liability along with other federal and state environmental laws and common law has resulted in significant uncertainty and, therefore, fear of becoming associated with known or potentially contaminated property. Few exemptions exist within CERCLA's liability scheme and court interpretation and decisions in some cases have exacerbated concerns of liability risk for certain parties.<sup>16</sup> To a lesser extent, other federal environmental laws add to the uncertainty about liability, along with state superfund and other property cleanup and transfer laws.

Within this legal framework, any association with a hazardous waste site implies some level of uncertain liability. This real or perceived threat of liability often deters interested parties (especially lenders and developers) from undertaking any transaction necessary to clean up and redevelop a brownfield site. There are few assurances available at the federal or state level to protect a private party from the potential for

<sup>12</sup>42 U.S.C. Secs. 6901-6992.

<sup>13</sup>For example, sites involving contamination with petroleum-based chemicals are typically treated under state laws created to address this problem specifically.

<sup>14</sup>Public Law 99-499, 100 Stat. 1613 (1986).

<sup>15</sup>All liability requires proof of a causal link between a party and the harm. *Strict liability* means a party does not have to be found negligent in order to be found liable. *Joint and several liability* means that any single responsible party can be required to pay for all the cleanup costs at a hazardous waste site, even if other parties contributed to the contamination. *Retroactive liability* means that parties can be held liable for contamination that occurred before the law was passed.

<sup>16</sup>One case that is often cited is *U.S. v. Fleet Factors Corp.* (901 F2d 1550, 11th Cir 1990), in which the court found that a lender could be held liable for cleanup if the lender participated "in the financial management of a facility to a degree indicating a capacity to influence the corporation's treatment of hazardous wastes."

erty as collateral in cases of foreclosure or bankruptcy dampen interest in brownfield activity.<sup>20</sup>

Finally, there is an apparent lack of public and private resources available to promote brownfield cleanup and redevelopment. While some states provide financing mechanisms, such as public grants, low-interest loans, and tax incentives, these remain limited as brownfield sites continue to be identified and left unaddressed.

### Community Concerns

Another issue that figures into the brownfields problem involves the fact that these sites do not exist in isolation. Though not always the case, brownfield property is often located in distressed communities and can be in close proximity to other businesses, retail districts, or residential areas. A brownfield site may attract illegal dumping activities and, if left unsecured and open to the public, often turns into a makeshift playground for neighborhood children or temporary shelter for the homeless. If contamination exists on the property, brownfields can pose a threat to human health and the environment where it is located. The absence of contamination, however, may not be sufficient to remove the stigma associated with an abandoned or underutilized site if it is unattractive or derelict. Brownfields may also result in increased insurance rates for neighboring properties and can lower property values in the area.<sup>21</sup>

While community groups are usually interested in promoting the cleanup and redevelopment of brownfields in their neighborhoods,

they expect some assurance that remediation will adequately protect their health and the environment. The public's concern includes protection during the cleanup, as well as at the final remediated site. When considering the prospects for site redevelopment, community members may feel they have a stake in the type of activity that is planned for the property. In a few recent cases, concern about the potential for new jobs and economic development of a neighborhood brought forward numerous groups interested not only in being informed about the plans, but also in being included in the decisionmaking process.<sup>22</sup> Due to the high level of interest in brownfield cleanup and reuse in a community, and depending on the size and scope of a project, some form of communication between the responsible parties and community members about the risks involved at a site and plans for redevelopment may prove essential to its completion.

### Redevelopment Prospects

The last issue that pervades the entire brownfields problem is an unresolved question about the overall prospects for redevelopment at many of these sites. The question is whether there will be demand for much of this property if the problem of contamination is removed, along with the potential for liability. Many brownfield stakeholders are quick to point out that concern about environmental contamination is only part of the problem. These sites, especially those located in distressed communities, pose other problems for redevelopment, as well. In some cases, the infrastructure is old and obsolete, and access to the property may be

<sup>20</sup>However, new Community Reinvestment Act (CRA) regulations (60 FR 22156, 22160) recognize loans for financing the cleanup or redevelopment of industrial sites in low- or moderate-income communities as credit toward meeting the act's requirements. This could help expand lender involvement at brownfield sites.

<sup>21</sup>A. Siewers, "The Building Blocks of Ruin," *Chicago Sun Times*, Mar. 14, 1993, p. 20.

<sup>22</sup>Cara Jepsen, "Retooling South Works," *The Neighborhood Works*, March 1995, p. 19.

- provisions for public participation in the remediation process.

The cleanup of brownfield sites through a state superfund program relies on an established process developed by the individual state. While there is some consistency across programs (as indicated in the above list of typical characteristics), few generalizations can be made about state superfund procedures as a whole. Many operate much like the federal Superfund program, with enforcement-led identification of responsible parties driving the remediation process, including emergency removal actions, determination of cleanup standards, remedy selection, and cleanup. However, for a number of reasons, including the extent of the hazardous waste site problem in the state and the level of experience in dealing with them, the process for cleanup will vary from state to state with differing levels of efficiency and effectiveness.

Most states use a variety of criteria for setting cleanup standards. As of 1993, 34 states reported the use of EPA guidelines for cleanup standard decisions. Forty states apply background levels as the goal for remediation, and 42 states employ risk assessment techniques (many relying on EPA risk assessment guidance for direction) to set standards and determine goals. Finally, 19 states have promulgated their own cleanup standards based on a wide range of criteria and selected standards for chemical residuals in soil, water, and/or air, and other standards drawn from federal environmental law.<sup>27</sup>

Another technical aspect of state superfund programs for non-NPL sites involves hazardous waste site identification. As sites continue to be identified and concern for risks to

human health and the environment persist, some states have become more proactive in their attempt to account for and prioritize sites that pose some level of concern. In 1993, 26 states were charged by state law to develop and maintain site inventories or similar priority lists. In addition, 10 other states reported having some recorded number of sites available.<sup>28</sup>

A defining element related to liability in state superfund programs involves the state's authority to bring enforcement actions against responsible parties associated with hazardous waste sites. In most instances, the money raised through enforcement actions goes toward cleanup of the site and supplements other funds that are used to operate the program. In 1993, 45 states drew enforcement authority for hazardous waste cleanups directly from state cleanup statutes. At that time, only seven others (including the District of Columbia and Puerto Rico) relied on authorization through other state statutes, including general environmental protection laws.<sup>29</sup> In addition, many states depend on a combination of enforcement activities under state superfund laws and property transfer laws (discussed in the next section) to ensure site cleanup.

State ability to bring enforcement action against responsible parties is based on the type of liability designated by the program. Most states consider a wide range of stakeholders as responsible parties at non-NPL sites, much like those held liable under the federal Superfund program. Parties are considered liable based on their association with the site. Like the federal Superfund program, determinations are made on evidence that includes whether the party was responsible for the hazardous waste release or was the owner at the time that the contamina-

<sup>27</sup>Ibid., p. 25.

<sup>28</sup>Ibid., p. 9.

<sup>29</sup>Ibid., p. 8.

demonstrated.<sup>32</sup> Other states with comprehensive property transfer laws include Connecticut and Illinois.

### **Voluntary Cleanup Programs**

The programs receiving the most attention currently in the brownfields debate are the state voluntary cleanup programs. Voluntary programs differ from other programs in that owners or developers of a site approach the state voluntarily to cooperatively work out a process by which the site can be readied for development.

Voluntary cleanup programs are particularly popular because they allow private parties to initiate cleanups and avoid some of the cost and delays associated with state superfund or other enforcement driven programs. Thus, it is the potential threat of enforcement under state or federal superfund laws that is largely responsible for encouraging private sector participation in these programs. Because voluntary programs involve a cooperative effort with regulators, in contrast to enforcement-driven cleanup programs, remediation and certification can take less time, which can be critical in many development projects. In addition, because some voluntary programs may be more likely to consider future use in deciding on remediation plans, cleanup costs could be lower. Also, many state-run voluntary programs offer additional benefits to private parties such as technical assistance, financial support, and importantly, liability assurances. Finally, there is some evidence that financial institutions may be more favorably inclined to lend on properties that have gone through voluntary programs

when they are available in a state, rather than sites cleaned up independently.

In many cases, states are also interested in promoting voluntary cleanups because they typically require fewer government resources and, with funds for enforcement-led programs decreasing in recent years, it assures that cleanups can continue with some level of official oversight. Because state voluntary programs are often operated on a fee-for-service basis, states can address more sites than they would in the absence of such programs. In addition, this helps get underutilized land back into productive use, generating jobs and tax revenues.

A recent count indicates that 21 states have established voluntary programs for the cleanup of hazardous waste sites.<sup>33</sup> Sites that typically enter a voluntary program have no or low to medium contamination problems and are not currently listed or being considered for the federal NPL or similar state superfund lists, although some states will address more difficult sites in their programs. Brownfield sites often have an interested private party present that is responsible for approaching the state about a voluntary cleanup and will ensure payment for oversight and cleanup costs. Abandoned or orphan sites, on the other hand, typically become the responsibility of a state or local government for cleanup. Many of these sites continue to remain unaddressed.

State voluntary programs vary widely and there has been no analysis to uncover the reasons behind the high level of diversity. In some cases, program development was motivated in order to improve the potential for low-priority

<sup>32</sup>Environmental Law Institute, "New State and Local Approaches to Environmental Protection," contractor report prepared for the Office of Technology Assessment, August 1993, p. 91.

<sup>33</sup>The states are California, Colorado, Connecticut, Delaware, Illinois, Indiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, Tennessee, Virginia, Washington, Wisconsin.

- a review of government records and standard historical sources,
- site reconnaissance,
- interviews with owners, occupants, local governmental officials, and
- evaluation and report preparation.

This process has been promoted by the American Society for Testing and Materials (ASTM) for transactions involving commercial and industrial properties and usually employs the services of an environmental professional.<sup>34</sup> If the results of a Phase I assessment indicate a possibility of contamination, additional investigation is required and the process calls for a Phase II site assessment. Some states are primarily interested in Phase II investigations, which are designed to identify and locate contamination if it is present on a site. Phase II assessments are generally conducted by an environmental consultant based on preliminary investigations and include soil and groundwater sampling with laboratory analysis.

Perhaps the most significant feature in many voluntary programs is the means for determining cleanup standards. This is a controversial issue and the cause of much confusion among interested parties because of the complicated science involved and variety of methods applied to determine toxicity and exposure to contaminants. Many voluntary programs apply the same cleanup standards to voluntary sites that are used under their state superfund program. Others have developed their own standards specifically for voluntary cleanups based on a variety of criteria. Overall, most cleanup stan-

dards developed for a wide range of contaminants found at any brownfield site are developed using one or more of the following:<sup>35</sup>

- EPA guidelines for toxic chemicals,
- maximum contaminant level (MCL) or maximum contaminant level goal (MCLG),
- water quality criteria,
- site specific risk assessment,
- background levels for contaminants, and
- state promulgated cleanup standards.

Currently, most voluntary programs require the use of EPA standards for toxic chemicals that set risk at 1 in 1 million ( $10^{-6}$ ) for cancer risks and a "no adverse effects" level (Hazard Index less than or equal to one) for noncancer risks for site remediation. However, some states have deviated from these guidelines and apply any one or a combination of the criteria listed above to determine cleanup standards.<sup>36</sup> Agreement across the states about the accuracy and validity of applying EPA or other standards is unlikely.

The next step in the cleanup process is combining the findings about toxicity and exposures with cleanup standards in order to select a remedial plan. As with all other features of voluntary programs, states also differ in what is acceptable at this stage. The menu of options that is of interest in remedy selection is extensive. Voluntary programs may employ exposure assumptions and cleanup standards based on pre-determined levels, future use-based levels (for example, industrial, commercial, or

<sup>34</sup>Jenner & Block, "The Evolution of Standards for Environmental Site Assessments: The ASTM Guidelines," *Jenner & Block L.A.W. News*, fall 1993.

<sup>35</sup>See Environmental Protection Agency, footnote 25, p. 25.

<sup>36</sup>For example, Massachusetts allows a composite risk from all contaminants at a site to be set at 1 in 100,000 ( $10^{-5}$ ) for cancer. Sarah Weinstein, Division of Policy Program Development, Massachusetts Department of Environmental Protection, personal communication, June 1, 1995.

federal and state level, there is still only minimal experience with this practice as applied to brownfields cleanup.<sup>38</sup>

Voluntary programs reduce some level of uncertainty related to liability by specifying parties who would not be held liable at a site, or by defining government interest in the condition of a site. In the first category, some voluntary programs offer identification of particular parties who under certain conditions would not be found liable for contamination or the impacts of contamination at a site. The types of liability protection offered by some states include:

- letters of "no association" to the contamination either as innocent or involuntary owner, as prospective purchaser, or as neighbor to the site;
- absorption of private liability by the state or a municipality; and
- liability exemption for some public entities, such as city or county governments, and port authorities.

The second category of assurances involves government interest in the condition of the site and includes recognition of the following:

- covenants not to sue for any actions related to the site;

- "certificate of completion" (or partial completion) for a cleanup; and
- a letter of "no further action" or interest in the site.

In most of these cases, there is no actual release from liability granted, but these assurances try to reduce the likelihood that any enforcement action would be pursued.

Of the 21 voluntary state programs that currently exist, only seven offer a covenant not to sue, or other immunity from liability, which protects the recipient from state enforcement action, subject in some cases to reexamination if new information about contamination is found.<sup>39</sup> In each of these programs, the protection is only granted on a site-by-site basis and may be limited only to parties who were not responsible for the contamination. All other letters of assurance vary in terms of their value to responsible parties, and do not offer release from liability. Some lenders have voiced approval of certificates of completion and no further action letters as easing concerns involving loan decisions.

The liability concerns of brownfield cleanup activities are extremely complex due to the overlapping interests of federal, state, and third-party enforcement actions. While some state voluntary programs are experimenting with different levels of liability assurance, few have been offered for a long enough period to

<sup>38</sup>Insurance policies may provide some protection from excessive costs due to remediation or lawsuits involving cleanup of contaminated properties. OTA did not investigate this issue in detail and plans to include this analysis in the brownfields report planned for release in fall 1995.

<sup>39</sup>The seven states are Minnesota, Oregon, Massachusetts (pilot program), Indiana, Ohio, California, and Virginia. Stateside Associates, personal communication, May 1995.

## Minnesota

Minnesota established the first voluntary cleanup program in the country in 1988. It is formally known as the Voluntary Investigation and Cleanup (VIC) Program and is administered by the Minnesota Pollution Control Agency (MPCA). Operating on a fee-for-service basis, the broad mission of the program is to facilitate voluntary investigation and cleanup of contaminated property and to encourage productive economic reuse of the property.<sup>42</sup> The program will not accept sites listed on the National Priority List<sup>43</sup> or that fall under the enforcement authority of other federal or state environmental laws. In a recent development, MPCA and EPA Region V have entered into an amended Superfund Memorandum of Agreement (SMOA) in which "the MPCA is the designated lead agency for remedial activities at . . . voluntary investigation and cleanup sites in the State of Minnesota." Through this agreement, EPA Region V will not plan or anticipate any federal action under Superfund law at sites that have received a no action determination or a certificate of completion from MPCA, unless, in unusual cases, the site poses an imminent threat or emergency situation.<sup>44</sup> As of May 1995, over 100 sites had been cleaned up through the VIC program and over 300 sites have obtained closure by receiving one of the six written assurances described below.<sup>45</sup>

## Program features

Minnesota's VIC program offers a high level of technical assistance and oversight to the entire cleanup process. Most significantly, MPCA staff are involved in the approval of cleanup plans and at the final stage of remediation to certify completion of the work. Cleanup standards are the same as those required by federal and state superfund cleanups, and are based on EPA guidelines to obtain 1 in 1 million cancer risk ( $10^{-6}$ ) and a "no adverse effects" level (Hazard Index less than or equal to one) for noncancer risks. Cleanup plans may, however, reflect future planned use for a site and the program allows land-use restrictions on property.

Minnesota's program is noteworthy due to the variety of written assurances it offers to participants in the program. Through VIC, six types of assurances are available with some differentiation based on whether the volunteer is responsible for the contamination on the site. These include:

1. Technical assistance approval letters: Offered when MPCA is consulted to establish the adequacy of an investigation or cleanup plan.
2. No action letters or agreements: These agreements signify that MPCA will not

<sup>42</sup>Minnesota Pollution Control Agency, "Recycling Contaminated Land in Minnesota," 1995, p. 8.

<sup>43</sup>The VIC program does, however, accept cleanup on parcels of property at NPL sites, and volunteers cooperating with responsible parties at NPL sites can qualify for liability assurances through the program.

<sup>44</sup>Valdas V. Adamkus, U.S. Environmental Protection Agency, Region V, letter to Charles W. Williams, Commissioner, Minnesota Pollution Control Agency, on the Superfund Memorandum of Agreement, May 3, 1995.

<sup>45</sup>Joe Zachmann, Project Manager, Minnesota Voluntary Investigation and Cleanup Program, personal communication, May 18, 1995.

### An Example of a Voluntary Cleanup in California: Culver City Kite Site

The Culver City Kite Site\* is a 4.5-acre property located in Culver City, California. Former operations at the site included a wood products manufacturing facility, a concrete block facility, die casting machine shops, auto body and painting shops, and plastics manufacturing. Environmental concerns at the site included soil and groundwater contamination involving solvents, petroleum hydrocarbons, and heavy metals. Under the California Voluntary Cleanup Program, the Department of Toxic Substances Control (DTSC) provided oversight of the Preliminary Endangerment Assessment and subsequent health risk assessment process. Remediation for the site was completed and in April 1994 cleanup of the property had achieved standards protective of public health and the environment for industrial and commercial uses. DTSC granted a certificate of completion at the site and a deed restriction for the land-use designation was established. The property is currently being developed as an industrial park, including some retail sales outlets for electronic, home building, and automobile equipment. The property is expected to provide approximately 100 new jobs.

\*California Environmental Protection Agency, Department of Toxic Substances Control, "The Voluntary Cleanup Program," program information sheet, May 1995, p. 6; and Javier Hinojosa, Site Mitigation Branch, Department of Toxic Substances, California Environmental Protection Agency, personal communication, June 1, 1995.

California Environmental Protection Agency's Department of Toxic Substances Control (DTSC). It is designed to offer a more streamlined process for ensuring cleanups that protect human health and the environment in order to put property back into productive use.<sup>48</sup> California's program operates on a fee-for-service basis and excludes sites that are listed on the federal or state superfund lists or that fall under the oversight provisions of other federal and

state environmental laws. In March 1995, 100 voluntary projects were under way in the state.

#### *Program features*

Participation in the California voluntary program includes an initial agreement between the state and the private parties regarding the extent of the cleanup activity planned for the site. Based on the initial agreement, DTSC staff

<sup>48</sup>California Environmental Protection Agency, Department of Toxic Substances Control, "The Voluntary Cleanup Program," fact sheet, March 1995, p. 1.

program's requirements and is eligible for a covenant not to sue from the state. The release from liability is available to any volunteer who complies with the applicable standards outlined by the program. The liability release runs with the property and may be transferred to future parties involved with the site. The program also provides lender and fiduciary liability protection, as well as some liability protection for cleanup contractors and local governments.<sup>51</sup>

The Ohio voluntary program offers financial assistance to participants in the program. The state makes low-interest loans available for site cleanup and redevelopment activities. Tax incentives are also included, allowing volunteers to forego paying taxes for 10 years on the increase in property value resulting from remediation. In addition, participants may also request an additional tax abatement for 10 years on real and personal property taxes from their local government.<sup>52</sup>

### RECENT STATE ACTIVITY

State brownfield activity is growing and evolving rapidly. State authorities and organized stakeholder groups are promoting changes in the way that many of these properties are handled through statutory and administrative means. Since 1994, nine states have passed legislation creating voluntary cleanup programs.<sup>53</sup> While many of these changes are directed toward improving the prospects for brownfield cleanup and redevelopment, some expand the scope beyond brownfields to all hazardous waste sites including those cleanups pursued through enforcement driven programs, such as state superfunds and property transfer

laws. Legislation designed to change state policy on such factors as cleanup standards and liability at a site, will impact the nature of all hazardous waste cleanups in a state.

As states rethink their policies toward hazardous waste site cleanups, many are taking a more comprehensive approach in the law designed to ease some of the constraints considered barriers to brownfields activity. As discussed earlier, states are making an effort to clarify cleanup standards and processes, provide more certainty for liability involving brownfields sites, include some level of government oversight without slowing the process unnecessarily, and offer financial incentives to promote cleanups. However, even among some of the newer programs and recent changes, considerable variation is evident in some important elements.

The most recent legislative activity in Michigan, Pennsylvania, and Illinois characterizes many of the issues at the heart of the debate on brownfields. Michigan recently passed legislation amending the state's Natural Resources and Environmental Protection Act, effectively changing the way hazardous waste cleanups will be handled. It is expected to be signed into law during the first week of June, at which time it will require: proof of cause for contamination in order to find parties liable at a site, thereby eliminating strict, or status based, liability for cleanups; establishment of land-use-based standards for cleanup in eight categories, including residential, commercial, industrial and recreational; and a change in the level of acceptable risk for carcinogens from 1 in 1 million ( $10^{-6}$ ) to 1 in 100,000 ( $10^{-5}$ ).<sup>54</sup>

<sup>51</sup>Ohio Environmental Protection Agency, "Real Estate Clean-up and Re-use Program," fact sheet, June 1994, p. 2.

<sup>52</sup>Ibid.

<sup>53</sup>These states are California, Colorado, Connecticut, Nebraska, North Carolina, Ohio, Tennessee, Virginia, and Wisconsin. Stateside Associates, personal communication, May 1995.

<sup>54</sup>State of Michigan, House Bill No. 4596, 88th Legislature, regular session, 1995.

note cleanup and redevelopment of brownfields. The Agency's effort stresses the importance of both aspects of brownfields, focusing on the problems associated with environmental contamination, as well as economic development. The primary functions of the agency's Agenda include:<sup>56</sup>

1. Removal of approximately 25,000 potential hazardous waste sites currently included among 38,000 such sites on the Superfund Tracking System list (CERCLIS). The sites were deleted from the active investigations category by EPA and granted a designation of "No Further Remedial Action Planned."
2. Plans to fund 50 Brownfields Economic Redevelopment Pilot projects across the country over the next two years to promote learning and sharing of methods and information for promoting cleanup and redevelopment.
3. Development of new guidance on liability anticipated for completion in 1995, including prospective purchaser agreements, municipal acquisition liability, and lender liability under Superfund and Underground Storage Tank provisions.

Other ongoing agency activities include: intergovernmental personnel assignments, through which EPA staff are assigned to local-level activities on brownfields; job training and development focused on programs for hazardous materials education; presumptive remedy guidance for cleaning up certain types of

hazardous waste sites; and partnerships with other federal agencies such as the Economic Development Administration and the U.S. Department of Housing and Urban Development, to promote a coordinated effort to address brownfields in the country.

Congress is also considering various means to promote brownfield cleanup and redevelopment. The current focus is primarily on Superfund reauthorization; changes are planned that will have an impact on brownfields. Last year's Superfund bill (H.R. 228) has been reintroduced, and includes a provision "to establish an EPA program to provide technical, financial, and other assistance, including grants, to states to establish and expand voluntary response programs." Chairs of subcommittees with primary jurisdiction for Superfund are expected to introduce legislation in June 1995. Hearings are currently being held to better understand the Superfund program and attention has focused on the state role in hazardous waste cleanup and possible changes to liability applied by the law. In addition, individual bills focusing on specific aspects of Superfund have been introduced, including one that provides lender liability limits for cleanups (H.R. 200).

### UNRESOLVED ISSUES

As states debate important issues on brownfields, a number of unresolved challenges emerge. First, in an attempt to clarify liability for cleanups to promote brownfields redevelopment, there is growing interest in altering the most common approach of strict, and joint and several liability. Replacement of either strict or joint and several liability with other standards

<sup>56</sup>U.S. Environmental Protection Agency, "The Brownfields Action Agenda," Jan. 25, 1995.

# Appendix A:

## Acronyms

**CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act**

**DTSC = Department of Toxic Substances Control**

**ECRA = Environmental Cleanup Responsibility Act**

**EPA = U.S. Environmental Protection Agency**

**IEPA = Illinois Environmental Protection Agency**

**ISRA = Industrial Site Recovery Act**

**MPCA = Minnesota Pollution Control Agency**

**NFA = no further action**

**NPL = National Priority List**

**PEA = Preliminary Endangerment Assessment**

**RCRA = Resource Conservation and Recovery Act**

**SARA = Superfund Amendment and Reauthorization Act**

**SMOA = Superfund Memorandum of Agreement**

**VIC = Voluntary Investigation and Cleanup Program**

**ENCLOSURE 3**

**NATIONAL REAL ESTATE DEVELOPMENT CENTER**  
Conference on Capitalizing on  
Brownfields Development Opportunities

**INNOVATIVE STATE APPROACHES TO  
VOLUNTARY CLEANUP PROGRAMS  
AND BROWNFIELDS REDEVELOPMENT**

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November 6-7, 1995  
Arlington, VA

## OTHER STATES OF INTEREST

<u>State</u>	<u>CERCLIS Rank (#)</u>	<u>Comment</u>
Maryland	31 [444]	No formal VCP
Virginia	20 [666]	Program effective 7/1/95
District of Columbia	51 [ ~ 18 ] ?	No VCP
Connecticut	19 [737]	1995 amendments
Minnesota	29 [496]	Program estab. 1988
Oregon	36 [393]	Program estab. 1992 (amended 1995)

## NOTABLE FEATURES -- SITE ELIGIBILITY

Most programs exclude:

- CERCLA NPL sites (and proposed NPL sites)
- Leaking underground tank sites
- RCRA corrective action sites
- Sites subject to active Federal or State enforcement

Most programs include:

- All non-excluded sites -- whether RP, non-RP, or orphan
- Non-excluded sites whether contamination is actual or merely perceived

**NOTABLE FEATURES -- LIABILITY ASSURANCES, Cont'd**

CT

- Liability exemption for historical contamination if party did not create the pollution or have prior ownership of the site

OH

- Covenants not to sue available to both RPs and non-RPs, based on properly operating remedy and no change in land use
- No Further Action (NFA) letters available from Certified Professionals

PA

- Covenant not to sue, providing broad liability protection, available to RPs and non-RPs for cleanup in accordance with environmental remediation standards

MA

- Covenant not to sue pilot program for non-RPs (targeted to areas where economic development efforts are concentrated)

## NOTABLE FEATURES -- FINALITY

### General Observations:

- Some states provide stronger liability releases (more limited reopeners) to innocent purchasers than they do to responsible parties

### MN

- Certificates of Completion have no reopeners

### IN

- Certificate of Completion and Covenant Not to Sue can be reopened only if information provided is later found to be false

### PA

- Additional remediation can be required in five circumstances: (1) fraud; (2) *information on previously unknown contamination*; (3) failure to meet the standard; (4) increased risk due to change in land use; and (5) where remedy relied upon institutional or engineering controls, TSD technologies subsequently become economically feasible

## NOTABLE FEATURES -- CLEANUP STANDARDS

### General Observations, Cont'd

- Land use may also be taken into account (e.g., i PA) by being more receptive to the use of institutional or engineering controls (e.g., fencing, capping), or other risk management measures, in "special industrial areas" or under other low public exposure circumstances
- At least one state (VA), follows the Federal approach under CERCLA, by provide permit process waivers, which obviate the need for multiple formal permits as long as the underlying substantive regulatory requirements are met
- Some states offer variances from otherwise applicable requirements in defined circumstances:
  - \* OH provides for a Property Revitalization Board, which can issue variances for properties unable to meet cleanup standards, where alternative standards will improve environmental conditions and protect public health and safety
  - \* In PA, the environmental agency may waive, in whole or in part, otherwise applicable cleanup requirements, where responsible parties demonstrate that compliance will not be cost-effective, it will substantially interfere with natural or artificial structures or features, etc.

## NOTABLE FEATURES -- FINANCIAL INCENTIVES

### General Observations

- Minneapolis's Light Industry Land Acquisition Program involves direct government acquisition of a site, with subsequent management of site cleanup and redevelopment
- Under a pilot CT program, the state's Department of Economic Development is authorized to acquire (following a detailed site assessment) polluted real property deemed vital to the economic development needs of the state; before the property can be transferred back into private ownership, any threat to human health or the environment must have been contained, removed, or otherwise mitigated (see also OR and PA programs)

***ENCLOSURE 4***

# EPA and cities see green in cleanup of 'brownfield' sites

**O**nce the might of the U.S. economy, many urban industrial sites now are part of the nation's environmental plight. A witch's brew of contamination and unwieldy environmental regulations have investors running elsewhere with their development projects. But that may be changing. A new federal program is turning these so-called brownfield sites into greener ones.

The Brownfields Economic Redevelopment Initiative is funded through the \$1-billion Superfund budget and managed by the U.S. Environmental Protection Agency. The urban problem is a big one. EPA estimates that there are about 450,000 brownfield sites.

The brownfields initiative was started in November 1993, by EPA Administrator Carol Browner, who aims to use environmental cleanup as a catalyst for economic development. Central to this effort is removing regulatory barriers without sacrificing protections. "We need to help communities rebuild with the help of Superfund, not in spite of Superfund," she says. "We must change the Superfund law to remove the bar-

riers faced by people who want to buy contaminated land and return it to productive use."

EPA is offering two-year, \$200,000-pilot grants and is working with states and localities to clarify liability issues. So far, it has made 29 awards (see map), and Browner intends to fund 21 more by the end of next year.

Initial response is good. EPA has purchasers who are lining up for a number of sites in Knoxville, Tenn.; Cape Charles, Va., and St. Louis, Mo. "Just by creating the pilots we generated interest in the properties," says Linda L. Garczynski, director of outreach and special projects for EPA.

Cleveland-based Rep. Louis Stokes (D) was an early proponent of the program and the city received the first grant. It has

generated over \$1.7 million in matching funds, created 171 jobs and returned \$650,000 in new taxes. "It's all about getting people to consider reuse," says Garczynski. Most brownfield sites are centrally located and have infrastructure in place, she notes.

Cleveland has identified three sites for redevelopment under the program. At the same time it received the grant, a new state

voluntary cleanup program started. "The tools that were missing are now there, and things are moving along," says Mary Beth Langdon, a senior planner for Cuyahoga County.

Four new firms have moved into one Cleveland property

Sites in Bridgeport (top) and Cleveland (bottom) will be cleaned up and used for redevelopment.



hind soil tainted by petroleum, waste oil, solvents and leaking underground storage tanks. Ryan bought 18 acres, spent \$3.2 million on cleanup and another \$16 million constructing three buildings totaling 190,000 sq ft. All are now leased and Ryan is buying another six acres.

"They're not necessarily gold, but they are well located sites," says Carlson. "The time involved in delays, assurances and surprises drives project costs up with brownfields, so margins are still better in developing cornfields. But the demand is there."

Meanwhile, many eyes are on Bridgeport, Conn., the third city to receive an EPA grant. The money will be used to develop an economic and environmental data base of properties. "The grant will help remove the stigma that everything in Bridgeport is dirty," says Kevin F. Gremse, city economic development specialist. "We need to demonstrate that site cleanup can make economic sense in an environmentally responsible way."

With 95% of the once great industrial city developed, there is no open space left. But Bridgeport has over 1,000 parcels of contaminated land. It



Stokes: Early support. Ganim: Good solution.

will use the brownfields money to consolidate them into 280 properties. Ultimately two to six of the sites will become the focus of the development efforts.

**Fiber-uppers.** Many of the sites contain obsolete, empty buildings with asbestos, polychlorinated biphenyls or oil. "There's no question that the brownfields program will help us solve a problem that vexes all cities and which seriously deters development," according to Bridgeport Mayor Joseph P. Ganim.

To put its effort in gear, the city hired a consulting team headed by Roy F. Weston Inc., West Chester, Pa. Working on a \$180,000 contract, the team is

in the process of compiling the database. Once the final sites are identified and assembled, plans will be developed for their best use and for marketing and remediation. "To have any kind of significant development, you need property of at least five acres, and that's a tough proposition in Bridgeport," says R. Keith Knauerhase, Weston project manager.

One firm interested in owning a piece of Bridgeport is Needham, Mass.-based Knoll Environmental Inc., an eight-year-old firm specializing in remediation work. Until recently, Knoll was doing cleanup work for clients, but now it wants to control the site. "I think the opportunity is tremendous," says Charles F. Walsh, the company's project coordinator.

However, finding suitable brownfields sites can be a problem. Walsh recently sent letters to 20 municipalities telling them that Knoll is interested in buying brownfield properties. He has received only three responses so far and is frustrated. "You hear about sites, but nobody can give you a list or tell you who to talk to," says Walsh.

By William J. Angelo

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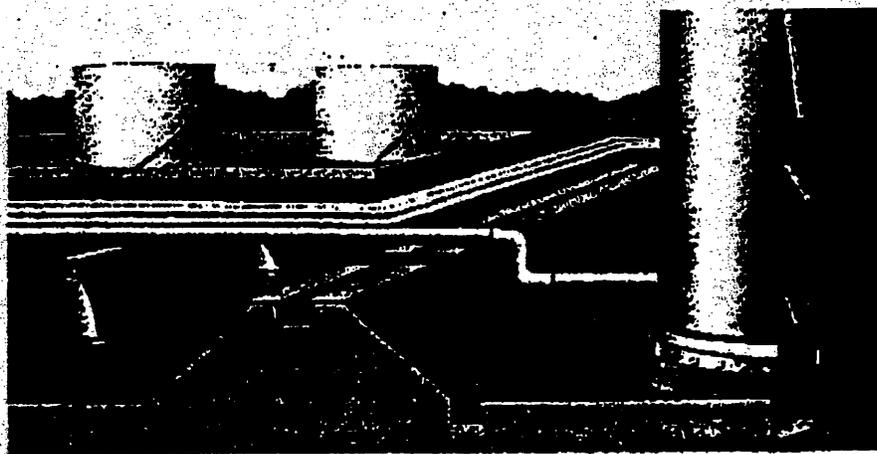
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***ENCLOSURE 5***

**EPA FUNDING(\$200K) OF PILOT BROWNFIELDS PROJECTS**

**Birmingham, AL**

**Sacramento, CA**

**West Central Municipal Conference (Chicago Suburbs)**

**Indianapolis, IN**

**Louisville, KY**

**New Orleans, LA**

**Baltimore, MD**

**Detroit, MI**

**St. Louis, MO**

**Trenton, NJ**

**Rochester, NY**

**Oregon Mill Sites, OR**

**Knoxville, TN**

**Laredo, TX**

**Cape Charles, VA**

**Bridgeport, CT**

**Richmond, VA**

**Cleveland, OH**