

# Executive Summary

As the Superfund program entered its 18th year in December 1998, the U.S. Environmental Protection Agency (EPA or “the Agency”) continued to accomplish the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) for protecting public health, welfare, and the environment. CERCLA requires that EPA update Congress each year on progress in the Superfund program. This Report fulfills the requirement.

EPA is committed to accelerating the pace of hazardous waste site cleanup. As part of this commitment, the Agency completed construction activities to place 87 more National Priorities List (NPL) sites in the construction completion category during fiscal year 1998 (FY98). By the end of the fiscal year, remedial work had occurred at more than 98 percent of the 1,436 sites proposed to, listed on, or deleted from the NPL, including a total of 585 sites (41 percent) that have achieved construction completion.

The Agency also continued its successful efforts to encourage potentially responsible parties (PRPs) to undertake and finance cleanup efforts at Superfund sites. PRPs were leading more than 78 percent of remedial designs (RDs) and 72 percent of remedial actions (RAs) started during the fiscal year. Since the inception of the Superfund program, EPA has reached agreements worth approximately \$13.1 billion for PRP response work at Superfund sites, including \$806 million achieved this year.

## Organization of this Report

Information prepared for this Report is assembled in response to congressional requirements specified in CERCLA 301(h)(1).

This report summarizes Superfund FY98 progress, highlighting accomplishments and initiatives to improve the program. Exhibit ES-1 presents a summary of FY98 accomplishments. Exhibit ES-2 provides a comparison of FY98 accomplishments with those of previous years and also provides cumulative program accomplishments. FY98 accomplishments reflect the Agency’s commitment to, and focus of resources on, activities required to complete site cleanups.

Exhibit ES-3 is a guide to the information required under CERCLA and its location in the Report. The rest of the Executive Summary highlights FY98 accomplishments and initiatives by program area.

## Site Evaluation Progress

EPA continued its progress in identifying and assessing newly discovered sites. At the end of FY98, there were more than 41,500 sites identified in the CERCLA Information System (CERCLIS), the Superfund inventory of potentially hazardous waste sites. The assessment activities included approximately 38,400 preliminary assessments and 18,600 site inspections. Based on these evaluations, EPA has determined that 1,436 of the sites should be proposed to, listed on, or deleted from the NPL. During FY98, a total of 1,194 sites remained on the NPL. These sites include 34 proposed to, 17 listed on, and 20 deleted from the NPL during FY98. To date, a total of 176 sites have been deleted from the NPL.

**Exhibit ES-1  
Summary of Fiscal Year 1998 Superfund Activities**

<b>Remedial Activities</b>			
Percentage of National Priorities List Sites where Remedial Work has Begun			98%
Sites Classified as Construction Completions as of September 30, 1998			585
Sites with Remedial Activities in Progress on September 30, 1998			836
Records of Decision Signed <sup>1</sup>			173
Remedial Investigation/Feasibility Study Starts			40
<i>Fund-Financed</i>			78%
<i>Potentially Responsible Party-Financed</i>			22%
Remedial Investigation/Feasibility Studies in Progress on September 30, 1998			821
Remedial Design Starts			73
<i>Fund-Financed</i>			22%
<i>Potentially Responsible Party-Financed</i>			78%
Remedial Designs in Progress on September 30, 1998			347
Remedial Action Starts			100
<i>Fund-Financed</i>			25%
<i>Potentially Responsible Party-Financed</i>			75%
Remedial Actions in Progress on September 30, 1998			767
<b>Removal Activities</b>			
Removal Action Starts			324
<i>Fund-Financed</i>			70%
<i>Potentially Responsible Party-Financed</i>			30%
Removal Action Completions <sup>2</sup>			289
<i>Fund-Financed</i>			69%
<i>Potentially-Responsible Party-Financed</i>			31%
<b>Site Assessment Activities</b>			
CERCLIS Sites Added			1,400
Preliminary Assessments Conducted			358
Site Inspections Conducted			323
National Priorities List Sites to Date			1,436
<i>Sites Proposed for Listing During Fiscal Year 1998</i>			34
<i>Final Sites Listed During Fiscal Year 1998</i>			17
<i>Sites Proposed for Deletion During Fiscal Year 1998</i>			15
<i>Sites Deleted During Fiscal Year 1998</i>			20
<b>Enforcement Activities</b>			
Settlements for All Potentially Responsible Party Response Activities	203		\$806 million <sup>3</sup>
Remedial Design/Remedial Action Settlements	5		\$618 million
Unilateral Administrative Orders Issued (All Actions)	71		N/A
Cost Recovery Dollars Collected	88		\$320 million
<b>Accomplishments at Federal Facility Sites</b>			
Records of Decision Signed			77
Remedial Investigation/Feasibility Study Starts			31
Remedial Action Starts			61
<sup>1</sup>	Records of decision signed for Fund-financed and potentially responsible party-financed sites.		
<sup>2</sup>	Removal action completions include total number of projects.		
<sup>3</sup>	Remedial design/remedial action settlements include remedial design/remedial action consent decrees and unilateral administrative orders with potentially responsible parties that have stated their intention to comply.		

Sources: CERCLIS (as of September 30, 1998); Office of Enforcement and Compliance Assurance; Office of Emergency and Remedial Response; *Federal Register* notices from March 6, 1998; July 28, 1998; September 18, 1998; and September 29, 1998.

**Exhibit ES-2**  
**Summary of Program Activity by Fiscal Year**

	FY80-86 Total	FY87-91 Total	FY92	FY93	FY94	FY95	FY96	FY97	FY98	Total
Removal Completions <sup>1,2</sup>	810	1,370	340	290	240	298	276	315	289	4,228
CERCLIS Sites <sup>1</sup>	25,200	157,300	36,400	37,500	38,300	39,000	39,600	40,100	41,500	41,500
PA Completions <sup>1</sup>	20,200	12,000	1,900	1,100	900	813	781	420	358	38,472
SI Completions <sup>1</sup>	6,400	8,000	1,300	700	600	584	359	330	323	18,596
National Priorities List Sites <sup>3</sup>	901	1,245	1,275	1,320	1,355	1,375	1,387	1,405	1,436	1,436
Remedial Investigation/ Feasibility Study Starts <sup>1,2</sup>	660	790	90	60	70	30	36	41	40	1,817
Records of Decision Signed <sup>2</sup>	199	689	126	134	159	187	156	168	173	1,991
Remedial Design Starts <sup>1,2</sup>	120	700	170	130	110	84	74	72	73	1,533
Remedial Action Starts <sup>1,2</sup>	70	430	110	120	120	110	116	102	100	1,278
Construction Completions <sup>4</sup>	—	61	88	68	61	68	64	88	87	585
National Priorities List Deletions <sup>5</sup>	13	25	2	12	13	25	34	32	20	176
<sup>1</sup> Numerical values for accomplishments based on information from CERCLIS have been rounded. <sup>2</sup> Includes Fund-financed and potentially responsible party-financed activities; excludes federal facility activities and state-lead activities where no Fund monies were spent. <sup>3</sup> The figures reported represent the cumulative total of proposed, final, and deleted National Priorities List sites as of the end of each fiscal year. <sup>4</sup> Adopted as measure of program progress by 1991 30-Day Study Task Force. FY91 value represents FY80 through FY91. <sup>5</sup> Total deletions include eight sites referred to other authorities.										

Sources: CERCLIS (as of September 30, 1998); Office of Emergency and Remedial Response; *Federal Register* notices through September 30, 1998.

**Exhibit ES-3  
Statutory Requirements for the Report**

<b>CERCLA Section</b>	<b>CERCLA Requirement</b>	<b>Report Section</b>	<b>Report Content</b>
301(h)(1)	Annual Report to Congress on the progress achieved in implementing Superfund during the preceding fiscal year	Executive Summary	Initiatives to improve the Superfund program
		Chapter 1	Site evaluation progress
		Chapter 2	Emergency response progress
		Chapter 3	Remedial progress
		Chapter 4	Enforcement progress
		Chapter 5	Federal facility cleanups
		Chapter 6	Resource estimates
301(h)(1)(A)	Detailed description of each feasibility study (FS) at a facility	Chapter 7	Superfund program support activities
		Section 3.3	Overview discussion of RODs signed during the fiscal year, including the number of treatment and containment remedies selected
301(h)(1)(B)	Status and estimated date of completion of each FS	Appendix C	List of RODs signed in the fiscal year
		Appendix A	Status and estimated completion date of each FS in progress at the end of the fiscal year
301(h)(1)(C)	Notice of each FS which will not meet a previously published schedule for completion and the new estimated date for completion	Appendix A	Scheduled completion date published for the previous fiscal year, the scheduled completion date recorded in CERCLIS at the end of the current fiscal year, and identification of schedule changes
301(h)(1)(D)	An evaluation of newly developed feasible and achievable permanent treatment technologies	Section 3.5	Evaluation of newly developed technologies through the Superfund Innovative Technology Evaluation Program
301(h)(1)(E) and 121(c)	Progress made in reducing the number of facilities subject to review under CERCLA Section 121(c), which requires the report to Congress to contain a list of facilities for which a five-year review is required, the results of all such reviews, and any actions taken as a result of such reviews	Section 3.4	Annual update on progress being made on sites subject to review under CERCLA Section 121(c)

CERCLA Section	CERCLA Requirement	Report Section	Report Content
301(h)(1)(F)	Report on the status of all remedial and enforcement actions undertaken during the fiscal year, including a comparison to remedial and enforcement actions undertaken in prior fiscal years	Section 3.2.2	Information on fiscal year remedial activity starts (including PRP involvement) with a comparison of fiscal year activities to those of previous years
		Section 4.2	Information on fiscal year enforcement activities with a comparison of fiscal year activities to those of previous years
		Appendix A	Information on the status of each RI/FS and RA in progress at the end of the fiscal year
		Appendix B	Information on the status of RDs in progress at the end of the fiscal year
301(h)(1)(G)	Estimates of the amount of resources, including the number of work years or personnel, which would be necessary for each department, agency, or instrumentality that is carrying out any activities to complete the implementation of all duties vested in the department, agency, or instrumentality	Sections 6.1 and 6.3	EPA resource estimates for completion of CERCLA implementation
		Section 6.4	Other federal agency and department estimates for completion of CERCLA implementation
301(h)(2)	Review by the Inspector General and submission of any report related to EPA's activities for reasonableness and accuracy	Appendix D	Review of the Inspector General on this Report
105(f)	Brief description of the contracts that have been awarded to minority firms under Superfund and the efforts made to encourage the participation of such firms in the Superfund program	Section 7.2	Information on minority contracting awards by EPA, states, tribes, and other federal agencies using Superfund monies. EPA efforts to encourage increased minority contractor participation in the Superfund program
120(e)(5)	Annual report to the Congress concerning EPA progress in implementing remedial activities at its facilities	Section 5.3	Report on EPA progress in CERCLA implementation at EPA-owned facilities, including a state-by-state report

The site assessment process also includes site reevaluation. With over 41,500 sites appearing on CERCLIS by the end of FY98, only about 3.5 percent of these sites have made it to the final NPL. Motivated by the need to remove the perceived stigma imposed on communities with nearby CERCLIS-listed sites, the Agency has initiated the removal of sites that are of no further concern to the

Superfund program. During FY98, the Agency archived 31,227 sites as a major program goal, with plans for the future further supporting the archiving effort.

The Agency announced the Brownfields Action Agenda in January 1995 and it has grown to encompass many aspects of site redevelopment. During FY98, Brownfields pilots focused on clarifying liability and cleanup issues, partnership and outreach, and job development. By the end of FY98, 227 Brownfields pilots were awarded, in values of up to \$200,000 each. These pilots encourage federal, state, and local governments as well as tribes to implement new strategies aimed at increasing the level and efficiency of site assessment, cleanup and redevelopment.

### Removal Progress

To protect human health and the environment from immediate or near-term threats, the Agency and PRPs started 324 removal actions and completed 289 during FY98. More than 4,814 removal actions have been started and 4,228 have been completed since the inception of the Superfund program.

Through the Superfund Accelerated Cleanup Model (SACM), the Agency continued its efforts to expand the use of removal authority for early actions to reduce risks more rapidly and expedite cleanup at NPL sites. Early actions may include emergency, time-critical, or non-time-critical removal responses, or quick remedial responses. Accelerated cleanups are targeted with other initiatives as well, including those on presumptive remedies, dense non-aqueous phase liquid (DNAPL) contamination, and soil screening levels.

### Remedial Progress

Remedial progress during the fiscal year reflects the Agency's continuing efforts to accelerate the pace of cleanup activities and complete cleanups at Superfund sites. As mentioned previously, by the end of FY98, remedial work had occurred at 98 percent of the 1,436 sites proposed to, listed on, or deleted from the NPL, and construction activities had been completed to place 585 NPL sites (41 percent) in the construction completion category. During the year, the Agency and PRPs started nearly 40 remedial investigation/feasibility studies (RI/FSs), 73 RDs, and 100 RAs. EPA also signed 173 records of decision (RODs) for Fund-financed and PRP-financed sites.

In continuing efforts to encourage the development and use of innovative treatment technologies to cleanup Superfund sites, the Agency took measures to demonstrate the technologies and provide information about them to potential users.

### Enforcement Progress

Enforcement progress for FY98 reflects the Agency's continued commitment to maximize PRP involvement in financing and conducting cleanup, and to recover Superfund monies expended for response actions. During FY98, EPA reached 203 settlements with PRPs worth more than \$806 million in PRP response work. Through its FY98 cost recovery efforts, EPA achieved \$230 million in cost recovery settlements and collected more than \$320 million for reimbursement of Superfund expenditures.

Many of the enforcement initiatives undertaken in FY98 were designed to encourage redevelopment of contaminated sites. EPA also continued to build upon prior Administrative Reform successes, particularly in the unilateral administrative order (UAO), Allocation, PRP Oversight, Special Interest Bearing Account, *De Minimis* Settlement, and Orphan Share Compensation reforms. These reforms are designed to make Superfund a fairer program, while reducing transaction costs to promote effective and efficient settlements. Examples of significant enforcement actions are provided in Chapter 4 of this Report.

### Federal Facility Cleanups

Federal departments and agencies are largely responsible for implementing CERCLA at federal facility sites. To ensure federal facility compliance with CERCLA requirements, EPA provides advice and assistance, oversees activities, and takes enforcement action where appropriate. For sites on the NPL, EPA must concur in remedy selection.

Activity during the fiscal year at federal facility sites listed on the NPL, included starting 31 RI/FSs and 61 RAs; and signing 77 RODs. Ongoing activities at the end of FY98 included 497 RI/FSs, 71 RDs, and 206 RAs. Of the 2,104 sites listed on the June 27, 1997 Federal Agency Hazardous Waste

Compliance Docket update, 9 are EPA-owned or operated facilities.

### **Superfund Program Support Activities**

EPA continued to take steps in FY98 to enhance community involvement, environmental justice, and EPA's partnership with states and Indian tribes. In its community involvement efforts, EPA continued measures to tailor activities to meet the specific needs of individual communities and to identify ways to enhance community involvement efforts. The Agency also continued to provide technical outreach to communities, hold national conferences on community involvement, encourage community advisory groups (CAGs), and facilitate community access to technical assistance grants (TAGs). To aid communities in obtaining technical assistance, EPA awarded 7 TAGs during the fiscal year, bringing the total number of TAGs awarded since FY88 to 205.

As required by CERCLA Section 105(f), the Agency also engaged in efforts to encourage minority firm participation in Superfund contracting. During FY98, EPA awarded contracts worth \$23,645,074 to minority contractors to perform Superfund work. These efforts are discussed in Section 7.2.

### **Resource Estimate for Superfund Implementation**

Under section 301(h)(1)(c) of CERCLA, EPA is required to estimate the resources needed to implement Superfund, and CERCLA requires that EPA provide the estimates in this Report. Since the enactment of CERCLA in 1980, Congress has provided Superfund with \$19.2 billion in budget authority (FY81 through FY98). This includes \$1.8 billion for the pre-SARA period (FY81 through FY86) and \$17.4 billion for the post-SARA period, FY87 through FY98.

Estimates of the long-term resources required to implement Superfund are based on the Outyear Liability Model (OLM). The OLM estimate of the cost of completing cleanup of current NPL sites is more than \$13.7 billion for FY99 and beyond, bringing the total estimated cost for the program to \$32.9 billion.

### **Fiscal Year 1998 Initiatives**

Major initiatives in FY98 address enforcement, economic redevelopment and Brownfields initiatives, measuring program progress, federal facilities, community outreach, environmental justice, increased state and tribal involvement, and consistent program implementation. Exhibit ES-4 provides highlights of these and other initiatives undertaken by the Agency in FY98.

**Exhibit ES-4  
Fiscal Year 1998 Superfund Initiatives**

<b>Superfund Initiative</b>	<b>Status</b>
<b>Protect Public Health and the Environment</b>	
Construction Completions	The President set a goal of 900 construction completions by the end of calendar year 2000. EPA stressed the importance for states and Regions to work together to determine opportunities to expedite completions and response actions. The Superfund federal facilities program ensured that federally-owned sites are likewise working toward construction completeness by emphasizing regional efforts.
Innovative Technologies	EPA's efforts to develop environmental technologies and commercialization led the Agency to build new relationships with the private sector. The new funding partnerships allow for better directed research opportunities and more joint demonstration projects. EPA committed to increasing information dissemination through electronic information resources, and has a number of Internet-based mechanisms to help achieve this goal.
<b>Promoting a Fundamentally Fairer Superfund Program</b>	
Reducing Oversight for Capable and Cooperative PRPs	Some responsible parties have gained considerable experience in conducting response activities at sites. In situations where the PRP is and has been cooperative and capable, EPA reduced its oversight, while maintaining high quality response actions.
Alternative Dispute Resolution	Alternative Dispute Resolution (ADR) employs techniques designed to reduce the cost of settlement actions. Increased use of ADR helped PRPs incur lower transaction costs than those associated with litigation.
Interest Bearing Special Accounts	Special accounts are created when PRPs settle their liability, allowing a payment that can accrue interest to be used toward future response costs. EPA may use the revenue to pay for EPA-led response actions, defray costs incurred at PRP-led sites, or to help pay the costs of PRP-led responses.
Enforcement First/Cost Recovery	EPA continued to emphasize early initiation of PRP searches, negotiations binding PRPs to lead cleanup activities, maximizing PRP response leads, addressing timely cost recovery at sites with costs more than \$200,000, and monitoring compliance violations. In the past few years, PRPs have led the majority of new remedial actions, accelerating the pace of Superfund cleanups. Early involvement of PRPs also kept transaction and cleanup costs at a minimum.
Orphan Share Compensation	EPA assisted PRPs that are financially insolvent to help ensure that the remaining PRPs are not responsible for contributing more than their fair share of the site remediation cost.
"De Micromis" Settlements	The threshold amount of waste a small contributor may be held liable for doubled. EPA decreased transaction costs and avoided "third-party" suits from larger contributors by pursuing fewer "de micromis" parties.

Superfund Initiative	Status
Equitable Issuance of UAOs	EPA issued the maximum manageable number of UAOs to support the Superfund goal of enforcement fairness and reduce the cleanup costs shared by PRPs who have settled with EPA.
<b>Maximizing Program Effectiveness and Efficiency</b>	
Reinventing Site Assessment	In FY98, EPA conducted streamlined assessments in support of brownfields at both CERCLIS and non-CERCLIS sites. Other priorities for site assessment included the proper listing of NPL sites and evaluating the CERCLIS backlog to identify high-priority sites and sites not requiring further Federal action.
Base Closures	The Base Realignment and Closure Act requires 113 military facilities to be closed or realigned, including 21 NPL sites and a number of others requiring some degree of cleanup. EPA continued to assist the DoD with the assessment, cleanup, and listing of appropriate sites on the NPL. They also ensured that the remedies at the 21 NPL sites met Superfund criteria.
Environmental Indicators	Environmental indicators serve as a visible, easily expressed means of conveying the success of the Superfund program. Through the use of indicators, the benefits of Superfund become apparent, especially in terms of reduced threats to human health. EPA continued to develop two environmental indicators to address human health risk reduction (Indicator D), and ecological risk reduction (Indicator E).
Effective Contract Management	The Superfund Long Term Contracting Strategy (LTCS) is in its final stages of development. The LTCS gives the Regions full responsibility for contract development, and allows greater contractor flexibility, improved oversight, and cost management. Also under development is a national Superfund acquisition strategy workgroup that increases flexibility and helps accommodate changing program directions.
<b>Building Superfund Partnerships</b>	
Brownfields Pilots	Brownfields pilots encourage a unified approach to environmental assessment, cleanup, and reuse. In FY98, EPA awarded 227 Brownfields Assessment Demonstration Pilots through cooperative agreements that are worth up to \$200,000 each.
Brownfields National Partnership Action Agenda	More than 20 federal departments and agencies joined a workgroup to form the National Partnership Action Agenda. The group aims to support efforts at the local level by coordinating brownfields cleanup and redevelopment actions
Brownfields Tax Incentive/Prospective Purchaser Agreements	The Brownfields Tax Incentive dictates that tax expenditures that increase the value or extend the useful life of a property be capitalized for tax purposes, with cost recovery extending over the life of the property. In August 1997, the incentive became law, and allows prospective purchasers to promptly "expense" cleanup costs at brownfields sites rather than "capitalize" costs over an extended period.
Enhancement of State/Tribal Role	EPA provided states and tribes an increased role in the cleanup of hazardous waste sites. A Superfund Management Council (SMC) provided direction for this effort, and continued implementation actions in FY98.

<b>Superfund Initiative</b>	<b>Status</b>
Superfund Block Funding/EPA Performance Partnership Grants	Tribes and states may apply for a Performance Partnership Grant (PPG) in order to consolidate funds from their categorical grants into one or more grants. PPGs cannot specifically contain Superfund resources, but EPA worked toward increasing state funding flexibility. Minnesota and Colorado were the first states to be given Superfund Block Funding awards.
Clarifying Policy for NPL Listings	Per two policy statements released by OSWER during FY97, Regions are required to consult with states and tribes regarding their support for listing sites on the NPL. EPA encourages input as early as practical, preferably before a Hazard Ranking System (HRS) package is initiated.
Piloting State Remedy Selection	Some states are participating in pilots that allow the state to select certain remedies for sites as long as the remedy is in compliance with the National Contingency Plan (NCP). This program allows states and tribes to completely oversee the remedy selection process with minimal EPA supervision. An EPA workgroup developed criteria and a process to solicit new state pilot proposals. These criteria were used in FY98 for reviewing and approving new state remedy selection pilots, monitoring ongoing pilots, and evaluating previous experiences.
Encouraging a Customer Orientation	One FY98 priority was to create enhanced service to internal and external Superfund customers, including regional customers, by providing timely and accurate information. Another goal was to promote effective team performance through mentoring and providing adaptable leadership and tools to solve performance problems. Finally, EPA enhanced the readiness of Regional staff in dealing with emergencies.

Source: Superfund Program Implementation Manual (SPIM) Fiscal Year 1998.