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BACKGROUND

State Remedial Programs
States have identified tens of thousands of contaminated sites, which are not listed on the Superfund National Priorities List (NPL) that potentially are in need of cleanup. State and federal enforcement-driven programs (e.g., Superfund and hazardous waste) focus on the high-priority sites and can remediate only a small fraction of the total number of sites. Moreover, these enforcement-driven programs feature disincentives to cleanup, including what some stakeholders believe to be cumbersome regulatory procedures, onerous liability schemes, expectations of pristine cleanups and expensive treatment. State VC/BF programs can provide an alternative for cleanup of the smaller, less seriously contaminated sites.

Defining State Voluntary Cleanup and Brownfield Programs
The seven state programs addressed in this report are referred to jointly as Voluntary Cleanup/Brownfields programs. The programs exhibit a continuum between purely voluntary cleanup programs (VCPs) (e.g., Colorado) and purely Brownfields programs (BFPs) (e.g., Michigan), with most states' programs possessing characteristics of both.

State VCPs generally address smaller sites with less serious contamination. Project proponents are able to clean up individual sites outside the context of an enforcement action by state or federal regulators. Activities at those sites are often prompted by impending property transactions. A typical state VCP will provide a streamlined process for oversight of a cleanup, limitations of liability for persons conducting the cleanup and for subsequent owners, and defined cleanup standards based on actual or proposed land use.

State BFPs generally address larger areas consisting of abandoned, idled, or underutilized industrial or commercial facilities. Redevelopment is usually spurred by a combination of economic forces and community concerns. A typical state BFP provides lender liability relief, tax incentives, and loan and grant programs.

Barriers to Voluntary Cleanup
Three primary barriers to voluntary cleanup are the following.

- **Legal.** Under federal and state Superfund-type laws, all "responsible parties" (i.e., site owners and operators; and generators, transporters and those who arrange for transport of wastes that ultimately contaminate a site) can be liable for cleanup regardless of whether a party actually caused the contamination and liability can extend indefinitely. Also, parties can be liable to regulatory agencies and third parties under other environmental laws and to third parties for personal injury and property...
damage claims.

- **Technical.** Without state oversight or guidance, there are technical uncertainties regarding the adequacy of cleanup and acceptability of remedial methods.

- **Financial.** There are tremendous financial uncertainties associated with investigation and remediation costs, environmental liabilities, and the value of the property after cleanup (both with and without residual contamination).

The degree to which a state can provide a mechanism for voluntary cleanup, regulatory streamlining and procedural flexibility, and can overcome the legal, technical and financial barriers to voluntary cleanup, will determine, in part, the success of a state's VC/BF program.

**The Federal Brownfields Initiative**
EPA commenced a Brownfields Initiative in January 1995 to mitigate some of the disincentives to cleanup and to support the sustainable use of Brownfields. The initiative, which has evolved since its inception, includes features that address streamlining, liability relief, technical guidance, and financial incentives. Many states have similar features in their VCP programs that generally are applicable to non-NPL sites.

**State/EPA Relationship Regarding State VCPs**
State VC/BF programs have been established by the states and operate independently from EPA's Superfund or Brownfields programs. As of April 1997, EPA had entered into separate memoranda of agreement (MOAs) with 10 states regarding state VC/BF programs. Significant controversy surrounds the signing of MOAs regarding conditions in EPA guidance documents, eligibility criteria, and enforcement conditions. The MOAs do not relieve a site from federal liability, but are intended to provide some comfort to responsible parties that EPA, generally, does not anticipate taking removal or remedial action at a site that is involved in an approved state VC/BF program. During fiscal year 1997, EPA will distribute $10 million to the states for development or enhancement of their VC/BF programs.

**FINDINGS**

**Common State VC/BF Elements**
The creation of VC/BF programs is a state-by-state response to the local marketplace and the need for redevelopment of blighted neighborhoods. As a result, a high degree of variability exists among the VC/BF programs. However, some common features of the seven state VC/BF programs covered in this report include the following.

- Many of the VC/BF programs emerged in the early 1990's, first at an administrative level and later supported by legislation.

- Most of the VC/BF programs are fully funded by fees paid by the project proponents. This limits staff size and the amount of technical guidance available.

- Each state puts a remarkably high number of sites through its VC/BF program in comparison with the few cleanups completed under the federal and state enforcement programs. In some cases, no actual cleanup is taking place -- no serious site contamination was found and liability relief was granted.

Elements of the seven case study state VC/BF programs are reviewed in this report in relation to (1) impetus to create the program and enter the program, (2) procedural flexibility, (3) liability relief, (4) technical guidance, and (5) financial incentives. The table on the following page summarizes the elements of the state VC/BF programs.
reviewed.

Impetus
The impetus for states to develop VC/BF programs is economic in nature. However, the drivers for creating these programs differ somewhat between the eastern and western states. In the eastern states, more emphasis is placed on economic redevelopment of large areas or of municipalities. Often environmental concerns are far overshadowed by economic and social concerns. In the western states, the impetus for VC/BF programs is to support transfers of operational control of facilities or ownership of land.

Procedural Flexibility
Shift From Enforcement To Cooperation. The attitude of the state staff has shifted from one of enforcement to cooperation.

Regulatory Streamlining. Although most of the states interviewed follow the state or federal Superfund-type processes in their VC/BF programs, they tend to collapse requirements, use presumptive remedies, or accelerate the process in some other manner. Two states wholly abandoned the Superfund procedures. Agency response times were limited in most states.

Public Participation. The levels of public participation required in the VC/BF programs covered in this report ranges from no required participation to a Superfund-type public participation process. Because many voluntary cleanup actions require land use changes, opportunity for public input is often available through local zoning and land use processes. In the case studies covered, the level of public participation was not raised as an issue. Neighbors of voluntary cleanup sites located in blighted communities were often appreciative of the benefits of redevelopment and tended not to significantly involve themselves in the cleanup decisions.

Cleanup And Post-Cleanup Review. Most states verify that the cleanup occurred in accordance with an approved cleanup plan. None of the states audit the post-cleanup commitments, such as operation and maintenance requirements or land use controls.

Liability Relief
Superfund-Type Liability. Most of the states interviewed have retained the liability scheme of strict, joint and several liability from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Liability extends to all "responsible parties," regardless of fault. Only Michigan limits liability to those who actually caused the contamination, leaving cleanup at approximately half the sites, to the public sector.

Liability Relief State VC/BF programs can limit liability only under state law. All of the states provide some liability relief for possible enforcement actions by the state. Only Pennsylvania provides liability relief from citizen suits. Most of the states tend to provide liability relief through well-defined statutory defenses. Recent statutory amendments typically cover lenders and involuntary acquisitions by government entities. All states, except Michigan, also provide liability relief based upon the condition of the property.

Lender Reaction. Lenders remain hesitant to lend on contaminated property, especially if there is residual contamination or if there are significant reopeners in the no further action letters or covenants not to sue provided by the state agencies.

Technical Guidance
Cleanup Standards. Cleanup standards in all of the states interviewed are shifting away from cleanup to background concentration levels. The trend also appears to be away from resource protection to use protection. For ground water, cleanup levels tend
to be premised on drinking water standards. However, in all but two states, cleanup to levels that protect actual or potential use of the ground water is permitted under limited circumstances. All of the states are allowing cleanup levels for soil to be based on actual land use.

To provide some certainty in voluntary cleanups, most of the states have published state-wide generic cleanup levels for soil and/or ground water based on specified land use scenarios. Parties may also develop site-specific cleanup levels based on health risk.

Remedy Selection. The preference for treatment of contaminated media is diminishing. At voluntary cleanup sites this is especially true because (1) these sites are often the subject of the transfer of ownership where time is of the essence, (2) cost of treatment affects the profit upon resale of the property, (3) these sites tend to be less contaminated and treatment may not be necessary, and (4) treatment often is unnecessary if the land use is non-residential. Presumptive remedies are evolving, formally and informally. Often the remedies of choice are "dig and haul" and "wrap and cap."

All of the case study states allow the use of institutional controls, such as fencing and land use restrictions, to meet land use- or resource use-based cleanup levels. The use of institutional controls in VCPs is increasing.

Financial Incentives
Regional differences among the states covered in this report are reflected in the financial incentives offered. The eastern states, in order to get blighted lands back into the economy, tend to offer financing in the form of low-interest loans and grants to local units of government and have legislation that allows municipalities and districts to use tax increment financing or issue bonds. Often, funding is provided by non-environmental agencies. The western states reviewed do not provide similar incentives.

Evolving Issues

Federal Liability
A major hurdle for developers and lenders of contaminated property under the state VC/BF programs is the remaining potential federal liability. State/EPA MOAs, which indicate EPA's plans to take a hands-off approach to state VC/BF sites, provide some comfort. The effect of the recent EPA comfort/status letters is not yet known. Nevertheless MOAs and comfort letters do not provide any guarantee that federal liability is eliminated.

Federally-required Permits
A few states waive requirements for state and local environmental permits at voluntary cleanup sites. Permit waivers allow for fast-track cleanup without unnecessary delay. However, states are without authority to waive the requirement to obtain permits required under federal law. Federal Superfund sites are exempt from the requirement to obtain a permit for activities conducted entirely on-site, because CERCLA procedures are intended to assure environmental protection. Yet, there is no analogous permit exemption for the less contaminated voluntary cleanup sites.

Public Participation
Public participation was not raised as a concern at any of the case study sites. However, as state VC/BF programs are used to address larger, more contaminated and high-profile sites, requests for public participation in land use and remedy selection decisions can be anticipated.

Area-wide Contamination
State VC/BF programs effectively address contamination on a parcel-by-parcel basis; but like enforcement-driven remediation programs, may have deficiencies in addressing area-wide ground water plumes or ground water contamination that migrates from an upgradient
source. However, the cooperative nature of state VC/BF programs may provide an opportunity for utilizing a collaborative approach to finding solutions to voluntary cleanup of area-wide ground water contamination.

Cleanup and Post-Cleanup Monitoring and Review
Most states verify compliance with the cleanup work plan. Although, many voluntary cleanup sites use non-permanent remedies, such as engineering controls (e.g., capping), institutional controls (e.g., fencing) or land use or ground water use restrictions, post-cleanup environmental monitoring often is not required, nor is compliance with commitments for such controls and restrictions verified.

Innovative Technologies
Use of innovative technologies was limited at the case study sites. Interviewees indicated that it is doubtful that innovative technologies would be financially attractive for remediation but that a market for their use may be available for site characterization and post-cleanup monitoring. The primary disincentive for using innovative remediation technologies at voluntary cleanup sites is the compressed time frames of real estate transactions. In regards to both investigation and remediation innovative technologies, owners of single voluntary cleanup sites usually do not have the financial resources to test such technologies or the opportunities for cost savings at a particular site. However, owners of multiple voluntary cleanup sites (e.g., federal agencies) or of large areas undergoing voluntary cleanup (e.g., municipalities) may find the testing and use of innovative technologies to be cost-effective.

VC/BF Program Implications at Federal Facilities
In Pennsylvania, the United States Department of Defense (DOD) has initiated discussions regarding the possibility of using the state land recycling program in combination with the state’s multi-site agreement program to pursue cleanup of a large number of DOD sites. Federal environmental requirements may impose some limitations on the use of state VCPs to facilitate transfer and cleanup of contaminated properties owned by federal agencies.

RECOMMENDATIONS
The following recommendations are offered for consideration as possible enhancements to state VC/BF programs.

• Exposure to federal enforcement and liability should be eliminated or at least minimized at sites that are participating in a state VC/BF program, particularly at smaller, less contaminated or complex sites (via state/EPA MOAs, EPA comfort letters, Congressional action, or other mechanisms).

• Federal requirements to obtain federal environmental permits for cleanups conducted entirely on-site should be waived, particularly at smaller, less contaminated or complex sites that are participating in a state VC/BF program.

• States should devise procedures within their VC/BF programs that enable public participation requirements to be tailored to site-specific circumstances.

• States should explore how their VC/BF programs can be expanded to clean up area-wide ground water contamination.

• States should consider development of flexible requirements for post-voluntary cleanup environmental monitoring and regulatory review of monitoring results and compliance with operation and maintenance and land use commitments.

• In order to facilitate the use of innovative technologies at voluntary cleanup sites, state and federal agencies need to work together in developing a strategic action plan to provide incentives for their use.
• State and federal agencies should explore if and how state VC/BF programs could be used to clean up federal facilities.