

N52769

United States General Accounting Office

Report to Congressional Requesters

GAO

September 1994

# SUPERFUND

## Status, Cost, and Timeliness of Hazardous Waste Site Cleanups



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United States  
General Accounting Office  
Washington, D.C. 20548

Resources, Community, and  
Economic Development Division

B-257698

September 21, 1994

The Honorable John D. Dingell  
Chairman, Committee on Energy  
and Commerce  
House of Representatives

The Honorable Al Swift  
Chairman, Subcommittee on Transportation  
and Hazardous Materials  
Committee on Energy and Commerce  
House of Representatives

Almost 14 years after the Superfund program was created, concern remains focused on the cost and slow rate of cleanups at hazardous waste sites. Hundreds of billions of federal dollars will be needed to clean up thousands of such sites across the country, according to recent estimates. As the Superfund law is being reauthorized, the Congress has the opportunity to assess the program's current status and future direction. To assist this assessment, you asked that we provide data on (1) how the Environmental Protection Agency (EPA) used funds obligated for the Superfund program in fiscal years 1987 through 1993; (2) the status of cleanup work at each Superfund site, including federal facilities; (3) the time differences in the cleanup work financed by EPA and parties responsible for the contamination, usually private enterprises; and (4) the extent to which limits on judicial review of EPA's cleanup decisions have eliminated cleanup delays.

## Results in Brief

In fiscal years 1987 through 1993, 60 percent of the \$10 billion obligated for the Superfund program went to the contractors that perform site cleanups. The largest portion of cleanup spending went toward remedial or long-term cleanup activities, which include site studies, remedial designs, and construction of the cleanup remedy. During this period, spending on the construction phase of this process overtook spending for site studies. Funding for construction increased from 46 percent of the total annual remedial cleanup spending in fiscal year 1987 to 78 percent in fiscal year 1993. We found that 40 percent of the funds obligated for construction went to 13 sites—just 7 percent of the sites that received such funding during the period.

While cleanup work has been fully completed for only 52 sites, as of September 30, 1993, significant progress had been made in moving about half of the 1,320 Superfund sites beyond the initial study phase and into the design and construction phases of cleanup. Nevertheless, we found that 18 percent (150) of the sites that have been in the Superfund program for at least 8 years have not progressed beyond the initial study phase (that is, decisions on the type of cleanup to perform have not yet been completed). At 9 of these 150 sites, the study phase has not yet begun. In general, progress at federal facilities has lagged behind progress at nonfederal sites.

Our analysis of EPA's data shows little time difference in the cleanup work financed by EPA and the cleanup work financed by parties responsible for the contamination. On average, the cleanup times for both categories of sites are longer than the agency's current goals for completing this work. However, EPA's data do indicate a trend toward even longer average cleanup times for projects yet to be completed, despite the agency's numerous efforts to shorten these times.

Attorneys at the Department of Justice and EPA believe that the limits on the timing of judicial review of EPA's cleanup decisions have been effective in discouraging or quickly eliminating legal challenges that might otherwise have delayed cleanups. They report that since the Congress explicitly limited judicial reviews in 1986, only three site cleanups have been delayed by legal challenges.

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## Background

The Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980 to clean up highly contaminated hazardous waste sites. The act gave EPA the authority to clean up these sites or to compel the parties responsible for the hazardous wastes to perform the cleanup.<sup>1</sup> CERCLA established a \$1.6 billion trust fund, financed primarily by taxes on crude oil and certain chemicals, for EPA to implement the program and pay for cleanups. In 1986, the Superfund Amendments and Reauthorization Act (SARA) set new requirements and authorized an \$8.5 billion increase in the trust fund. In 1990, the Congress reauthorized CERCLA through 1994 and added \$5.1 billion to the trust fund authorization without making any substantive changes to the program.

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<sup>1</sup>Responsible parties may include waste generators, waste haulers, and site owners and operators.

The Superfund program has two basic types of cleanups: short-term cleanups (removal actions) and long-term cleanups (remedial actions). In the Superfund removal program, actions are taken to mitigate immediate and significant threats, such as those stemming from contaminated drinking water or unrestricted access to hazardous waste sites. These actions are generally of a short-term and emergency nature, such as providing alternative drinking water supplies and cleaning up chemical spills caused by transportation accidents.

To perform a remedial action, EPA must go through the formal process of placing a site on its National Priorities List (NPL).<sup>2</sup> EPA may then go through a series of steps to perform the cleanup:

- Step 1: Conduct a site study to identify wastes and to evaluate and select a remedy for the contamination identified. This phase is known as the remedial investigation and feasibility study (RI/FS or site study).
- Step 2: The period of time between the end of the study phase (RI/FS) and the beginning of the next phase (remedial design) can be a significant factor in the length of time expended on the cleanup process. Therefore, in our measurements of the time elapsed in the process, we have included this period as a separate step.
- Step 3: Design methods for implementing EPA's chosen remedy. This phase is known as remedial design (RD).
- Step 4: Construct and implement the remedy. This phase is known as remedial action (RA).

Any or all of the cleanup phases may be paid for and performed by a responsible party under a legally enforceable agreement with EPA. Cleanup work at a specific site is sometimes broken into separate projects (referred to as operable units). Thus, a site may have a site study ongoing for one of its operable units and design work ongoing for another. Once EPA and the state in which the site is located have determined that all work at a site has achieved the desired cleanup goals, the site can be removed (deleted) from the NPL.

Since early in the history of the Superfund program, various parties have challenged EPA's actions in court. Judicial review of these challenges before cleanup actions are complete may delay cleanup. Delays may occur because a court orders EPA not to take a challenged action, because agency staff are diverted from cleanup activities to prepare for litigation, or

<sup>2</sup>The NPL consists of two types of sites: proposed and final. EPA first proposes a site and then, after receiving public comments, either lists it as final or removes it from the list.

because EPA must revise or postpone key cleanup decisions as the result of a challenge. Affected parties have challenged everything from EPA's initial decision to address a site through the Superfund program, to the agency's chosen remedy for a site. EPA's cleanup activities at some sites have been the subject of multiple legal challenges. However, in the first years of the Superfund program, most courts ruled that they could not review these challenges.

To further ensure that legal challenges would not delay Superfund cleanups, the Congress enacted statutory limits on the judicial review of challenges. Section 113(h) of CERCLA, enacted by the Superfund amendments of 1986, bars responsible parties from obtaining judicial review of EPA's decisions until the parties have received and complied with a cleanup order, or until the government has taken some other enforcement action in court that would compel the parties to perform or pay for the challenged activity. Section 113(h) also bars other affected parties, such as citizens groups and states, from obtaining a review of EPA's actions until those actions are complete.

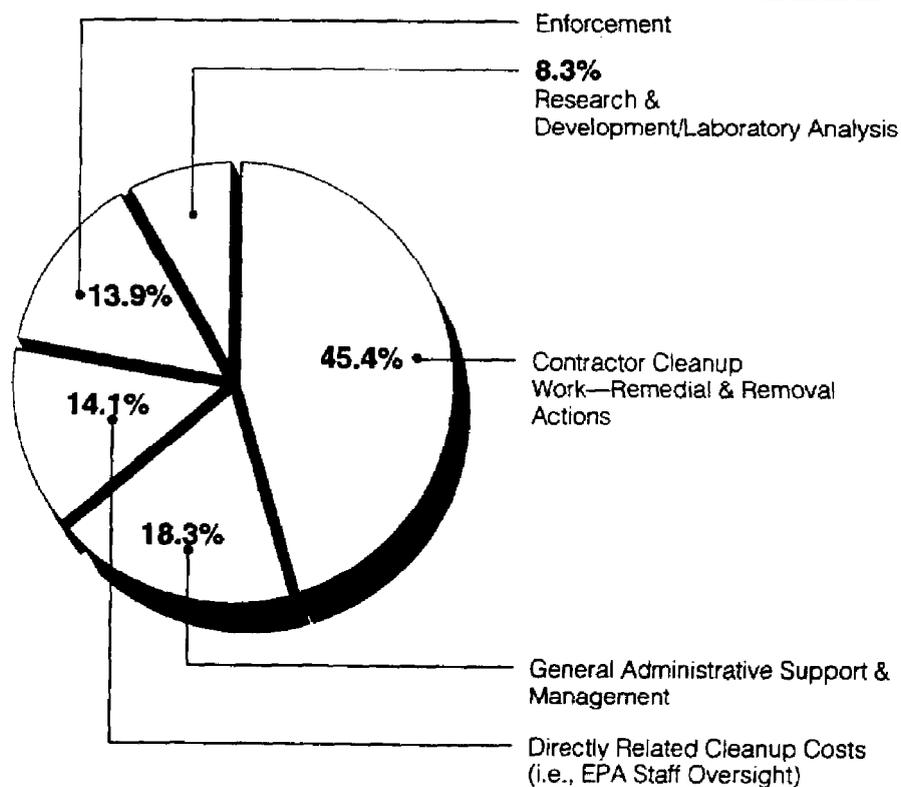
## Trends in Program Funding

In fiscal years 1987 through 1993, certain funding trends were apparent in the Superfund program. First, most Superfund obligations went to contractor-performed cleanup studies and the construction of remedies. Second, during this period EPA shifted the remedial program's emphasis and funding away from studying site conditions and toward completing the construction of remedies. A small number of sites consumed most of the construction money. Third, the removal program's costs increased, largely because EPA recently began moving remedial action funds into the removal program.

As shown in figure 1, in fiscal years 1987 through 1993 EPA obligated \$4.5 billion, or 45 percent, of the total \$10 billion obligated in the Superfund program for the contractors that perform site cleanup work, both for remedial and removal actions.<sup>3</sup> Another 14 percent of the funds was used to cover other directly related cleanup costs, such as the salaries of the EPA personnel who oversee this work; 14 percent was used for enforcement activities. The rest was used for research and development, laboratory analysis, and general administrative program costs.

<sup>3</sup>See app. I for a more detailed breakdown of Superfund obligations and disbursements in fiscal years 1987 through 1993.

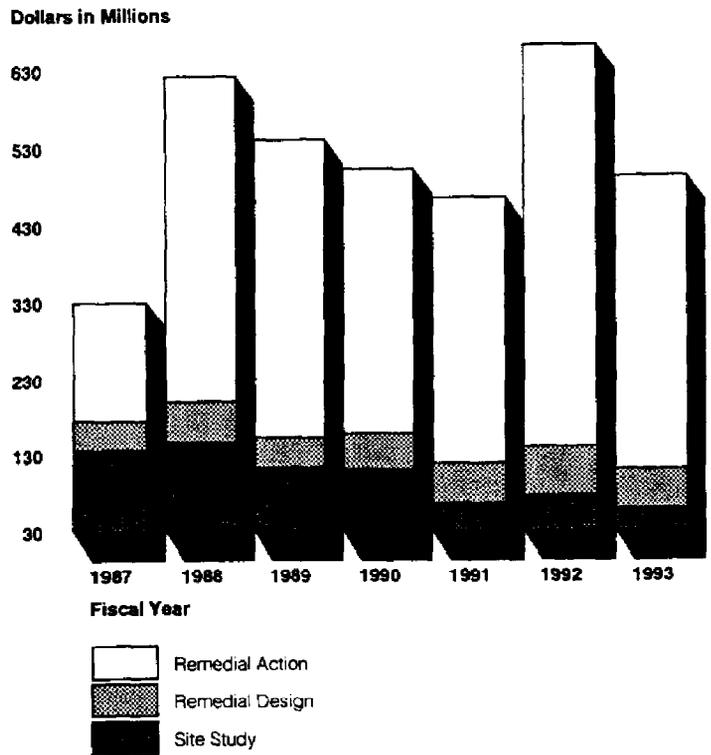
**Figure 1: Total Distribution of Superfund Program Funds in Various Categories, Fiscal Years 1987 Through 1993**



Source: EPA's financial management systems data, as of Dec. 1993.

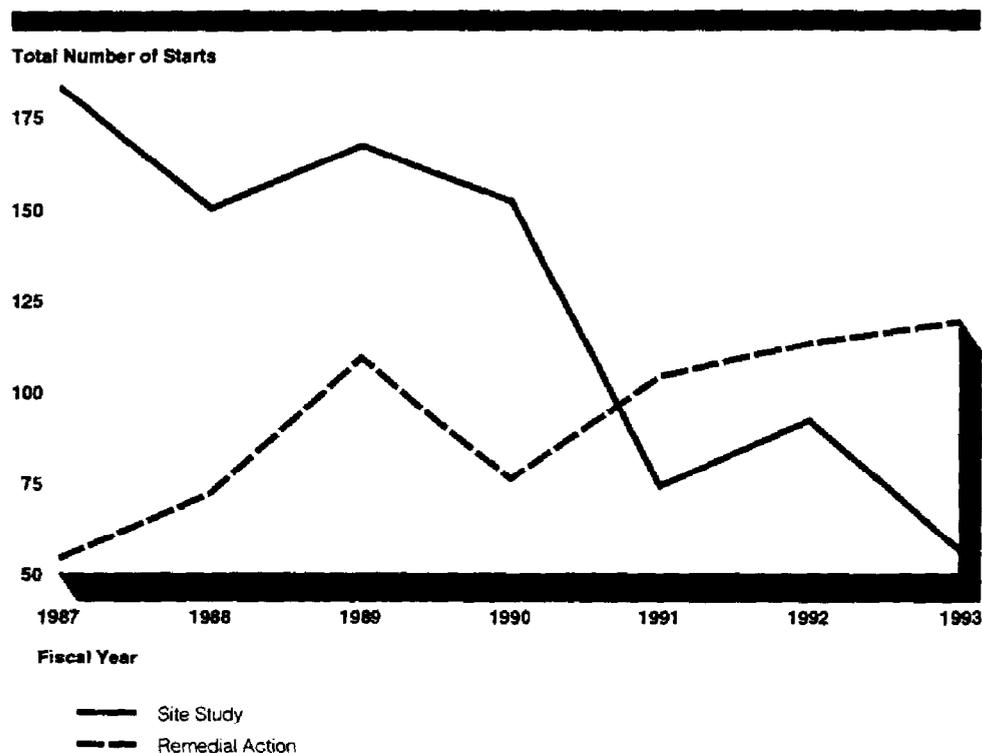
We also found that site studies no longer make up the program's chief annual cleanup expense. Rather, the program's focus and funding have turned to later stages of the cleanup process. (See fig. 2.) In fiscal year 1987, site studies accounted for 41 percent of the funds that went to the EPA contractors that perform site studies and that design and construct cleanup remedies. By fiscal year 1993, site studies accounted for only 12 percent of these funds, and the construction phase accounted for 78 percent. This change reflected the agency's decision in fiscal year 1989 to constrain dollars spent on site studies and to focus funding on constructing remedies. As figure 3 shows, the annual number of site study starts peaked in fiscal year 1987, while the number of remedial action starts generally rose through fiscal year 1993.

**Figure 2: Annual Obligations for Site Studies, Remedial Designs, and Remedial Actions, Fiscal Years 1987 Through 1993**



Source: GAO's analysis of EPA's financial management systems data, as of Dec. 1993.

**Figure 3: Annual Number of Site Studies and Remedial Actions Started, Fiscal Years 1987 Through 1993**



Source: GAO's analysis of EPA's data.

In reviewing the funding for remedial actions, we found that a very small number of expensive cleanup projects accounted for a large percentage of this budget. For example, in fiscal years 1987 through 1993, EPA obligated \$1.1 billion, or over 40 percent, of the \$2.6 billion obligated to construct cleanup remedies at 13 sites—or about 7 percent of the more than 200 sites that received such funding during this time.<sup>4</sup> This pattern of expenditures raises the question of whether the risks posed by these 13 sites warrant this large share of EPA's cleanup funds. We recently reported that risk plays only a minor role in the setting of EPA's priorities.<sup>5</sup>

<sup>4</sup>The 13 sites are Baird and McGuire, MA; Montclair/West Orange Radium Site, NJ; Lipari Landfill, NJ; Bridgeport Rental and Oil Services, NJ; Helen Kramer Landfill, NJ; Combe Fill South Landfill, NJ; Drake Chemical, PA; Moyers Landfill, PA; LaSalle Electric Utilities, IL; Sikes Pit, TX; Bayou Bonfouca, LA; Texarkana Wood Preserving Company Site, TX; and Denver Radium Site, CO.

<sup>5</sup>Relative Risk in Superfund (GAO/RCED-94-233R, June 17, 1994).

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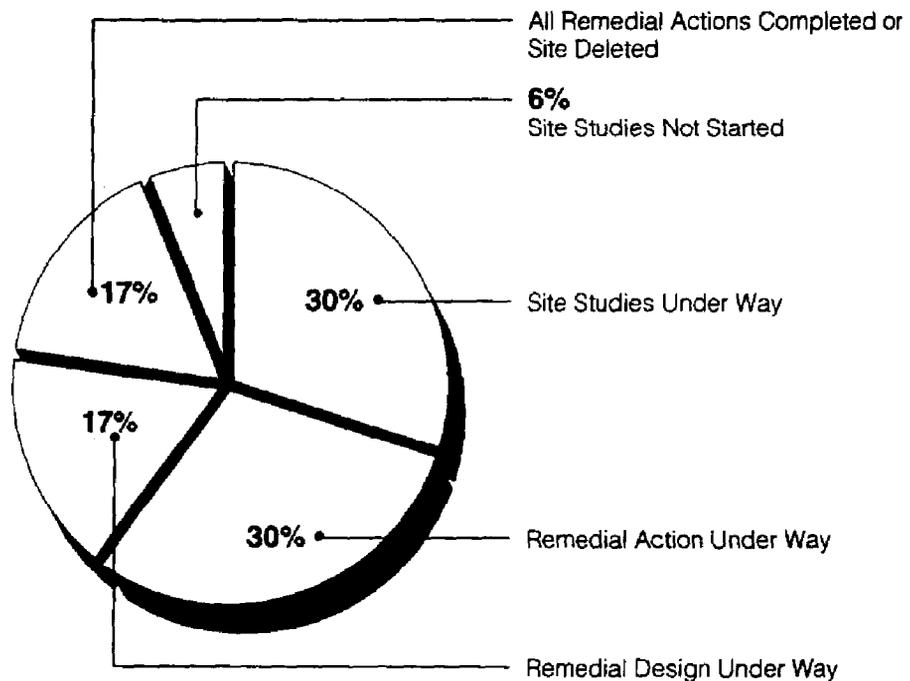
We also identified another funding trend: growing expenditures for the removal program. In fiscal years 1991 through 1993, the removal budget increased from \$192 million to \$272 million, or 42 percent. Most of this increase was the result of EPA's shifting of moneys from the remedial action budget to the removal budget in fiscal years 1992 and 1993. In these two fiscal years, EPA transferred \$109.5 million of its remedial money to pay for removal work to facilitate more expeditious cleanup work. EPA used this remedial action funding to perform an additional 34 removal actions at 29 NPL sites.

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## Progress Is Uneven in Site Cleanup Work

Progress is being made in cleaning up NPL sites, but almost 14 years after the program's inception, the actual number of sites deleted from the NPL remains small. (See fig. 4 and app. II.) As expected, the sites listed before 1987 have progressed farther in the cleanup process than those listed after that time, although almost one-fifth of these pre-1987 listed sites are still in the study phase. In addition, we found that the initial site study phase of the cleanup process has not been started for nine sites listed before 1987. Cleanup progress at federal facilities is lagging behind progress at nonfederal facilities.

**Figure 4: Status of Cleanup Work for 1,320 NPL Sites, as of September 30, 1993**



Note: Sites have been placed in categories according to operable unit that has made the farthest progress in the cleanup process.

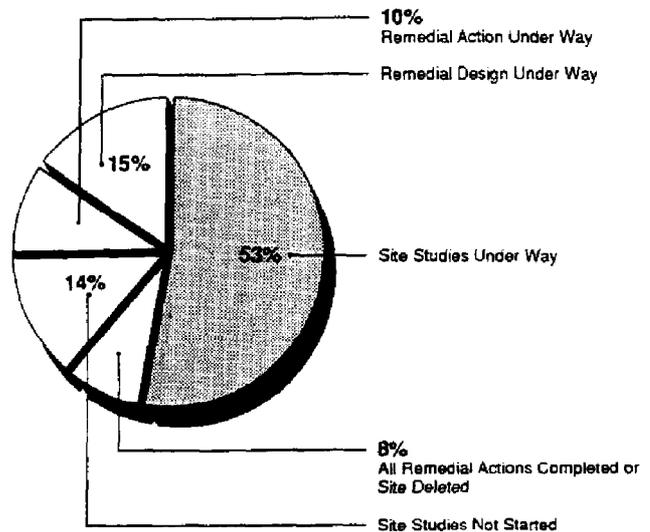
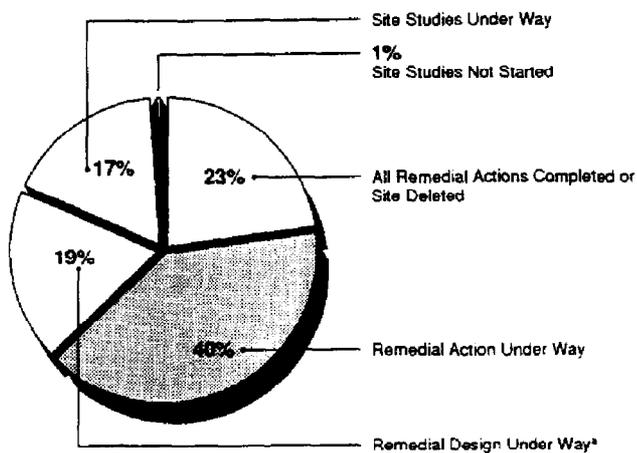
Source: EPA's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) End-of-Fiscal-Year 1993 data.

Generally, as figure 5 shows, the sites listed before 1987 are farther in the cleanup process than those listed later. However, we did find that almost 20 percent (150) of the 813 sites listed before 1987 are still in the initial study phase, and EPA headquarters officials could not explain the slow progress being made at these sites. In fact, for nine of these sites, studies had not even begun. (See app. III for a list of these sites.) The slow progress of cleanups raises two questions: First, what is the potential harm of letting these nine sites wait years before site studies begin? Second, if no potential for harm exists, why are they still on the NPL? At some of the nine sites, immediate threats have been reduced by interim measures, such as the removal of drums containing contaminated materials and restrictions placed on site access.

**Figure 5: Comparison of the Status of Cleanup at NPL Sites Listed Before and After 1987, as of September 30, 1993**

Before 1987

After 1987



Note: Sites have been placed in the above categories according to the status of work at a site's operable unit that has gone farthest in the cleanup process.

\*Percentages do not add to 100 because of rounding.

Source: EPA's CERCLIS End-of-Fiscal-Year 1993 data.

In general, cleanups at federal facilities have not progressed as far as those at nonfederal sites. For example, no federal facility has been deleted from the NPL, and as of September 30, 1993, remedial action construction at all operable units had been completed at only one federal facility. To some extent, the slower progress at federal facilities results from their later entry into the Superfund program and their larger size. Most federal facilities have been placed on the NPL since the Congress enacted statutory mandates in 1986 to accelerate the identification and cleanup of federal

hazardous waste sites.<sup>6</sup> In addition, they are often much larger (averaging 5.9 operable units) than nonfederal sites (averaging 1.8 operable units). A federal facility is usually defined as an installation or landholding, including all contiguous land, owned by a U.S. department or agency. In contrast, a nonfederal NPL site is usually an area, not necessarily all the land within a facility, containing hazardous wastes. Interagency coordination and other management problems also have contributed to the slow pace of federal facility cleanups. We intend to explore the progress of federal facility cleanups in future reviews.

### Inaccuracies Were Found in EPA's Data on the Status of Cleanup Work at Nine Sites

In attempting to determine why certain sites listed before 1987 had not entered the site study phase, we found some errors in EPA's data on site status. According to EPA's CERCLIS<sup>7</sup> data, 16 sites listed before 1987 had not started the study phase at the end of fiscal year 1993. Yet, in discussions with state and EPA officials, we found that 2 of these 16 sites had actually started the site study phase and 5 had progressed to the construction phase. (See app. III for more details on these sites.) For five of these seven sites, states are managing site cleanup work that is being performed by responsible parties. EPA regional staff had not been collecting and updating information on these state-managed sites because the regions cannot use these sites to meet numerical performance goals (such as starting or completing a certain number of site studies). These performance goals are used to evaluate the regions' performances and to allocate their budgets. In May 1994, EPA directed the two regions with the five misclassified sites that we identified to update CERCLIS on these sites and in the future to ensure accurate reporting of the status of all state-managed sites. However, as of July 1994 EPA had not requested its regions to review the accuracy of their CERCLIS data on other state-managed sites. At the other two sites, where EPA was responsible for the cleanup, site study work had actually started, but EPA regional staff had not updated CERCLIS to accurately reflect the sites' status.

<sup>6</sup>In *Superfund: Backlog of Unevaluated Federal Facilities Slows Cleanup Efforts* (GAO/RCED-93-119, July 20, 1993), we reported that the listing of federal facilities was being delayed by a backlog of sites awaiting evaluation for entry on the NPL and by the low priority EPA and some federal agencies have placed on this effort.

<sup>7</sup>CERCLIS is the data base developed to assist EPA's headquarters and regional staff in managing the Superfund program and reporting on the program's accomplishments.

## Cleanup Times Are Similar for Fund- and Responsible Party-Financed Work

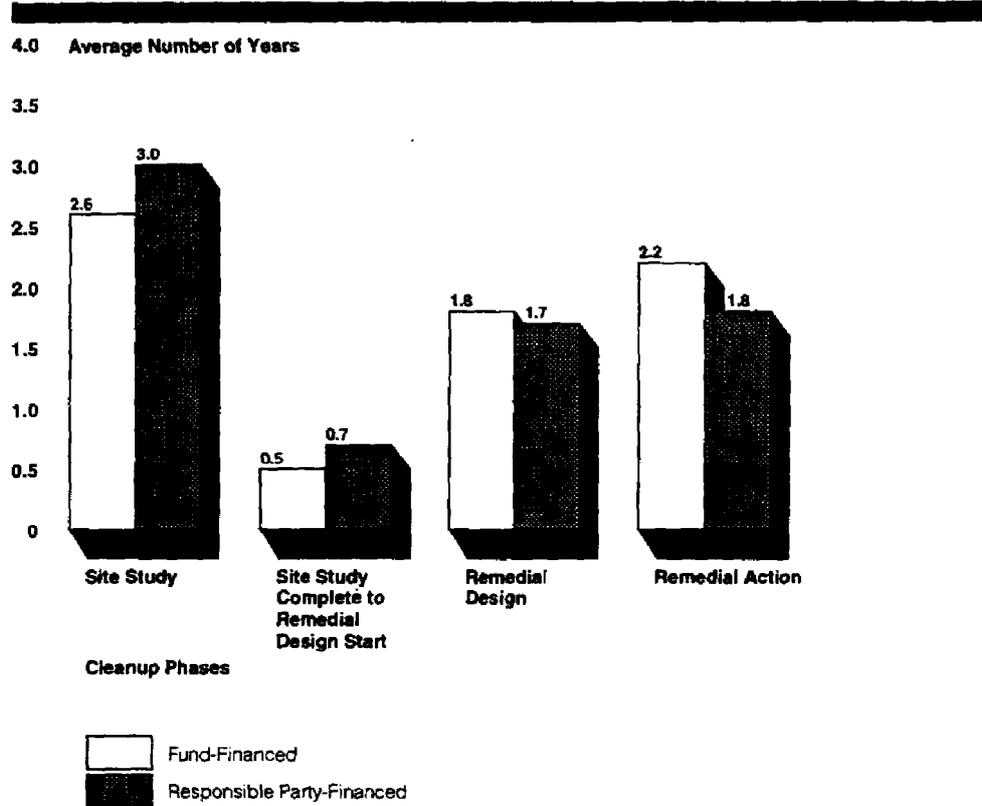
Our analysis of EPA's data shows little difference in the average times taken to complete each of the four phases of the cleanup process that we measured for both fund- and responsible party-financed cleanup work.<sup>8</sup> It also shows that these average times often exceed the agency's goals, or time frames, for completing this work. EPA's data also reveal substantial differences among EPA's regions in the average times taken to complete the same individual phases, although EPA has not examined the reasons for such differences. Most significantly, EPA's data show a trend toward even longer cleanup times, in spite of the agency's past and current efforts to expedite the cleanup process.

As shown in figure 6,<sup>9</sup> the biggest difference in average cleanup times for fund- and responsible party-financed work was that responsible parties took about 5 months longer to complete the site study phase, while fund-financed contractors took about 5 months longer to construct the remedy. In addition, responsible parties took a few months longer to start designing the cleanup remedy after the remedy had been selected (at the end of the study phase). During this period, EPA negotiates with responsible parties to pay for the most expensive part of the cleanup process—the remedial design and construction work. Thus, the responsible parties' longer startup time is not surprising. However, EPA officials noted that negotiations with responsible parties—sometimes very protracted ones that fail to produce a settlement—also take place during this time for some fund-financed design and construction projects.

<sup>8</sup>The four phases we measured include the three major phases of the cleanup process—site study, design, and remedial action construction—and the time between the end of the study phase and the beginning of the design phase.

<sup>9</sup>For information on the specific average times and the number of cleanup projects upon which each average is based, see app. IV.

**Figure 6: Average Times Taken to Complete Different Cleanup Phases, as of September 30, 1993**



Note: These averages are for operable units, not sites, and for projects started and completed after the passage of SARA.

Source: GAO's analysis of EPA's CERCLIS data.

**Average Completion Times Are Longer Than EPA's Goals**

According to EPA's data, the average completion times for three of the four phases we measured exceeded the agency's goals for completing each phase of the work by over half a year. For example, as shown in table 1, fund- and responsible party-financed site studies are taking, on average, more than half a year longer to complete. In addition, both fund- and responsible party-financed design work is taking almost twice as long to complete as EPA would like. For the remedial action construction phase, fund-financed work is taking almost a year longer than the agency's goal, while the responsible parties are much closer to meeting this goal.

**Table 1: Comparison of Average Completion Times With EPA's Goals**

In Years			
Cleanup phase	EPA's goal	Fund-financed average time	Responsible parties' average time
Site study	2.0	2.6	3.0
Site study complete to remedial design start	.5	.5	.7
Remedial design	1.0	1.8	1.7
Remedial action	1.5	2.2	1.8

Note: These times are for operable units, not sites.

### Average Completion Times Vary Among Regions

We found some notable differences among EPA's 10 regions in the average times taken to complete the four phases we measured.<sup>10</sup> For example, average times for completing site studies varied by more than a year and a half—from 2 years in one region to 3.7 years in another region. EPA's data show similar variations in the regions' average completion times for the other three phases we measured. For instance, on average, remedial designs completed in two EPA regions took 1.4 years, while they took 2.4 years in another region.

Although EPA headquarters officials have been providing the regions with information on the regions' average times twice a year, they have not examined the reasons for such differences and have no plans to do so at this time. However, the agency has performed other special analyses on factors affecting the timeliness of cleanup work, such as the reasons for delays in starting the design phase. EPA officials agreed it would be useful to examine these regional differences and to identify the "best practices" that could be transferred to other regions to shorten cleanup times. They believe that more information, particularly on good management practices, needs to be exchanged and are in the process of exchanging such information.

### EPA's Data Indicate Trend Toward Longer Cleanups, Despite Efforts to Shorten Them

EPA's data indicate a trend toward longer cleanup times for projects still under way, even though the agency in the last 5 years has initiated several major efforts to expedite the process. At the end of fiscal year 1993, the average times for fund- and responsible party-financed projects that were

<sup>10</sup>See app. V for a table showing the average times that EPA's 10 regions have taken to complete each of the four phases we measured.

still under way were slightly longer than the average times for completed projects.

The longer durations for ongoing work are consistent with the results of our work showing that future Superfund cleanup work will be significantly more difficult than already completed work because the work involves more complex sites.<sup>11</sup> For example, we reported that 64 percent of the already completed sites disposed of untreated waste off-site, while 70 percent of the sites still in process will require waste to be treated to reduce its toxicity, mobility, or volume. In addition, two-thirds of the already completed sites ranked in the lower half of the NPL, which broadly indicates that the sites represent a lower risk, while the sites still in process are distributed throughout the NPL.

In response to widespread criticism of the slow pace of cleanup work, EPA has undertaken several initiatives to speed up the process. For example, in 1989 EPA conducted a major review of the Superfund program, referred to as the "90-Day Study." This study identified the need to accelerate the cleanup process as one of the program's major goals.

## Federal Attorneys Believe Judicial Review Bar Has Been Effective in Limiting Cleanup Delays

Department of Justice (DOJ) and EPA attorneys believe that the limits on judicial review have been very effective in discouraging or quickly eliminating challenges to EPA's cleanup activities. While the courts have historically disallowed early challenges to EPA's cleanup decisions, these attorneys also maintain that the statutory limits have made it even more difficult for parties to succeed with these challenges, thereby discouraging parties from bringing these suits. Most of the challenges we reviewed had little effect on cleanup schedules. According to government attorneys, only three site cleanups have been delayed by legal challenges since the statutory bar was enacted.

As of September 1, 1993, approximately 62 separate lawsuits had challenged EPA's actions at Superfund sites before those actions were complete. Seventeen of these lawsuits specifically challenged a removal action or remedy. (See app. VI for a list of these challenges.) Although any type of challenge could delay cleanup activities, our review, as requested, focused on challenges to remedies and removals, which may have the greatest potential to delay cleanup activities. We interviewed government attorneys about 10 such challenges—the 4 that occurred before the

<sup>11</sup>Superfund: Cleanups Nearing Completion Indicate Future Challenges (GAO/RCED-93-188, Sept. 1, 1993).

statutory bar was enacted and a judgmental sample of 6 cases that occurred after the bar was enacted (including all sites identified by government attorneys as having experienced cleanup delays as the result of this type of legal challenge).<sup>12</sup>

Three challenges in our sample delayed cleanup activities by more than 1 month. (See table 2.) Two of the four challenges that were brought before the statutory bar was enacted delayed cleanup activities—one by 2 to 6 months and the other by 40 months. The third challenge, brought after the bar was enacted, delayed cleanup activities by 6 to 8 months. All three challenges were initially reviewed by federal courts but were later dismissed by the same court or an appeals court. (App. VII illustrates how legal challenges at these three sites and a fourth site, the West Dallas Lead Superfund site in Texas, affected EPA's cleanup activities.)

**Table 2: Cleanup Delays Caused by Legal Challenges**

Case name	Site name/state	Estimated delay (in months)
<b>Challenges brought before the statutory limits were enacted</b>		
<u>Dickerson &amp; Amtreco, Inc. v. EPA</u>	Dickerson Post Site, GA	40
<u>J.V. Peters &amp; Co. v. EPA</u>	J. V. Peters Site, OH	1
<u>Jefferson County, MO v. EPA</u>	Minker/Stout/Romaine Creek Site, MO	2-6
<u>Lone Pine Steering Committee v. EPA</u>	Lone Pine Landfill, NJ	0
<b>Challenges brought after the statutory limits were enacted</b>		
<u>Alabama v. EPA</u>	Geneva Industries/Fuhrmann Energy Site, TX	6-8
<u>Arkansas Peace Center v. EPA</u>	Vertac Superfund Site, AK	Less than 1
<u>Bryant v. EPA</u>	Texarkana Wood Preserving Company Site, TX	0
<u>City of Monroe, LA v. EPA<sup>a</sup></u>	West Dallas Lead Superfund Site, TX	Less than 1
<u>Cooper Industries, Inc. v. EPA</u>	Sturgis Municipal Wellfield Site, MI	Unknown
<u>Fike v. U.S.</u>	Fike Chemical Site, WV	0

<sup>a</sup>This was only one of several legal challenges that delayed the cleanup of the West Dallas Lead site; it produced relatively minor delays in comparison with other challenges.

<sup>12</sup>The sample excluded challenges addressing EPA's activities at multiple sites.

The DOJ official responsible for overseeing the government's response to legal challenges noted that the review bar is most effective when it discourages parties from filing challenges. Although it is impossible to predict how many challenges would have occurred if the statutory bar had not existed, DOJ and EPA attorneys believe that the bar has discouraged many parties from challenging EPA's actions. The DOJ official reported that one anticipated challenge to EPA's site access was averted simply by providing the potential claimant with an explanation of the statutory limitation on judicial reviews.

## Conclusions

Since the passage of the Superfund Amendments and Reauthorization Act in 1986, EPA has shifted the Superfund program's remedial budget away from studying hazardous waste conditions at sites to constructing remedies that will protect human health and the environment. During this time, EPA has also concentrated a large portion of the remedial action budget on cleaning up a very small number of sites.

Furthermore, EPA has selected the cleanup remedies for a portion of at least half of the NPL sites. However, a large number of the sites listed on the NPL before 1987 have not yet moved beyond the initial study phase. EPA headquarters officials do not have a full explanation of why these sites have not made more progress.

Our work revealed errors in EPA's data on the status of cleanups at nine NPL sites that resulted in underreporting the status of cleanup work at these sites. On the basis of our limited review, we do not know how widespread this problem may be. But the Congress needs accurate information to adequately oversee the program and to decide what future investment is needed.

EPA's data reveal a disturbing trend: longer average cleanup times for ongoing projects than for those already completed. Despite EPA's efforts to expedite cleanups, cleanup times may grow still longer because of the greater complexity and different characteristics of these ongoing projects.

With few exceptions, the statutory limits appear to have accomplished the Congress's goal of ensuring that EPA's cleanup activities are not hindered by legal challenges.

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## Recommendations

To ensure that expeditious cleanup actions are being taken at Superfund sites listed before 1987 and the accuracy of EPA's data on site cleanup status, we recommend that the EPA Administrator take the following actions:

- Determine why no site studies have been started at nine sites placed on the National Priorities List before 1987 and the reasons for slow progress at other pre-1987 sites that have not progressed past the initial study phase. Consideration should be given to removing sites from the list if they do not pose a significant threat.
- Ensure the accuracy of the Superfund data base on state-managed sites by directing the regions to confirm the accuracy of the data with appropriate state officials, correct inaccurate data, and ensure accurate and timely reporting in the future.

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## Agency Comments

We discussed a draft of this report with the Design and Construction Management Branch Chief and other officials in EPA's Office of Solid Waste and Emergency Response and the Superfund Accounting Branch Chief in the Office of the Comptroller, who believed the report provided a fair and accurate portrayal of the issues discussed. We incorporated, where appropriate, their suggested revisions, including a discussion of their current efforts to exchange information among regions on ways to expedite cleanups. However, as requested, we did not obtain written agency comments on the draft report.

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We conducted our review between March 1993 and July 1994, in accordance with generally accepted government auditing standards. (See app. VIII for further discussion of our audit methodology.)

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to the Administrator, EPA. We will make copies available to others upon request.

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Please contact me at (202) 512-6112 if you or your staff have any questions.  
Major contributors to this report are listed in appendix IX.

A handwritten signature in black ink, appearing to read 'Peter F. Guerrero', written in a cursive style.

Peter F. Guerrero  
Director, Environmental Protection  
Issues

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**Abbreviations**

ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
DOJ	Department of Justice
EPA	Environmental Protection Agency
GAO	General Accounting Office
NPL	National Priorities List
OU	operable unit
RA	remedial action
RD	remedial design
RI/FS	remedial investigation and feasibility study
ROD	record of decision
SARA	Superfund Amendments and Reauthorization Act

# Superfund Obligations and Disbursements, Fiscal Years 1987 Through 1993

Dollars in millions

Activity	Fiscal years							Total, 1987-93
	1987	1988	1989	1990	1992	1992	1993	
<b>RI/FS<sup>a</sup></b>								
Obligations	\$135.5	\$147.0	\$113.0	\$110.1	\$66.0	\$76.3	\$58.5	\$706.4
Disbursements	79.6	111.4	104.7	92.2	93.5	74.0	52.1	607.5
<b>Remedial Design<sup>a</sup></b>								
Obligations	38.8	53.3	40.2	48.4	52.0	64.1	50.9	347.7
Disbursements	10.9	20.8	31.2	30.1	43.8	58.7	45.5	241.0
<b>Remedial Action<sup>a</sup></b>								
Obligations	154.0	421.4	385.8	343.0	345.6	520.4	380.7	2,550.9
Disbursements	46.3	47.4	151.2	175.8	283.8	273.6	233.9	1,212.0
<b>Other remedial<sup>b</sup></b>								
Obligations	118.3	119.3	171.3	131.7	145.2	136.2	143.4	965.4
Disbursements	82.3	106.0	118.3	120.8	108.7	121.1	138.5	795.7
<b>Removal<sup>c</sup></b>								
Obligations	146.5	155.2	180.9	183.7	191.7	248.3	272.3	1,378.6
Disbursements	87.4	126.0	131.5	146.4	169.7	192.5	229.4	1,082.9
<b>Enforcement<sup>d</sup></b>								
Obligations	110.8	124.0	192.2	203.2	243.8	262.0	250.2	1,386.2
Disbursements	69.1	113.3	106.7	168.9	216.7	225.7	231.9	1,132.3
<b>Research &amp; development<sup>e</sup></b>								
Obligations	44.3	55.8	68.9	80.4	70.0	64.9	97.9	482.2
Disbursements	19.2	41.2	56.6	65.8	72.7	81.1	96.7	433.3
<b>Laboratory analysis<sup>f</sup></b>								
Obligations	57.7	75.5	52.8	47.1	34.0	55.0	25.5	347.6
Disbursements	39.4	57.1	61.6	47.4	36.3	29.4	45.7	316.9
<b>Other<sup>g</sup></b>								
Obligations	148.3	213.6	266.8	347.3	304.9	262.0	290.5	1,833.4
Disbursements	95.7	167.1	187.2	279.8	340.4	311.3	260.6	1,642.1
<b>Totals</b>								
Obligations	\$954.2	\$1,365.1	\$1,471.9	\$1,494.9	\$1,453.2	\$1,689.2	\$1,569.9	\$9,998.4
Disbursements	\$529.9	\$790.3	\$949.0	\$1,127.2	\$1,365.6	\$1,367.4	\$1,334.3	\$7,463.7

(Table notes on next page)

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**Appendix I  
Superfund Obligations and Disbursements,  
Fiscal Years 1987 Through 1993**

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Note: These figures do not include the cleanup costs for federal facilities or the Agency for Toxic Substances and Disease Registry (ATSDR), which are not part of EPA's Superfund appropriations. However, they do include EPA's costs for overseeing federal facility cleanups.

<sup>a</sup>These three categories (RI/FS, RD, and RA) include only EPA's extramural costs (i.e., funds for EPA contractors, other federal agencies—such as the Army Corps of Engineers and Interior Department's Bureau of Reclamation—and cooperative agreements with states).

<sup>b</sup>"Other remedial" includes EPA's intramural costs for the remedial program. Intramural costs represent EPA's internal operating costs, such as personnel and travel. This category also includes community relations technical assistance grants and all intramural and extramural costs associated with the preremedial program, which screens sites for inclusion in the Superfund program.

<sup>c</sup>The removal category represents both intramural (e.g., on-scene coordinators and travel) and extramural costs (e.g., the contracts that provide the personnel, equipment, and materials for removal actions).

<sup>d</sup>This category includes both the intramural and extramural costs associated with EPA's Superfund enforcement program. The extramural costs are for contractual services related to responsible party oversight and searches and to general support and management (e.g., technical review of documents and DOJ costs). The intramural costs represent personnel charges for EPA attorneys and their staff involved in settlement negotiations, civil investigators, employee training, and case-documentation preparation.

<sup>e</sup>Research and development includes both intramural and extramural costs for EPA's Superfund Innovative Technology Evaluation (SITE) program and Hazardous Substance Research Centers and the intramural costs for EPA scientists.

<sup>f</sup>Laboratory analysis includes both intramural and extramural costs, such as for the evaluation and tracking of samples.

<sup>g</sup>The "other" category includes such costs as rent, procurement, training, and other general administrative program costs that are not specifically related to and captured in the above remedial or removal categories.

Source: EPA's Financial Management Systems Data.

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# Status of Cleanup Work at 1,320 NPL Sites, as of September 30, 1993

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EPA's data show that while nearly two-thirds of the 1,320 National Priorities List (NPL) sites have at least one operable unit that has progressed beyond the study phase, only 52 sites had been fully cleaned up and deleted as of September 30, 1993.<sup>1</sup> (See table II.1.) At another 223 sites, the remedy has been constructed, but either the site was going through various steps in the deletion process, or final cleanup levels had not yet been achieved because long-term cleanup measures, such as groundwater pumping, are still under way. More than one-third of the 1,320 sites have no operable units that have progressed further than the study phase; these sites are still years away from being cleaned up.

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<sup>1</sup>Sites have been placed in the various categories according to the status of work at the operable unit (OU) that has gone farthest in the cleanup process—i.e., the most advanced OU. To illustrate, the Baird & McGuire site in Massachusetts has been placed in the RA completion category. This site has four OUs—remedial action has been completed at one OU; two other OUs have remedial actions ongoing, and remedy design is under way at a fourth OU.

**Appendix II**  
**Status of Cleanup Work at 1,320 NPL Sites,**  
**as of September 30, 1993**

**Table II.1: Status of Cleanup Work at 1,320 Proposed and Final NPL Sites, as of September 30, 1993**

<b>Status of NPL sites</b>	<b>Initial 418 proposed sites<sup>a</sup></b>	<b>Other pre-1987 listed sites<sup>a</sup></b>	<b>Post- 1987 listed sites<sup>a</sup></b>	<b>Federal facility sites</b>	<b>Total</b>
Deleted from NPL (percent)	35 (8)	15 (4)	2 (.5)	0 (0)	<b>52</b> <b>(4)</b>
RA construction completed at all OUs (percent)	77 (19)	60 (15)	28 (8)	1 (.7)	<b>166</b> <b>(13)</b>
RA complete at one or more but not all OUs (percent)	117 (28)	62 (16)	16 (4)	11 (8)	<b>206</b> <b>(16)</b>
RA ongoing at one or more OUs but not complete at any OU (percent)	70 (17)	77 (19)	20 (5)	25 (17)	<b>192</b> <b>(15)</b>
RD complete at one or more but not all OUs (percent)	4 (1)	7 (2)	5 (1)	6 (4)	<b>22</b> <b>(2)</b>
RD ongoing at one or more OUs but not complete at any OUs (percent)	69 (17)	70 (18)	51 (14)	13 (9)	<b>203</b> <b>(15)</b>
RI/FS complete at one or more but not all OUs (percent)	12 (3)	25 (6)	41 (11)	7 (5)	<b>85</b> <b>(6)</b>
RI/FS ongoing but not complete for any OU (percent)	28 (7)	76 (19)	151 (41)	56 (39)	<b>311</b> <b>(24)</b>
RI/FS not started for any OU (percent)	2 (.5)	7 (2)	50 (14)	24 (17)	<b>83</b> <b>(6)</b>
<b>Grand total (percent)</b>	<b>414 (100<sup>b</sup>)</b>	<b>399 (100<sup>b</sup>)</b>	<b>364 (100<sup>b</sup>)</b>	<b>143 (100<sup>b</sup>)</b>	<b>1,320 (100<sup>b</sup>)</b>

<sup>a</sup>These three columns represent nonfederal facility sites that have been categorized by their proposed listing date. The first of the 3 columns does not add up to 418 because 4 of these proposed sites were later taken off the NPL.

<sup>b</sup>Percentages do not add to 100 because of rounding.

# Cleanup Status for 16 Sites Listed on NPL Before 1987

EPA provided us with end-of-fiscal-year 1993 Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) data which indicated that 16 sites proposed on the NPL before 1987 had not yet started the initial site study phase. Before reporting this information, we decided to perform limited audit work to verify it and found that some of EPA's data were inaccurate. Table III.1 provides information on the sites where EPA's data were inaccurate, and table III.2 provides information on the sites that have yet to start the study phase.

**Table III.1: Seven Pre-1987 Listed Sites for Which EPA Had Inaccurate Data on Site Cleanup Status**

Site name, state	EPA region	Actual cleanup status, as of 9/30/93	Lead entity
Agate Lake Scrap Yard, MN	5	RI/FS ongoing	EPA
San Gabriel Valley (Area 4), CA	9	RI/FS ongoing	EPA
McGraw-Edison, MI	5	RA complete	State
Omega Hills North Landfill, WI <sup>a</sup>	5	RA ongoing	State
Avenue "E," MI	5	RA complete	State
Kent City, MI	5	RA complete	State
Southwest Ottawa, MI	5	RA complete	State

<sup>a</sup>This site was referred to the Resource Conservation and Recovery Act program for cleanup.

**Appendix III  
Cleanup Status for 16 Sites Listed on NPL  
Before 1987**

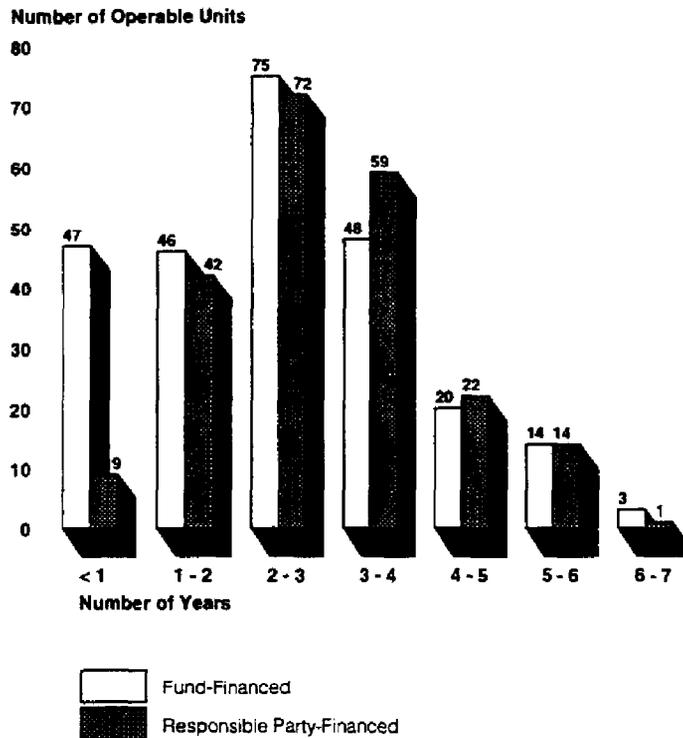
**Table III.2: Nine Pre-1987 Listed Sites  
With No Site Studies Started**

<b>Site name, state</b>	<b>EPA region</b>	<b>NPL proposed listing date</b>	<b>Lead entity</b>	<b>Site type</b>
SCA Independent Landfill, MI	5	12/30/82	Fund	Landfill
Vestal Water Supply 4-2, NY	2	12/30/82	State	Municipal water well
Tomah Municipal Landfill, WI	5	6/10/86	Fund	Landfill
Haverhill Municipal Landfill, MA	1	10/15/84	Fund	Landfill
Waste Management, MI	5	10/15/84	State	Lagoons
Mouat Industries, MT	8	10/15/84	Fund	Wood products manufacturing company
Old Inland Pit, WA	10	6/10/86	State	Gravel mine
Ventron/Velsicol, NJ	2	9/08/83	State	Abandoned chemical processing plant
San Gabriel Valley (Area 3), CA	9	9/08/83	Fund	Contaminated groundwater/ water supply wells

# Times Taken to Complete Various Cleanup Phases

The following figures show EPA's data on the time taken to complete cleanup work for projects (operable units) where the work was started after passage of the Superfund Amendments and Reauthorization Act in October 1986 and completed by September 30, 1993. The average times presented in the text are based on these individual cases.

**Figure IV.1: Completion Times for Site Studies, in Years, Fund- and Responsible Party-Financed**

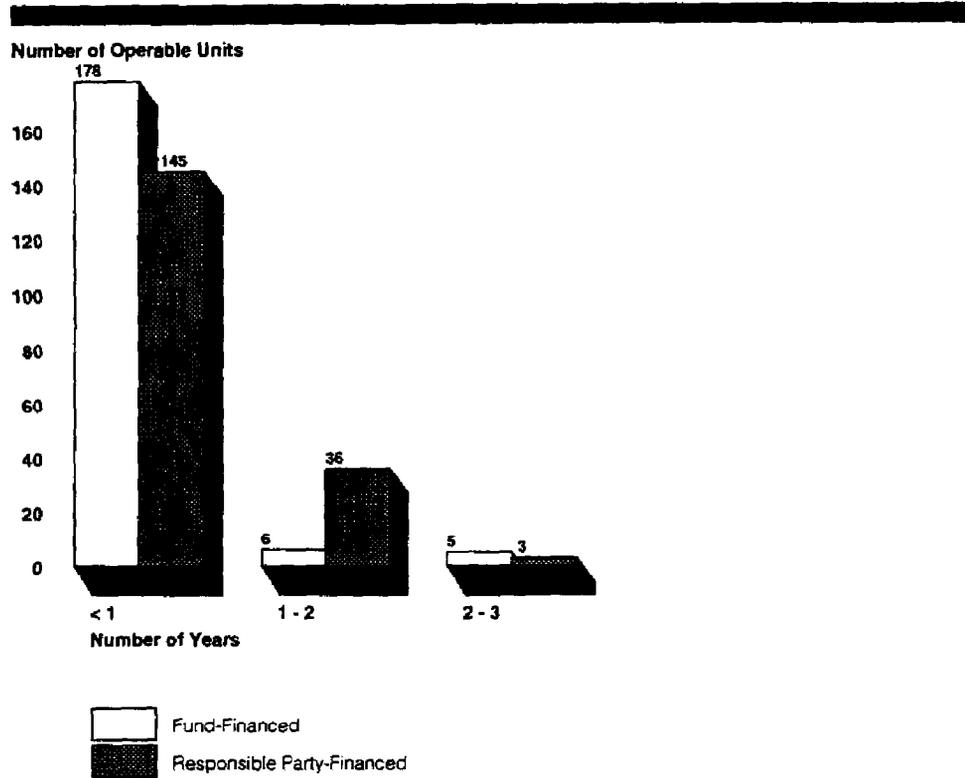


Note: For fund-financed site studies, the average time was 2.6 years and the median time was 2.5 years. For responsible party-financed site studies, the average time was 3.0 years while the median was 2.9 years.

Source: GAO's analysis of EPA's CERCLIS data.

**Appendix IV  
Times Taken to Complete Various Cleanup  
Phases**

**Figure IV.2: Completion Times for the Period Between Site Study Complete and the Start of Remedial Design, in Years, Fund- and Responsible Party-Financed**

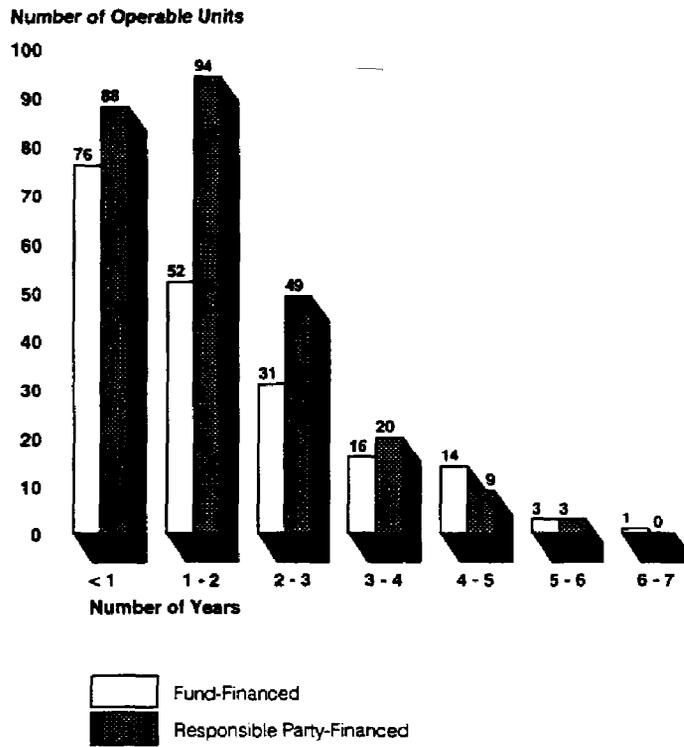


Note: For fund-financed, the average time was .5 years and the median time was .4 years. For responsible party-financed, the average time was .7 years while the median was .6 years.

Source: GAO's Analysis of EPA's CERCLIS data.

**Appendix IV  
Times Taken to Complete Various Cleanup  
Phases**

**Figure IV.3: Completion Times for Remedial Design, in Years, Fund- and Responsible Party-Financed**

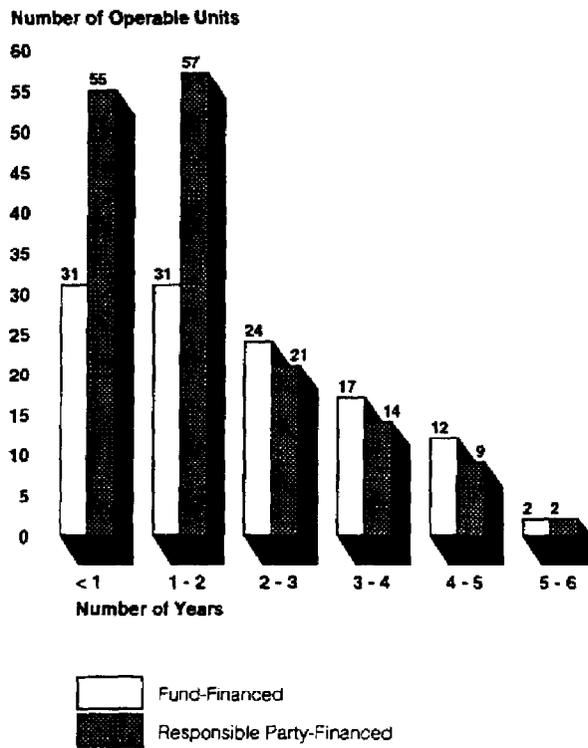


Note: For fund-financed remedial designs, the average time was 1.8 years and the median time was 1.3 years. For responsible party-financed remedial designs, the average time was 1.7 years while the median was 1.5 years.

Source: GAO's Analysis of EPA's CERCLIS data.

**Appendix IV  
Times Taken to Complete Various Cleanup  
Phases**

**Figure IV.4: Completion Times for  
Remedial Action, in Years, Fund- and  
Responsible Party-Financed**



Note: For fund-financed remedial actions, the average time was 2.2 years and the median time was 2.0 years. For responsible party-financed remedial actions, the average time was 1.8 years while the median was 1.5 years.

Source: GAO's Analysis of EPA's CERCLIS data.

# Average Times Taken, in Years, to Complete Fund- and Responsible Party-Financed Cleanup Phases, by Region, as of September 30, 1993

Cleanup phase	Regions									
	1	2	3	4	5	6	7	8	9	10
RI/FS	3.5 (N=21)	2.7 (N=73)	2.7 (N=91)	2.9 (N=76)	3.3 (N=71)	2.0 (N=27)	2.1 (N=31)	2.0 (N=23)	2.7 (N=45)	3.7 (N=14)
RI/FS complete to RD start	.6 (N=19)	.5 (N=62)	.8 (N=57)	.5 (N=49)	.5 (N=65)	.7 (N=33)	.8 (N=23)	.4 (N=22)	.3 (N=35)	.7 (N=8)
Remedial Design	2.1 (N=32)	2.4 (N=56)	1.5 (N=77)	1.7 (N=63)	1.4 (N=90)	1.7 (N=42)	1.4 (N=24)	1.8 (N=31)	1.6 (N=21)	2.0 (N=20)
Remedial Action	1.7 (N=17)	1.9 (N=38)	2.0 (N=50)	2.1 (N=35)	1.5 (N=54)	2.3 (N=17)	2.0 (N=14)	2.0 (N=17)	2.1 (N=23)	2.6 (N=10)

Note: The above times are for operable units, not sites, and for work started and completed after SARA.

# All Lawsuits Challenging a Removal or Remedy

Case name	Site name/state	What was challenged?	Did challenge cause delay?	Estimated delay, if any
<b>Challenges brought before the limits were enacted</b>				
<u>Dickerson v. EPA</u>	Dickerson Post site, Georgia	Removal (off-site disposal)	Yes	40 months
<u>J.V. Peters &amp; Co., Inc. v. EPA</u>	J. V. Peters site, Ohio	Removal, (off-site disposal)	Yes	1 month
<u>Jefferson County, MO v. EPA</u>	Minker/Stout/Romaine Creek site, Missouri	Removal (on-site consolidation of soil)	Yes	2-6 months
<u>Lone Pine Steering Committee v. EPA</u>	Lone Pine Landfill, New Jersey	Remedy (landfill capping)	No	Not applicable
<b>Challenges brought after the limits were enacted</b>				
<u>Alabama v. EPA</u>	Geneva Industries/Fuhrmann Energy site, Texas	Remedy (off-site disposal)	Yes	6-8 months
<u>Arkansas Peace Center v. Arkansas Department of Pollution Control &amp; Ecology</u>	Vertac Superfund site, Arkansas	Removal (on-site incineration)	Yes	Less than 1 month
<u>Bryant v. EPA</u>	Texarkana Wood Preserving Company site, Texas	Remedy (incineration)	No	Not applicable
<u>City of Monroe, LA v. EPA</u>	West Dallas Lead site, Texas	Removal (off-site disposal)	Yes	Less than 1 month
<u>Cooper Industries, Inc. v. EPA</u>	Sturgis Municipal Wellfield site, Michigan	Remedy (groundwater pump and treat)	Yes	Unknown
<u>Elmer A. Fike v. U.S.</u>	Fike Chemical site, West Virginia	Removal (sought to stop EPA's removal action)	No	Not applicable
<u>Lopez v. Layton and Chrystal City Airport v. EPA</u>	Crystal City Airport Superfund site, Texas	Remedy (challenged adequacy of EPA's remedy)	No	Not applicable
<u>Louisiana v. Reilly</u>	West Dallas Lead site, Texas	Removal (off-site disposal of nonhazardous solid wastes)	Yes	Unknown <sup>a</sup>
<u>Neighborhood Toxic Cleanup Emergency v. Reilly</u>	G.E.M.S. Landfill, New Jersey	Remedy (sought to prevent implementation)	Unknown	Unknown
<u>North Shore Gas Co. v. EPA</u>	Waukegan Manufactured Gas and Coke Plant site, Illinois	Remedy (construction of a boat slip)	No	Not applicable
<u>Precision National Plating Services, Inc. v. EPA</u>	Locomotive crankshaft reconditioning facility in Clarks Summit, Pennsylvania	Remedy (requirement for alternative water source)	Unknown	Unknown
<u>RTI, Inc. v. Morton Thickol</u>	Radiation Tech, Inc. site, New Jersey	Remedy for soil and groundwater contamination	Unknown	Unknown
<u>Reynolds v. Lujan</u>	Lee Acres Landfill, New Mexico	Remedy: Bureau of Land Management's response action	Unknown	Unknown

(Table notes on next page)

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**Appendix VI**  
**All Lawsuits Challenging a Removal or**  
**Remedy**

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*Note: This table excludes challenges addressing EPA's actions at more than one site and challenges to EPA's use of administrative orders, which may also include a challenge to a remedy or removal.*

<sup>a</sup>This and related challenges delayed cleanup. The effect of this specific challenge is unknown.

Source: Officials in DOJ's Environmental Defense Section and EPA headquarters staff and regional attorneys.

# Sites Where Legal Challenges Have Delayed Cleanup

Cleanup delays may prolong public exposure to hazardous substances, increasing the likelihood that a site will adversely affect human health and the environment. Although EPA takes interim actions to minimize the risks posed by a site, until cleanup actions are complete, there is some risk that hazardous substances from the site will be released into the air, soil, or groundwater.

Described below are four sites where legal challenges delayed or significantly disrupted cleanup activities. A challenge brought by a responsible party before the statutory enactment of the bar on judicial reviews delayed removal activities at the first site by more than 3 years. Challenges brought by states, citizens groups, and local governments, subsequent to the enactment of the bar, delayed the cleanup of three other sites. EPA regional attorneys assigned to these sites estimated that the cleanup delays ranged from less than a month to 6 months. At two sites, the delays were caused by multiple legal challenges.

## Dickerson Post Site, Georgia<sup>1</sup>

A legal challenge brought by owners of the Dickerson Post site greatly hindered EPA's emergency removal of creosote contamination at this abandoned wood treatment facility, according to the EPA attorney assigned to the site. The site contained, among other things, 252 open drums of liquid waste, which threatened air and groundwater. A well is located 100 feet from the site. Although it was not being used for drinking purposes when EPA discovered the site, the well presented a potential pathway for groundwater contamination. The owners proposed a plan to clean up the site, which EPA felt did not fully address the contamination at the site. Consequently, the agency decided to proceed with its own cleanup plan, using funds from the Superfund trust fund.

However, hazardous materials remained on the site for more than 3 years because of a challenge brought by the owners of the site. CERCLA authorizes EPA to clean up sites and recover the agency's costs from responsible parties. To prevent EPA from proceeding with a cleanup they might have to pay for, the owners filed suit in district court and obtained a temporary restraining order barring EPA's access to the site. Shortly thereafter, in September 1984, EPA filed its own complaint seeking immediate access to the property and a motion to dismiss the owners' challenge. The district court did not rule on the issues until May 1987, when it dismissed the challenge and authorized EPA to enter the site. The

<sup>1</sup> EPA v. Dickerson, 660 F.Supp. 227 (M.D. Ga.), aff'd, 834 F.2d 974 (11th Cir. 1987).

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Appendix VII  
Sites Where Legal Challenges Have Delayed  
Cleanup

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court's delay in ruling on EPA's motion postponed removal activities at the site by more than 3 years.

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Geneva  
Industries/Fuhrmann  
Energy Site, Texas<sup>2</sup>

According to EPA officials, a challenge delayed cleanup of the Geneva Industries/Fuhrmann Energy Site by 6 to 8 months, even though the challenge was ultimately dismissed, because a court initially considered the challenge to be an exception to section 113(h). The site, an abandoned petrochemical plant, is located in a heavily populated area of Houston. Approximately 35,000 people live within 1 mile of the site, and the nearest residence is only 50 feet away. A drinking water well is located about a quarter of a mile from the site. The soil, ponds, groundwater, and waste piles on the site are contaminated with petrochemical compounds, PCBs, and volatile organic chemicals.

In November 1988, the state of Alabama challenged EPA's proposed shipment of 47,000 tons of soil contaminated with high levels of PCBs and other toxic wastes from the site to a waste treatment facility in Alabama. Even though the treatment facility was licensed and authorized by the state to handle PCB-contaminated waste, Alabama challenged EPA's decision to use the facility to treat waste from the Geneva Industries/Fuhrmann Energy site. The state maintained that as an affected party, it had a constitutional and statutory right to be given notice and an opportunity for a hearing before EPA selected a final cleanup strategy for the site. A federal district court agreed and in December 1988 issued an order that stopped EPA from conducting the cleanup and required the agency to re-evaluate its overall cleanup strategy.

Although a federal circuit court of appeals reversed this decision in April 1989, dismissing the challenge, EPA officials estimate that the challenge delayed cleanup by 6 to 8 months and increased the agency's contractor costs by \$1 million. According to the EPA site attorney, the agency continued to incur contractor costs while cleanup activities were halted and incurred additional costs as the result of having to demobilize and then remobilize the contractor 6 months later.

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Vertac Chemical  
Corporation Superfund  
Site, Arkansas

A challenge filed by a citizens group was very disruptive to cleanup activities at this site, according to a Department of Justice (DOJ) official. In October 1992, the group filed suit against EPA, an incineration contractor,

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<sup>2</sup> *State of Alabama v. EPA*, 711 F.Supp. 574 (M.D. Ala. 1988), *rev'd*, 871 F.2d 1548 (11th Cir.), *cert. denied*, 110 S. Ct. 538 (1989).

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Appendix VII  
Sites Where Legal Challenges Have Delayed  
Cleanup

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and the state of Arkansas to stop on-site incineration of dioxin-contaminated waste from a former herbicide and pesticide manufacturing facility. EPA field staff were diverted from cleanup activities to prepare for litigation, and the development of a record of decision (ROD) for another operable unit at the site was delayed because the remedy for that operable unit also involved incineration.

In response to the challenge, in February 1993 a federal court ordered EPA to stop on-site incineration of dioxin-contaminated waste.<sup>3</sup> A higher court quickly stayed enforcement of the order, pending appeal.<sup>4</sup> In July 1993, the appeals court reversed the decision, ordering the lower court to dismiss the challenge.<sup>5</sup> According to the EPA site attorney, cleanup activities were delayed less than a month. Nonetheless, EPA expended at least 230 staff days responding to the challenge—in addition to the staff days expended by DOJ. A DOJ official noted that because of the district court's injunction, the cleanup will require additional federal funding.

The challenge also had effects beyond the Vertac site. A DOJ official noted that contractors may be less willing to undertake controversial cleanup projects in the future as a result of this challenge. In addition, according to the EPA site attorney, the challenge delayed negotiations with responsible parties at two other sites: one where EPA planned to use the same incineration contractor and another site where similar contamination was present.

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West Dallas Lead  
Superfund Site, Texas<sup>6</sup>

According to an EPA official, cleanup activities were significantly delayed at the West Dallas Lead site when a district court decided that the statutory limits on judicial review did not apply<sup>7</sup> to a challenge brought by the state of Louisiana. In February 1992, Louisiana challenged EPA's plan to transport lead-contaminated soil from the Texas site to a Louisiana disposal facility.

The state filed suit to prevent EPA from using a landfill in Louisiana to dispose of waste from the site. Section 121(e)(2) of CERCLA permits states

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<sup>3</sup>Arkansas Peace Center v. Arkansas Department of Pollution Control & Ecology, 23 E.L.R. 20,807 (E.D. Ark. 1993).

<sup>4</sup>992 F.2d 145 (8th Cir. 1993).

<sup>5</sup>999 F.2d 1212 (8th Cir. 1993), cert. denied, 62 U.S.L.W. (U.S. Apr. 4, 1994).

<sup>6</sup> Louisiana v. EPA, Civ. No. 92-0274 (W.D. La. Apr. 6, 1992).

<sup>7</sup>Louisiana v. EPA, Civ. No. 92-0274 (W.D. La. Feb. 4, 1993).

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**Appendix VII**  
**Sites Where Legal Challenges Have Delayed**  
**Cleanup**

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to enforce any federal or state requirement governing remedial actions. The state believed that under federal law, the Louisiana landfill was not authorized to accept waste from the West Dallas Lead site. EPA argued that Louisiana's challenge was precluded by section 113(h) of CERCLA. In April 1992, the district court determined that it had jurisdiction to review Louisiana's challenge under section 121(e)(2) of CERCLA. In February 1993, on the basis of additional information provided by EPA, the same court dismissed Louisiana's challenge on the grounds that EPA's activities at the site constituted a removal rather than a remedial action.

Although EPA was successful in federal court, the agency's use of the Louisiana facility was blocked by a state court action in which EPA was not a party. In February 1992, the parish in which the facility was located sought an injunction to prevent the facility from receiving soil from the West Dallas Lead site. The parish maintained that receipt of soil from the site violated the facility's contract with the parish. The state trial court agreed and issued a preliminary injunction, which prevented the disposal facility from receiving soil from the site.<sup>8</sup>

According to an EPA official, cleanup activities were effectively halted while EPA identified and contracted with a Texas facility to receive the soil. Local governments opposed to use of the second facility took legal action, also in state court, against the company selected by EPA to transport the contaminated soil. EPA was ultimately able to send soil to the second facility, but the challenge further delayed cleanup of the site.

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<sup>8</sup>Ouachita Parish Police Jury v. American Waste and Pollution Control Co., 606 So. 2d 1341 (La. App. 2d Cir. 1992), cert. denied, 113 S. Ct. 2339 (1993).

# Objectives, Scope, and Methodology

To obtain information on the disbursements and net obligations in the Superfund program, fiscal years 1987 through 1993, we requested data from the EPA Financial Management Division's Superfund Accounting Branch. They provided us with data from two separate financial management information systems—namely, the Financial Management System for disbursement and obligation data before fiscal year 1989 and the Integrated Financial Management System for the other fiscal years. We also reviewed and analyzed EPA's budget data, annual financial statements, and related budgetary and program materials. We interviewed agency officials from the budget, accounting, and program divisions to identify and describe trends in obligations.

To determine the status of cleanup at NPL sites, we asked EPA to provide us with data on the number of sites in various stages of the cleanup process, using its end-of-the-fiscal-year 1993 CERCLIS data. Since we did not independently verify EPA's data for completeness and accuracy, we cannot ascertain the overall reliability of EPA's data. However, audit work performed by us and EPA's Office of Inspector General indicates some errors in CERCLIS data. We interviewed staff from EPA headquarters and regional offices to clarify the status of cleanup work at 16 NPL sites listed before 1987 for which EPA's data indicated that no RI/FS work had been started.

To examine the differences in the overall time taken to complete fund-financed and responsible party-financed work, we obtained EPA CERCLIS data that consist of, among other things, the dates on which each phase began and ended for an operable unit. We analyzed the elapsed time of four individual phases in the remedial cleanup process: RI/FS, RD, RA, and the time between the end of the RI/FS phase and the beginning of the RD phase. We included the latter because this was the only time between the three major cleanup phases that EPA officials said could take a significant amount of time and thus significantly lengthen cleanup time.

To determine the average time for the three major cleanup phases, we measured the elapsed time for the three major phases of the cleanup process from the first date that RI/FS, RD, or RA work was started for an operable unit to the final completion date of any RI/FS, RD, or RA work, respectively—regardless of the number of RI/FS, RDS, or RAS completed for an operable unit. For the elapsed time from the end of RI/FS to the beginning of an RD, we measured time between the final completion date for RI/FS work at an operable unit to the first date any RD work was begun. Durations for ongoing work were defined as the elapsed time between the

date on which an activity was started (e.g., RI/FS, RD, or RA) and September 30, 1993. We did not use EPA's data on planned completion dates for work still under way, primarily because EPA officials expressed little confidence in the data. In addition, at the time of our review, CERCLIS did not permit EPA regional staff to put in dates beyond 1999. Our data exclude (1) federal facilities, (2) operable units that have planned start or complete dates, (3) operable units with improperly coded first start and final complete dates, (4) operable units missing a major event (e.g., an operable unit with an RA duration but no RI/FS or RD phase), and (5) operable units that had an RI/FS, RD, or RA phase with a duration of zero.

To evaluate the effectiveness of the limits on judicial review of EPA's cleanup decisions, we reviewed reported cases of challenges to EPA's cleanup decisions and actions. We also interviewed officials in the Department of Justice's Environmental Defense Section and EPA's Office of General Counsel. With the assistance of EPA and DOJ, we identified 62 lawsuits challenging EPA's actions at Superfund sites and categorized these challenges, on the basis of information provided by DOJ. We reviewed all 4 of 4 pre-SARA challenges to a removal or remedy and 6 of 13 such challenges that occurred after SARA was enacted. The remaining 45 challenges, which we did not review, concerned such issues as EPA's site access, use of administrative orders, NPL listing decisions, property liens, and liability and insurance coverage, or concerned EPA's actions at multiple sites.

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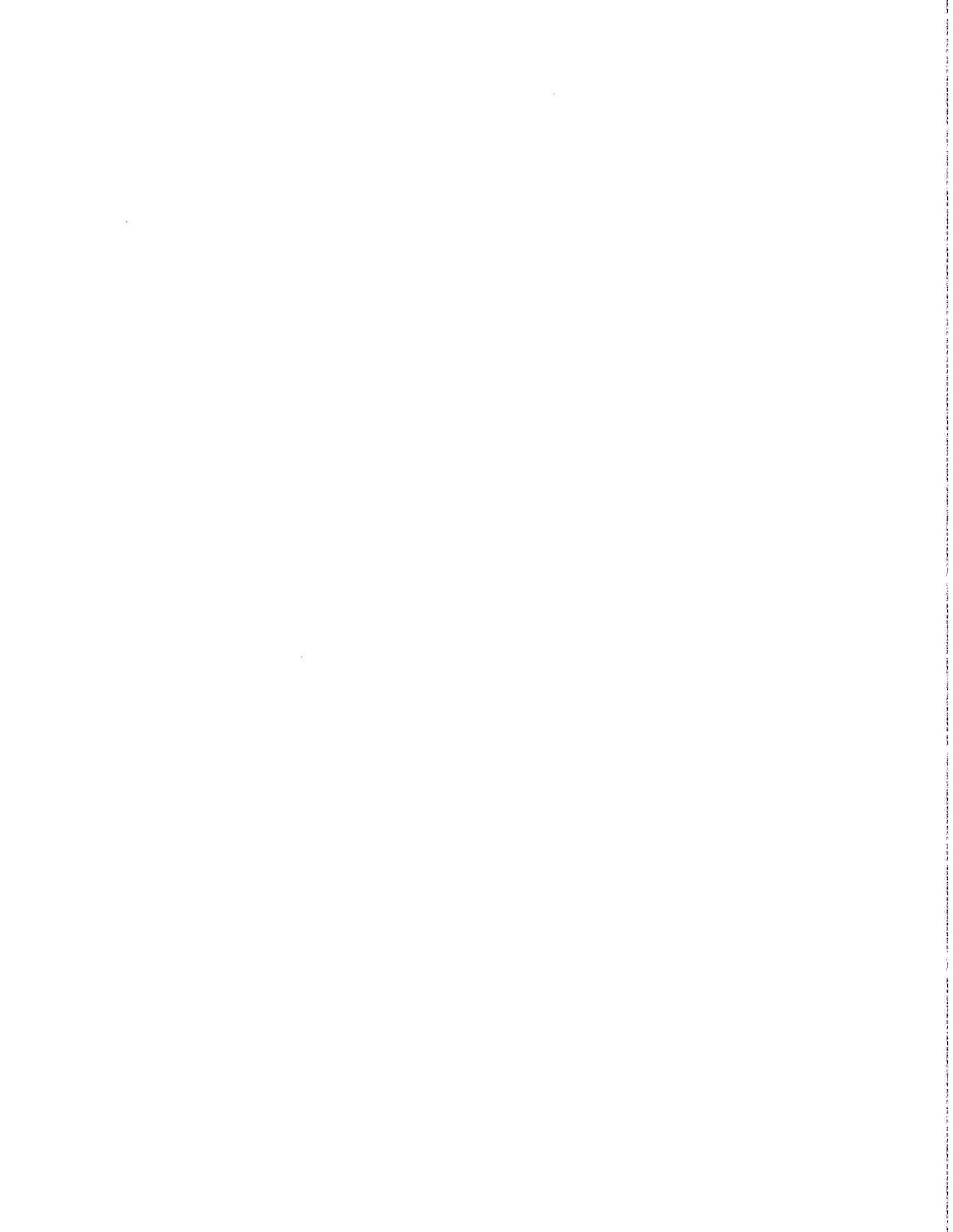
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