United States General Accounting Office

GAO Testimony

For Release
on Delivery
Expected at
9:30 a.m. EST
Tuesday
November 7, 1989

Implications of State Cleanups of Hazardous Waste Sites on Federal Policy

Statement of
Richard L. Hembra, Director
Environmental Protection Issues
Resources, Community, and Economic
Development Division

Before the
Subcommittee on Environment, Energy, and
Natural Resources
Committee on Government Operations
House of Representatives

047006/139932

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to discuss our recent report for the Subcommittee on state cleanups of hazardous waste sites not included under the federal Superfund program.[1] To qualify for Superfund, a site must score above a cutoff score on the Environmental Protection Agency's (EPA) Hazard Ranking System. Of the thousands of sites contaminated by hazardous waste around the country, only about 1,200 so far are targeted for cleanup under Superfund. Although federal law does not require cleanup of non-Superfund sites or set cleanup standards for them, many states have their own cleanup programs. Our work focused on three issues: (1) state cleanup progress, (2) whether the cleanup levels and remedies states employed met Superfund standards, and (3) EPA's proposed policy to turn over cleanup of some Superfund sites to states.

OVERVIEW

Let me start with a brief overview of what our work on each of these issues showed. We found that while most states have accomplished few if any cleanups, others have enacted tough cleanup laws, committed relatively large resources to the cleanup effort, and achieved considerable results. Of the reported 28,000 known or suspected hazardous waste sites, states have completed cleanups at about 1,700 and begun work at another 760. In comparison, EPA had cleaned up 38 of the 1,174 Superfund sites as of December 31, 1988.

At the 17 non-Superfund sites in the 7 states we visited, state plans usually had specified cleanup levels that were at least as stringent as those in the federal laws and regulations applied at Superfund sites. However, federal standards have not been set

---

[1]Hazardous Waste Sites: State Cleanup Status and Its Implications for Federal Policy (GAO/RCED-89-164, Aug. 21, 1989).

for over half of the contaminants found at these sites. If these were Superfund sites, EPA would use a risk assessment, along with other information, to set cleanup levels. Risk assessments examine the health and environmental consequences of exposure to contaminants at sites. For 11 of the 17 sites, the states set cleanup levels on the basis of incomplete risk assessments or without performing them at all. Additionally, six of the seven states we reviewed considered either a single remedy or a limited number of cleanup alternatives for their sites. In contrast, EPA's process calls for developing and screening a variety of cleanup alternatives ranging from ones that treat hazardous wastes and eliminate the need for long-term monitoring and oversight to the alternative of taking no cleanup action. As a result, it is uncertain that state non-Superfund cleanups will be as protective as those required at Superfund sites. We also found that although EPA provides technical assistance to states, states need more information on how best to clean up hazardous waste sites. Most state officials told us they could benefit from more cleanup standards, training, and technical assistance from EPA.

Finally, although EPA has at this time shelved further work on its proposed policy to turn over or defer cleanup of some Superfund sites to states, the appropriate balance of responsibility between the federal government and the states for the cleanup of serious hazardous waste sites will likely resurface during Superfund's reauthorization in 1991. The ability of most states to handle the cleanup of larger, more complex sites is unproven. Most states have limited hazardous waste cleanup experience and several have small programs. Because of the limited state experience and to preserve fair, consistent treatment of responsible parties and the public, we believe that EPA should proceed with its proposed policy to defer cleanup to states only if it can ensure that states are ready to accept the additional responsibility and that cleanups of deferred sites are at least as protective as Superfund requires.

BACKGROUND

Once a hazardous waste site has been discovered and listed in EPA's data base, it progresses through a series of increasingly detailed evaluations designed to identify and assess uncontrolled hazardous substances. The first step, called a preliminary assessment, uses readily available information to determine whether the situation calls for emergency action, additional investigation, or no further federal action. If the assessment reveals the need for emergency or additional action, the site is inspected to determine if there is any immediate danger to persons living or working nearby. The site inspection may also include monitoring, surveys, and tests. If appropriate, EPA then assesses the site to determine whether it should be listed on Superfund's National Priorities List. Whether or not a site is listed and therefore qualifies for a long-term remedial Superfund cleanup action, EPA may fund short-term actions to alleviate a critical situation.

STATE CLEANUP PROGRESS VARIES

In response to our nationwide survey, 47 states[2] reported that about 28,000 known or suspected hazardous waste sites may need further investigation or eventual cleanup and that of this total 1,736 have been cleaned up.[3] Of the completed cleanups, 753 (43 percent) were reported by one state, New Jersey, while a third of reporting states have not completed any cleanups. However, many of

---

[2]Although all 50 states responded to our survey, some states could provide no data for certain questions; therefore, different numbers of responding states are given for each cleanup step. Alaska, Hawaii, and Oregon offices could not estimate the number of their non-Superfund hazardous waste sites.

[3]During the preliminary assessments, some sites were determined to need no attention and thus are excluded from the 28,192 sites needing attention.

the known sites have begun to undergo investigation or cleanup. For example, at

-- 18,645 sites preliminary assessments have been undertaken or completed,

-- 1,699 interim responses (short-term actions to alleviate critical situations) have been undertaken or completed, and

-- 760 remedial actions have been started but not completed.

(See attachments I and II for state-by-state and nationwide data on state cleanup progress.)

At this point I would like to caution that accurate data on the full extent of the nation's hazardous waste problem are not available since many potentially contaminated sites have not yet been identified. In December 1987 we estimated, based largely on EPA and other federal agency data, that between 130,000 and 425,000 sites may eventually have to be evaluated for possible cleanup action.[4] Although some states have active site identification programs underway, others rely solely on citizen reports of potential sites. EPA has studied potential hazards posed by several sources, but it has not systematically attempted to identify all potential sites. Instead, it relies on less systematic methods--for example, notification of potential sites by citizens and by officials from other state and federal programs.

Even more interesting is the fact that states do not report all their known sites to EPA, including some that could qualify for Superfund. In our December 1987 report, we pointed out that states did not always report all their known hazardous waste sites to EPA.

---

[4]Superfund: Extent of Nation's Potential Hazardous Waste Problem Still Unknown (GAO/RCED-88-44, Dec. 17, 1987).

This occurred when the states believed that such sites were expected to be ineligible for federal funds or when states thought EPA cleanup was too time-consuming or expensive. Our recent review showed that nonreporting still continues.

Cleanup progress in the seven states we reviewed was clearly linked to available funding and staffing levels and to enforcement authority. Three of the states we visited--California, Massachusetts, and New Jersey--have established major state cleanup programs and have made significant progress in identifying and cleaning up sites. These three states have identified over 11,000 sites and cleaned up 1,177. They have programs that have been in place for at least 5 years and laws giving them authority to compel responsible parties to clean up sites. They have also authorized at least $100 million for cleanup and employ 100 or more people in their programs. These states have enhanced their authority to enforce cleanup actions by such mechanisms as triple damage provisions and real estate transfer requirements.[5]

In contrast, the other four states we visited (Indiana, Montana, Oregon, and Virginia) and most other states have emerging cleanup programs, fewer dollars available to clean up sites without responsible parties, and fewer staff to oversee cleanups. Collectively, three of the four states have identified about 1,700 sites and completed cleanup at 7.[6] Most states' progress depends heavily on their finding responsible parties willing and able to fund cleanups. We also recognize that the size of a state's cleanup program may reflect the size of the cleanup problem.

---

[5]Triple damage provisions authorize some states to charge a responsible party triple damages for any cleanup actions the state takes. Real estate transfer laws require careful review of certain types of properties before ownership is transferred to determine whether hazardous waste or hazardous substances have been improperly disposed of on the property.

[6]Oregon was unable to provide data.

CLEANUP LEVELS FOR HAZARDOUS WASTES

To clean up a hazardous waste site, EPA or states must resolve two issues: (1) cleanup levels--the extent to which contaminants must be reduced or contained to protect human health and the environment--and (2) cleanup remedies--the means to achieve the reduction or containment (e.g., whether the contaminants should be burned or buried). EPA bases individual decisions about contaminant cleanup levels on various environmental laws and other guidance, such as proposed maximum drinking water contaminant levels, and on an assessment of the health risks posed by the particular site. The 1986 Superfund amendments and EPA guidance offer criteria for remedy selection.

At the 17 non-Superfund sites we analyzed, the seven states' cleanup plans almost always met the federal contaminant levels required for Superfund sites or they used stricter standards. For example, the states' plans used federal drinking water standards for cleaning up groundwater. We found however, that there were no federal standards for about a third of the contaminants in the groundwater and none for the many soil contaminants at the sites we reviewed.[7]

For example, since no federal cleanup levels exist for soil contamination, states set cleanup levels for soil contaminants in different ways: Two states used their own soil standards; one state removed all contaminated soil; and other states used health effects data to set standards. In addition, some states made site-by-site judgments about appropriate cleanup levels. As a result,

---

[7]Forty-four different water contaminants were identified at 9 of the 17 sites we looked at. Only 28 of these contaminants had federal standards. Soil at 14 of the 17 sites was contaminated with 1 or more of 44 contaminants. There are no federal soil standards.

cleanup levels varied for some contaminants from state to state and from site to site within a state. For instance, cleanup levels set for lead in soil varied from 46 parts per million to 820 parts per million at the sites we reviewed. The most stringent lead cleanup level was used at a site where children might come into contact with the soil, while higher lead concentrations were allowed where plans call for sites to be capped or where ambient lead concentrations in soil are higher. At Superfund sites, EPA requires risk assessments to set cleanup levels for these contaminants without standards. Risk assessments were either not done or were incomplete by EPA standards at 11 of the 17 sites. In some instances all possible contaminants or their exposure routes were not considered. For instance, possible groundwater contamination at six sites and exposure through consumption of fish and recreational contact at one site had not been considered.

An EPA internal study on risk assessments observes, and we concur, that poorly done risk assessments can lead to inconsistent site cleanups and may affect the cleanup agency's credibility and ability to negotiate with responsible parties.[8]

HOW STATES SELECTED REMEDIES

Most of the states we reviewed adopted a simpler and more informal remedy selection process than the one called for in EPA guidance for Superfund sites. States told us that cost, time, and staff limitations were reasons for these differences. They also cited the predominance of responsible party cleanups, where the state's role in remedy selection is normally limited to reviewing and accepting or modifying a cleanup plan proposed by the responsible party. The state does not normally evaluate alternative cleanup techniques or cost-effectiveness. Six of the

---

[8]Results of Study, "Evaluation of the Preparation of Risk Assessments for Enforcement Activities," U.S. EPA, Oct. 1, 1978, pp. 4 and 14.

seven states we visited considered either a single remedy or a limited number of remedial alternatives for their sites. Additionally, cost estimates for the remedies selected were available for 12 of the 17 sites, but only 4 of these included cost analyses of other possible alternative remedies.

Without looking at costs and alternatives for a given site, EPA believes it is difficult to judge whether the most appropriate remedy has been selected. With such information, Superfund case managers can better judge whether or not the remedy selected represents a reasonable value for the money or whether other remedies might be more permanent, according to an EPA official. We believe, however, that such a simplified remedy selection process may sometimes be more justifiable and useful at non-Superfund sites than it would be at complex Superfund sites because non-Superfund sites are generally smaller and less contaminated, thus presenting more straightforward and easily resolvable cleanup problems.

Section 121 of the 1986 Superfund amendments mandated a preference at Superfund sites for remedial actions that do not merely contain the hazardous waste, but instead treat it to reduce its volume, toxicity, or mobility. Remedies selected for the 17 non-Superfund sites called for both treatment and containment remedies. For example, remedies selected for nine of the sites involved treatment of principal threats from groundwater or soil contamination. Additionally, many states that responded to our survey reported that they have used various treatment technologies, as well as containment and disposal. Thirty states reported they have used treatment technologies at least once at a non-Superfund site, while 14 said they had never used a treatment technology. Six did not know whether a treatment technology had been used.

MORE TECHNICAL ASSISTANCE NEEDED

Our work indicates that states need more information on how best to clean up hazardous waste sites. Although EPA provides states with technical assistance in the form of standards, guidance, training, and advice on some cleanups, most states said that more such assistance would be helpful for non-Superfund cleanups.

At least 43 of the 50 states that responded to our survey said that each of the following types of federal assistance would help the state's cleanup of non-Superfund sites: more assistance with health effects data for conducting risk assessments, reports on new treatment techniques, and training for state personnel on treatment technologies and choosing remedies. Furthermore, many states said that additional federal cleanup standards would help state cleanup efforts.

Many EPA regional project managers who oversee Superfund cleanups are also unaware of the full extent of technical support and assistance provided by EPA's Office of Research and Development, according to an internal EPA report.[9] In many cases, regional case managers have never heard of this Office and are completely unaware of the technical support and services available, or often do not know how to locate the appropriate person within the Office to answer their questions. We believe that state hazardous waste officials are even less likely to be aware of EPA's technical resources because they have less access to EPA resources. Furthermore, the report said that most Superfund case managers who were aware of this Office's research reports indicated that most written materials were not helpful because of time pressures they face and of difficulties in locating the materials they need. An

---

[9]Outreach Initiative on Superfund Remedial Investigation/ Feasibility Study (RI/FS), prepared by the Research Triangle Institute, Summer 1988.

EPA official acknowledged these time constraints to us and noted that EPA needs to put more emphasis on shorter "how to" guides and computer-assisted instruction to help states. These concerns prompted us to recommend in our report that the EPA Administrator reexamine the nature, form, and extent of EPA's technical assistance to states and EPA regions and implement a strategy for more effective delivery of such assistance.

EPA'S PROPOSAL TO TURN OVER SOME SUPERFUND CLEANUPS TO STATES

In its December 1988 revision to the National Contingency Plan,[10] EPA proposed allowing states to administer the cleanup of some Superfund sites. The purpose of the "deferral policy" is to speed up site remediation and preserve federal funds for sites whose cleanup can be achieved only by EPA action. The proposal leaves open how closely remedies selected by states for deferred sites would conform to federal cleanup standards and remedy selection criteria. After issuing the proposal EPA decided to consider the deferral policy separately from the proposed National Contingency Plan. Although EPA officials told us that they are no longer working on the deferral policy, the issue of state and federal cleanup roles is likely to arise again during Superfund's reauthorization in 1991.

Most of the 50 states that responded to our survey expressed willingness to take over responsibility for Superfund sites when responsible parties are available to fund cleanups but would not do so without responsible parties. Specifically, 40 states said they would be willing to assume cleanup responsibility when

---

[10]The National Contingency Plan is the federal regulation that guides the Superfund program. It addresses cleanup responsibilities and authorities, when cleanup requirements under other federal laws, such as the Safe Drinking Water Act, must be met, and the development and selection of cleanup remedies.

responsible parties are available, while only 13 states said they would still be willing to assume cleanup responsibility without responsible party funding.

Safeguards Needed for Deferral

EPA's proposal of deferring Superfund site cleanups to the states does not currently require that state cleanups meet federal cleanup standards or criteria for remedy selection. Furthermore, the proposal does not describe in sufficient detail the capabilities states must possess to qualify for deferred sites or set requirements for federal oversight. For a deferral program to succeed, EPA will need better criteria for deciding which states are prepared to handle cleanup of deferred sites. Additionally, inconsistency in cleanups is likely to worsen if states are given unsupervised control over Superfund sites. EPA has delayed further work on this proposal to defer Superfund site cleanups to states.

As the Superfund program has evolved, standards for cleanup and criteria for selection of remedies have gradually developed. When Superfund enabling legislation was passed in 1980, it did not contain cleanup standards. In a 1985 report prepared for Superfund's reauthorization, we said that "The absence of cleanup standards is one of the most important issues confronting the Superfund program; it has a direct bearing on the program's cost and the extent to which cleanup actions will protect public health and welfare and the environment."[11] In the 1986 Superfund amendments, the Congress set minimum standards and provided guidance on remedy selection. EPA, in turn, has drafted regulations to implement these 1986 provisions and developed other guidance for agency decision makers to define acceptable cleanup standards and procedures.

---

[11] Cleaning Up Hazardous Waste: An Overview of Superfund Reauthorization Issues (GAO/RCED-85-69, Mar. 29, 1985).

The deferral proposal unfortunately runs counter to this trend toward more standardized and predictable cleanups. The proposal may in fact put decision-making on one class of Superfund-type sites--deferred ones--back in the pre-1986 era, which was found to be unsatisfactory. We believe that any sites deferred should be cleaned up consistently and should at a minimum meet federal cleanup standards and remedy selection criteria. Furthermore, EPA should monitor state cleanups of deferred sites. For these reasons we recommended that the Administrator require, in any deferral policy EPA adopts, that states meet specified standards for experience and resources and that state cleanups of deferred sites be consistent with Superfund standards and procedures. We also recommended that EPA have the right to monitor state cleanups. Although EPA has delayed further work on the deferral policy, we believe that the balance of federal and state cleanup responsibilities for hazardous waste sites will likely be revisited during the Superfund reauthorization.

CONCLUDING THOUGHTS

EPA expects that it will be unable to keep up with future increases in the number of Superfund sites and predicts that backlogs of sites awaiting cleanup will grow. Given the magnitude of the cleanup task EPA faces and the slow pace of Superfund cleanup progress thus far, the Congress may need to consider during Superfund's reauthorization other ways to expedite cleanup. We do not oppose a stronger role for states in solving the nation's huge hazardous waste problem. By increasing technical assistance to the states, EPA will encourage and strengthen state cleanup programs. However, we believe that many states will likely have their hands full cleaning up the many known and as yet undiscovered non-Superfund sites. We believe, therefore, that a policy of deferring Superfund site cleanups to states without the proper controls and safeguards will not ensure the consistency and quality of cleanups

envisioned by the Congress in 1986. If in the future EPA once again proposes a deferral policy, it should take steps to provide safeguards to ensure state capabilities and consistency in cleaning up the nation's most serious hazardous waste sites.

Mr. Chairman, that concludes my prepared statement. I would be glad to answer any questions that you or members of the Subcommittee may have.

ATTACHMENT I

STATUS OF NON-SUPERFUND SITES AS REPORTED BY STATES

	Number of Sites							
				PRP[a] negotiations/ enforcement actions underway/ completed		Remedial action		
State	Needing attention	Preliminary assessment underway/ completed	Site investigation underway/ completed		Interim response underway/ completed	Planning or design begun	Started but not completed	Completed
Alabama	500	487	136	[b]	[b]	0	0	0
Alaska	[b]	[b]	[b]	[b]	[b]	[b]	6	[b]
Arizona	453	216	93	[b]	[b]	[b]	[b]	[b]
Arkansas	108	286	192	6	9	2	24	8
California	6,654	300	[b]	[b]	[b]	[b]	[b]	174
Colorado	361	361	330	48	20	0	28	0
Connecticut	560	495	60	158	8	108	[b]	50
Delaware	160	180	95	1	0	0	0	0
Florida	821	795	269	332	64	49	[b]	18
Georgia	628	675	147	152	138	20	8	115
Hawaii	[b]	0	0	0	0	0	0	0
Idaho	164	142	49	6	6	0	0	0
Illinois	224	154	100	50	20	90	50	30
Indiana	1,400	1,200	400	11	10	0	4	5
Iowa	164	77	71	18	3	16	9	2
Kansas	314	63	48	19	10	22	32	26
Kentucky	250	400	100	50	30	40	10	20
Louisiana	257	485	338	28	8	10	5	8
Maine	117	108	83	29	10	3	3	7
Maryland	254	267	89	54	41	32	18	19
Massachusetts	1,725	300	400	700	300	200	100	250
Michigan	1,667	1,598	288	844	661	90	90	[b]
Minnesota	117	117	18	24	8	23	16	28
Mississippi	300	311	73	12	6	0	0	0
Missouri	446	827	389	11	15	7	7	34
Montana	132	49	39	18	14	2	0	0
Nebraska	38	13	11	4	5	1	1	0
Nevada	0	[b]	[b]	[b]	[b]	[b]	[b]	[b]
New Hampshire	400	[b]	[b]	[b]	100	70	60	10
New Jersey	3,000	2,725	1,575	689	73	35	186	753[c]
New Mexico	495	240	185	34	15	12	21	0
New York	1,039	1,085	821	307	[b]	120	20	84
North Carolina	758	680	146	0	1	4	0	20
North Dakota	21	44	18	0	4	0	4	0
Ohio	700	850	[b]	10	20	0	0	0

(continued)

ATTACHMENT I

State	Number of Sites							
	Needing attention	Preliminary assessment underway/ completed	Site investigation underway/ completed	PRP[a] negotiations/ enforcement actions underway/ completed	Interim response underway/ completed	Remedial action		
						Planning or design begun	Started but not completed	Completed
Oklahoma	30	25	25	7	1	0	0	0
Oregon	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Pennsylvania	1,100	890	352	[b]	[b]	[b]	[b]	[b]
Rhode Island	280	205	20	37	[b]	[b]	[b]	[b]
South Carolina	42	44	[b]	3	10	1	0	2
South Dakota	1	1	1	1	0	0	0	0
Tennessee	755	692	400	100	20	12	5	36
Texas	88	28	4	19	6	0	0	0
Utah	164	144	69	0	19	2	1	1
Vermont	241	114	44	50	12	8	7	1
Virginia	150	400	100	20	10	5	5	2
Washington	506	[b]	[b]	100	2	15	10	7
West Virginia	299	299	113	[b]	20	0	0	6
Wisconsin	223	173	70	54	[b]	50	30	20
Wyoming	86	100	15	0	0	0	0	0
Totals	**28,192**	**18,645**	**7,776**	**4,006**	**1,699**	**1,049**	**769**	**1,736**

[a]Potentially responsible party.

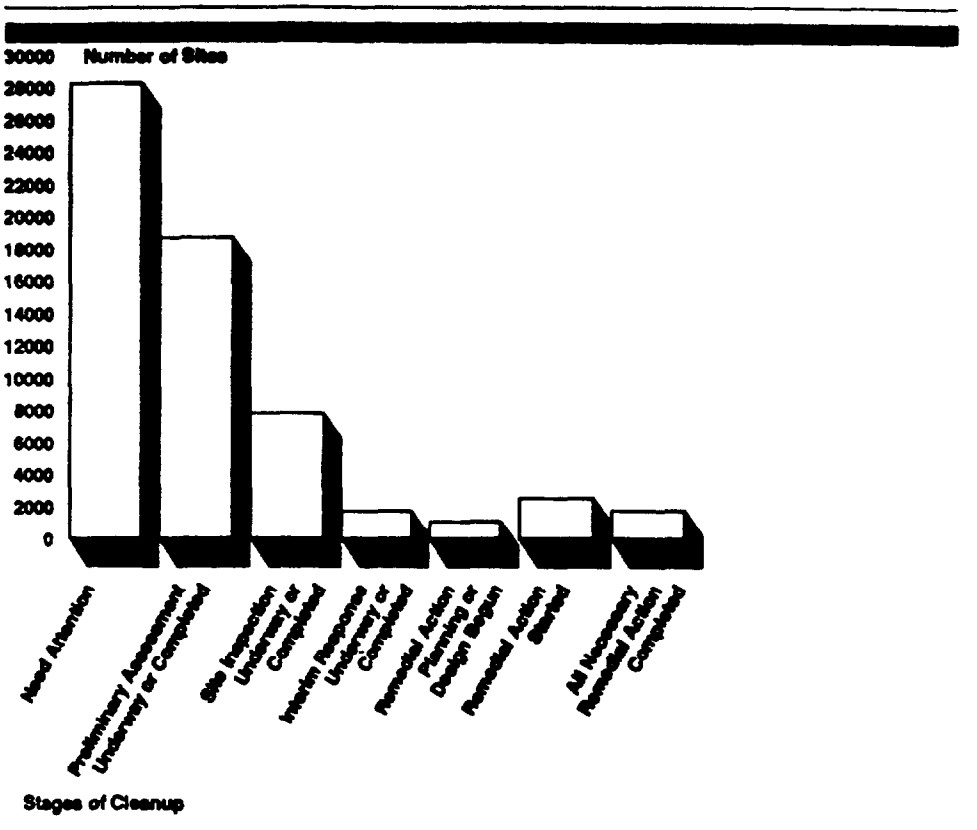
[b]Indicates that the state did not provide data to answer the question in the questionnaire.

[c]New Jersey's questionnaire response stated that these figures do not represent cumulative numbers for its total historical cleanup program, which extends back to 1980; if cumulative numbers were included, figures would be larger.

Source: State responses to our questionnaire, which were received between September 1988 and February 1989.

ATTACHMENT II

NUMBERS OF NON-SUPERFUND SITES AT VARIOUS STAGES OF CLEANUP



Note: Interim responses include both state and EPA activities.

Source: Data states provided in questionnaire responses, which were received between September 1988 and February 1989.