United States
Environmental Protection
Agency

Office of Research and
Development
Washington, DC 20460

EPA/540/8-91/013
June 1991

Superfund

Superfund Desk Reference for Municipalities

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 20 1991

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

Subject: Superfund Desk Reference for Municipalities

From: Bruce M. Diamond, Director
Office of Waste Programs Enforcement

To: CERCLA Enforcement Branch Chiefs

The "Superfund Desk Reference for Municipalities" is attached for your use. The manual is a compilation of existing documents relating to municipalities and Superfund. The manual's purpose is to assist municipalities who have been or might be identified as PRPs to work through the Superfund process. It will also be useful to those municipalities who are not PRPs, but who may otherwise have an interest in a Superfund site.

The manual contains fundamental background information on topics such as the NCP, the NPL, the municipal settlement policy and sources for additional information pertaining to the Superfund process. My staff compiled the manual, and we intend to distribute it widely. But, you should also provide copies of this manual to municipalities as you learn of their potential involvement or interest at a Superfund site. The manual does not establish new policy for municipalities under CERCLA; it is only a reference document.

We are unable to provide you with a large supply of the manual due to the prohibitive printing costs. However, the manual will be available, for a fee, from the National Technical Information Service (NTIS). NTIS' address is U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia, 22161. They maintain a 24-hour recorded message service at (703) 487-4650 for telephone orders. If you need assistance when ordering, you may cal (703) 487-4780 between 8:30 a.m. and 5:30 p.m., EST Monday through Friday.

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I hope you find the manual useful. For more information about the manual, please contact Natalie Eades at FTS 475-6113.

cc: National League of Cities
International City Manager's Association
National Institute of Municipal Law Officers
Association of Metropolitan Sewerage Agencies
Association of Metropolitan Water Agencies
National Association of Towns and Townships
United States Conference of Mayors

About This Manual

The Office of Waste Programs Enforcement at the U.S. Environmental Protection Agency developed this desk reference to provide municipalities with background information about the enforcement process under the Comprehensive Environmental Response, Compensation and Liability Act, as Amended, (CERCLA, also known as "Superfund"). This law gives the U.S. EPA the authority and the necessary tools to respond directly or to compel potentially responsible parties to respond to releases or threatened releases of hazardous substances.

This manual is a compilation of existing information and guidance on the Superfund enforcement process. The manual should assist municipalities in learning the fundamental aspects of Superfund and in obtaining additional information about the Superfund program.

This manual is divided into nine sections. Each section consists of several documents. The sections are divided by blue sheets and the individual documents are divided by yellow sheets. The first section consists of introductory documents about Superfund. The second section includes EPA's municipal settlement policy and fact sheets describing the policy. The third section includes reports on municipal wastes. The fourth section contains an overview of the National Contingency Plan, (EPA's regulations implementing CERCLA and the Superfund program). The fifth section addresses applicable or relevant and appropriate requirements (ARARs) for Superfund clean-ups. The sixth section contains documents that describe removal actions. The seventh section describes how records of decision are prepared. The eighth section contains the February, 1991 publication of the National Priorities List (NPL), which includes a list of municipal landfills. Finally, the ninth section includes a compendium and a catalogue of documents relating to Superfund.

Additional copies of this manual are available from the National Technical Information Service (NTIS), U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia, 22161. NTIS maintains a 24-hour recorded message service at (703) 487-4650 for telephone orders. If you need assistance when ordering you may call (703) 487-4780 between 8:30 a.m. and 5:30 p.m., EST Monday through Friday. There is a charge for reproduction of the document. If you have questions about the contents of this manual, please call the Guidance and Evaluation Branch of the Office of Waste Programs Enforcement at (202) 475-6770.

SUPERFUND DESK REFERENCE

FOR MUNICIPALITIES

April 1991

Acknowledgement

This document was developed through the joint efforts of the Office of Waste Programs Enforcement at the U.S. Environmental Protection Agency and PRC Environmental Management, Inc. under contract number 026-0544-00. The people who assisted in developing this document include Paul Connor and Arthur Weissman in the Office of Waste Programs Enforcement, and Claudia Barber and Mark Johnson at PRC Environmental Management, Inc.

Disclaimer

The policies and procedures set forth in this document are intended solely for the guidance of government personnel. They are not intended, nor can they be relied on, to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. The Agency reserves the right to act at variance with these policies and procedures and to change them at any time without public notice.

United States Environmental Protection Agency
Office of Waste Programs Enforcement
Washington, D.C. 20460

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SECTION I

GENERAL INFORMATION

United States
Environmental Protection
Agency

Office of Solid Waste
and Emergency Response
Washington, D.C. 20460

EPA

Office of Waste Programs Enforcement OWPE-9800.1FS Summer 1988

Environmental Fact Sheet

The Superfund Enforcement Process: How It Works

INTRODUCTION

In 1980, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly called Superfund. This law provides the U.S. Environmental Protection Agency (EPA) with the authority and necessary tools to respond directly or to compel potentially responsible parties (PRPs) to respond to releases or threatened releases of hazardous substances, pollutants or contaminants. CERCLA created two parallel and complementary programs aimed at achieving this goal.

The first program involves the creation of a trust fund financed through a special tax on the chemical and petroleum industries. This trust fund, known as the Superfund, may be available for site remediation when no viable PRPs are found or when PRPs fail to take necessary response actions. PRPs are defined as parties identified as having owned or operated hazardous substance sites, or who have transported or arranged for disposal or treatment of hazardous substances, pollutants or contaminants at such sites. The second program provides EPA with the authority to negotiate settlements, to issue orders to PRPs directing them to take necessary response actions, or to sue PRPs to repay the costs of such actions when the Trust Fund has been used for these purposes. The actions EPA takes to reach settlement or to compel responsible parties to pay for or undertake the remediation of sites are referred to as the Superfund enforcement process. CERCLA was reauthorized and amended on October 17, 1986, by the Superfund Amendments and Reauthorization Act (SARA). SARA provides EPA with new authorities and tools that strengthen the enforcement program.

LIST OF ACRONYMS

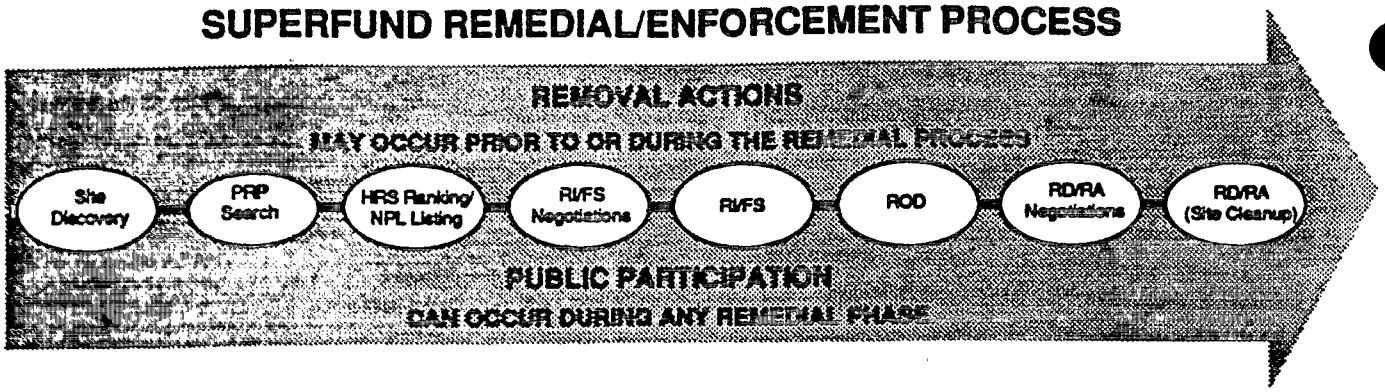
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act of 1980
IAG:	Interagency Agreement
NBAR:	Non-binding Allocation of Responsibility
NPL:	National Priorities List
PRP:	Potentially Responsible Party
RCRA:	Resource Conservation and Recovery Act, as Amended
RD/RA:	Remedial Design/Remedial Action
RI/FS:	Remedial Investigation/Feasibility Study
ROD:	Record of Decision
SARA:	Superfund Amendments and Reauthorization Act of 1986

This fact sheet describes the enforcement authorities and the process that is followed under the Superfund program. It describes the options available to EPA for remediating hazardous waste sites; the tools and mechanisms that EPA may use in negotiating settlements with PRPs, and describes the decision-making process at enforcement sites.

OVERVIEW OF THE ENFORCEMENT PROGRAM

A major goal of the Superfund program is to encourage PRPs to remediate hazardous waste sites. The enforcement process normally used by EPA to enlist PRP involvement may include five major efforts.

SUPERFUND REMEDIAL/ENFORCEMENT PROCESS



To understand the enforcement process, it is necessary to understand the Superfund remedial process. Under the remedial program, EPA takes long-term actions to stop or substantially reduce releases or threats of releases of hazardous substances that are serious but not immediately life-threatening. Removal actions, which are short-term, immediate actions intended to stabilize a hazardous incident or remove contaminants from a site that pose a threat to human health or welfare or the environment, may be taken at any point in the remedial process.

The Superfund process begins with a preliminary assessment/ site inspection (PA/SI). This usually is conducted by the State, to determine whether the site poses a significant enough potential hazard to warrant further study and investigation.

The site is then ranked using the Hazard Ranking System (HRS), a numerical ranking system used to identify the site's potential hazard to the environment and public health. Sites assigned an HRS score of 28.5 or above are added to the National Priorities List (NPL).

Next, a remedial investigation (RI) is conducted to assess the extent and nature of the contamination and the potential risks. A feasibility study (FS) is then prepared to examine and evaluate various remedial alternatives.

Following a public comment period on EPA's preferred alternative and the draft FS report, EPA chooses a specific remedial plan and outlines its selection in the Record of Decision (ROD).

Once the remedial design (RD) (which includes engineering plans and specifications) is completed, the actual site work, or remedial action (RA) can begin. After RD/RA activities have been completed, the site is monitored to ensure the effectiveness of the response. Certain measures require ongoing operation periodic maintenance.

First, EPA attempts to identify PRPs as early in the Superfund process as possible. Once identified, EPA will notify these parties of their potential liability for response work when the site is scheduled for some action. Second, in the course of identifying response work to be done, EPA will encourage PRPs to do the work at a site.

Third, if EPA believes the PRP is willing and capable of doing the work, EPA will attempt to negotiate an enforcement agreement with the PRP(s). The enforcement agreement may be an agreement entered in court (such as a judicial consent decree) or it may be an administrative order (where EPA and the PRP(s) sign an agreement outside of court). Both of these agreements are enforceable in a court of law. Under both agreements EPA oversees the PRP.

Fourth, if a settlement is not reached, EPA can use its authority to issue a unilateral administrative order or directly file suit against the PRP(s). Under either course of action, PRPs are directed to perform removal or remedial actions at a site. If the PRPs do not respond to an administrative order, EPA has the option of filing a law suit to compel performance.

Fifth, if PRPs do not perform the response action and EPA undertakes the work, EPA will file suit against PRPs, when practicable, to recover money spent by EPA and deposit it in the Superfund Trust Fund. This is called cost recovery, and it is a major priority under the Superfund program.

THE ENFORCEMENT PROCESS FOR REMEDIAL ACTIONS

PRP Search and Notice

EPA is committed to strengthening efforts to reach settlements with PRPs. EPA believes that settlements are more likely to occur when EPA interacts frequently with PRPs.

ENFORCEMENT AUTHORITIES

The original Superfund program was reauthorized and expanded on October 17, 1986, when President Reagan signed into law the Superfund Amendments and Reauthorization Act of 1986 (SARA). These amendments increased the Superfund Trust Fund to $8.5 billion and clarified and expanded enforcement authorities:

- **Access and Information Gathering** - SARA strengthens EPA's ability to obtain access to investigate sites and to obtain information from parties with knowledge of the site.

- **Settlement Authorities** - CERCLA authorizes EPA to compel a PRP to undertake necessary actions to control the threat of imminent and substantial endangerment to human health or the environment. To accomplish this, EPA may either issue an administrative order or bring a civil action against the PRP in court. SARA outlines specific procedures for negotiating settlements with PRPs to conduct voluntary response actions at hazardous waste sites.

- **Cost Recovery** - Once a Fund-financed response has been undertaken, EPA can recover costs from the responsible parties. Past and present facility owners and operators, as well as hazardous substance generators and transporters, can all be liable under Superfund for response costs and for damage to natural resources. EPA may recover Federal response costs from any or all of the responsible parties involved in a remedial action. The monies recovered go back into the Fund for use in future response actions.

- **Criminal Authorities** - SARA increases criminal penalties for failure to provide notice of a release and makes submitting false information a criminal offense.

- **Citizen Suits** - SARA authorizes a citizen to sue any person, the United States, or an individual State for any violation of standards and requirements of the law, under certain conditions.

Federal Facilities

SARA also adds a section dealing with releases of hazardous substances at Federal facilities. This provision clarifies that Superfund applies to Federal agencies and that they must comply with its requirements. SARA clearly defines the process Federal agencies must follow in undertaking remedial responses. At NPL sites, EPA makes the final selection of the remedy if the Federal agency and EPA disagree. A Federal agency must remediate a Federal facility through an interagency agreement (IAG), except in emergency situations. IAGs are enforceable agreements between Federal agencies that are subject to the citizen suit provisions in SARA and to section 109 penalties, if the responding agency does not comply with the terms of the agreement.

SARA also provides a schedule for response actions at Federal facilities, including a schedule for preliminary assessments, listing on the National Priorities List, remedial investigations/feasibility studies, and remedial actions. State and local officials also must be given the opportunity to participate in the planning and selection of any remedy, including the review of all data. States are given a formal opportunity to review remedies to ensure that they incorporate State standards. Public participation in addressing releases at Federal facilities is enhanced by SARA, which establishes a Federal Agency Hazardous Waste Compliance Docket. This docket functions as a repository of information for the public and is available for public inspection. Every six months after establishment of the docket, EPA will publish in the Federal Register a list of the Federal facilities that have been included in the docket during the preceeding six-month period.

This interaction is important because it provides the opportunity to share information about the site and may reduce delays in conducting response actions.

The enforcement process begins with the search for PRPs, concurrent with NPL listing.

Once identified, PRPs are typically issued a general notice letter. The general notice informs PRPs of their potential liability. The general notice also may include a request for and a release of information on PRPs and the substances at the site. The overall purposes of the general notice are to provide PRPs and the public with advance notice of possible future negotiations with EPA, to open the lines of communication between EPA and PRPs, and to advise PRPs of potential liability.

In addition to the general notices, EPA may issue a "special notice," which invokes a temporary moratorium on certain EPA remedial and enforcement activities. An RI/FS special notice initiates a 90-day moratorium and an RD/RA special notice initiates a 120-day moratorium. The moratorium provides a period of time during which EPA and PRPs negotiate. The goal of negotiations is for EPA and PRPs to reach a settlement where the PRPs agree to conduct and/or finance response activities. Negotiations may be terminated after 60 days for either the RI/FS or RD/RA if PRPs do not provide EPA with a "good faith" settlement offer.

Negotiations for the RI/FS

The PRP may conduct the RI/ES if EPA determines the PRP is qualified to conduct the RI/FS and if the PRP agrees to reimburse EPA for the cost of oversight. The terms of this agreement to conduct the RI/FS are outlined in either an Administrative Order on Consent or a Consent Decree, both of which are enforceable in court. If negotiations do not result in an order or a decree, EPA may use Trust Fund monies to perform the RI/FS and seek reimbursement for its costs.

Negotiations for the RD/RA

Where a special notice is used, the moratorium for RD/RA may be extended to a total of 120 days. The terms of the agreement to conduct the RD/RA are outlined in a Consent Decree, which all parties sign and is entered in court. If negotiations do not result in a settlement, EPA may conduct the remedial activity using Trust Fund monies, and sue for reimbursement of its costs with the assistance of the Department of Justice (DOJ). Or EPA may issue a unilateral administrative order or directly file suit to force the PRPs to conduct the remedial activity.

Administrative Record

The information used by EPA to select a remedy at a site must be made available to the public. This information, including public comments, is compiled and maintained in the administrative record files. The administrative record serves two main purposes. First, it ensures an opportunity for public involvement in the selection of a remedy at a site. Second, it provides a basis for judicial review of the selection.

TOOLS FOR ENFORCEMENT

In addition to outlining the procedures for the enforcement *process*, CERCLA provides *tools* that are designed to help EPA achieve settlements. The CERCLA settlement authorities may be used by EPA to foster negotiations with PRPs instead of taking them to court. EPA believes that PRPs should be involved early in the Superfund process at a site. It is in the best interest of PRPs to negotiate with EPA and to conduct the RI/FS, as this can keep the process smooth and costs can be controlled. EPA actively promotes settlements with PRPs using tools in SARA and is continuing to work towards improvements in the settlement process itself. These new SARA tools include, but are not limited to:

Mixed Funding

CERCLA authorizes the use of "mixed funding." In m funding, settling PRPs and EPA share the costs of th sponse action and EPA pursues viable non-settlers for the costs EPA incurred. Through guidance, EPA discusses the use of three types of mixed funding arrangements. These are "preauthorization," where the PRPs conduct the remedial action and EPA agrees to reimburse the PRPs for a portion of their response costs; "cash-outs," where PRPs pay for a portion of the remedial costs and EPA conducts the work; and "mixed work," where EPA and PRPs both agree to conduct and finance discrete portions of a remedial action. EPA prefers a "preauthorized" mixed-funding agreement, where PRPs conduct the work.

EPA encourages the use of mixed funding to promote settlement and site remediation, but will continue to seek 100 percent of response costs from PRPs where possible. Use of mixed funding does not change EPA's approach to determining liability. PRPs may be held jointly and severally liable and EPA will seek to recover EPA's mixed funding share from non-settling PRPs whenever possible.

De Minimis Settlements

De minimis settlements are smaller agreements sepa from the larger settlement for the chosen remedy. Unde minimis settlements, relatively small contributors of waste to a site, or certain "innocent" landowners, may resolve their liability. Innocent landowners are parties who bought property without knowing that it was used for hazardous waste handling. Or EPA may enter into de minimis settlement agreements with a party where the settlement includes only a minor portion of the response costs and when the amount of waste represents a relatively minor amount and is not highly toxic, compared to other hazardous substances at the facility. De minimis settlements also may be used where the PRP is a site owner who did not conduct or permit waste management or contribute to the release of hazardous substances. De minimis settlements are typically used in conjunction with covenant not to sue agreements. These agreements generally will be in the form of administrative orders on consent and are available for public comment.

Covenants Not To Sue

A covenant not to sue may be used to limit the present and future liability of PRPs, thus encouraging them to reach settlement early. However, agreements generally incl "reopeners" that would allow EPA to hold parties liable

conditions unknown at the time of settlement or for new information indicating that the remedial action is not protective of human health and the environment. In some cases, such as de minimis settlements, releases may be granted without reopeners. Covenants not to sue are likely to be used only in instances where the negotiating PRP is responsible for only a very small portion of a site, and, therefore, EPA is assured that any future problems with the site are not likely to be the result of that PRP's contribution

Non-binding Allocations of Responsibility (NBAR)

NBAR is a process for EPA to propose a way for PRPs to allocate costs among themselves. EPA may decide to prepare an NBAR when the Agency determines this allocation is likely to promote settlement. An NBAR does not bind the government or PRPs and cannot be admitted as evidence or reviewed in any judicial proceeding, including citizen suits. Since each PRP may be held liable for the entire cost of response, regardless of the size of its contribution to a site, knowing EPA's proposed allocation scheme may encourage the PRPs to settle out of court rather than run the risk of being held fully responsible.

STATE PARTICIPATION

The Superfund program allows for and encourages State participation in enforcement activities. First, EPA is required to notify the State of negotiations with PRPs and provide the opportunity for the State to participate. States may be a party to any settlement in which they participate. In addition, EPA is authorized to provide funds to States to allow State participation in enforcement activities and to finance certain State-lead enforcement actions.

PUBLIC PARTICIPATION/COMMUNITY RELATIONS

EPA policy and the Superfund law establish a strong program of public participation in the decision-making process at both Fund-lead and enforcement sites. The procedures and policy for public participation at enforcement sites are basically the same as for non-enforcement sites. This fact sheet is limited to those special differences in community relations when the Agency is negotiating with or pursuing litigation against PRPs. The contact listed below has numerous fact sheets on the Superfund program, including a fact sheet on Public Involvement.

Community relations at enforcement-lead sites may differ from community relations activities at Fund-lead sites because negotiations between EPA, DOJ and PRPs generally focus on the issue of liability. The negotiation process, thus, requires that some information be kept confidential and is not usually open to the public.

When these discussions deal with new technical information that changes or modifies remedial decisions, this information will be documented and placed in the administrative record files. This process provides the public with critical information and enables the Agency to move quickly towards settlement. Information on enforcement strategy; details of the negotiations, such as the behavior, attitudes, or legal positions of responsible parties; and evidence or attorney work product material developed during negotiations, must remain confidential.

FOR MORE INFORMATION:

OFFICE OF WASTE PROGRAMS ENFORCEMENT
U. S. Environmental Protection Agency
401 M Street, Southwest (OS-500)
Washington, DC 20460

(202) 382-4814

HOW TO OBTAIN SUPERFUND INFORMATION

HOW TO OBTAIN SUPERFUND DOCUMENTS

Documents issued by EPA's Office of Emergency and Remedial Response (OERR, or Superfund) may be ordered from:

National Technical Information Service (NTIS)
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

800-336-4700
or
703-487-4650

If you need help identifying a document in which you are interested, call:

RCRA/Superfund Industrial Assistance Hotline

800-424-9346
or
202-382-3000

The Hotline can give you the precise title, the date of the most current version, and the "PB number" that you will need when ordering from NTIS. You may also request a catalog of Superfund publications, for your future reference.

THE SUPERFUND ENFORCEMENT PROCESS

OWPE-9800.1

The Superfund Enforcement Process
U.S. Environmental Protection Agency

THE SUPERFUND ENFORCEMENT PROCESS

The CERCLA Enforcement Process

The Superfund enforcement process is based on the liability standard established in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability standard. CERCLA liability is strict, joint, several, and retroactive. The three major thrusts of the enforcement program are as follows:

- Achieving private-party responses
- Overseeing private-party responses
- Recovering the costs of Environmental Protection Agency (EPA)-lead cleanups

Private-party response actions may be achieved through settlements or enforcement actions brought by EPA. All private-party responses are subject to oversight by the Agency to verify the correctness and thoroughness of the potentially responsible party's (PRP's) actions. PRPs may be held liable for the entire cost of cleanup since their liability begins with site discovery and continues during operation and maintenance -- long after the remedial action is complete. The Agency will taken cost recovery action to obtain reimbursement for the costs of cleanups funded by the Trust Fund (Superfund).

The following is a brief description of the Superfund enforcement process. An appendix has been included, which consists of flowcharts outlining several Superfund enforcement activities.

PRP Search

PRPs are parties liable for payment of Superfund cleanup costs. PRPs include companies that generate any hazardous substances found at a site, present and former owners and operators, and certain transporters who dispose of hazardous substances at a site. Early identification of PRPs supports EPA policy to secure cleanup by PRPs in lieu of Superfund financing, where such cleanup can be accomplished in a timely and effective manner.

The initiation of a PRP search is concurrent with the initiation of the National Priorities List (NPL) listing process. At the time of site discovery, a preliminary search is conducted to identify obvious PRPs. This step is essential, especially at removal sites where immediate action is needed. The extent of a PRP search depends on several factors: NPL status, site complexity, and amount of funds expended at the site. The PRP search efforts include review of state and agency records, title searches, interviews with site operators, and financial assessment of PRPs.

Notice Letters, Negotiations, and Information Exchange

Important mechanisms for promoting interaction and facilitating communication between EPA and PRPs include issuing notice letters, entering into negotiations, and exchanging information with PRPs. Upon identification of a PRP, EPA must notify the PRP of its liability. In the past, this notification has been accomplished through a "general notice" letter to the PRPs. Following the reauthorization of CERCLA, EPA began using special notice procedures that establish a 90- to 120-day moratorium and formal negotiation period. The PRPs must respond to EPA's special notice letter by either declining within the time specified to participate in the cleanup or by offering a good faith proposal to EPA to clean up the site. If the PRPs decline to participate, or the time specified lapses, EPA will either take administrative or judicial action to compel cleanup, or will obligate funds for performing the cleanup. If a good faith proposal is submitted and accepted, EPA will continue negotiating with the PRPs.

An information exchange between the PRPs and EPA facilitates negotiations. EPA may request information about PRP involvement with a site under CERCLA Section 104, through information requests, or through EPA's Section 122 subpoena authority. It is Agency policy to release information to PRPs, allow them to assess the nature of their waste contribution, identify other PRPs, coalesce, and develop good faith offers. Agency information summaries are routinely included with general notice letters.

Several settlement tools may be used to encourage settlements during negotiations. These tools include de minimis settlements, mixed-funding settlements, and nonbinding preliminary allocations of responsibility (NBARs). These tools may expedite more complete settlements.

Settlements, Noncompliance, and Oversight

If negotiations are successful, the agreement between the PRPs and EPA will be embodied in a consent administrative order or a consent decree (CD). Consent administrative orders are negotiated and agreed upon by both the PRPs and EPA. They are usually used for removal actions or remedial investigation/feasibility studies (RI/FSs). They are issued by EPA and specify due dates and the exact cleanup work to be conducted. If PRPs do not comply with the agreement, EPA may refer the case to the Department of Justice for enforcement. CDs are also negotiated and agreed upon by both the PRPs and EPA. They are the preferred judicial documents for conducting remedial design/remedial action (RD/RA) and must be filed with a court by the Department of Justice. Courts can enforce CDs when PRPs refuse to comply with them.

Once a settlement agreement has been reached with the PRPs, a federal representative is necessary to oversee the private-party cleanup. Oversight is critical to ensuring that the PRP cleanup

is performed properly and expeditiously. Typical oversight activities include analyzing split samples, reviewing PRP reports, and approving PRP work plans.

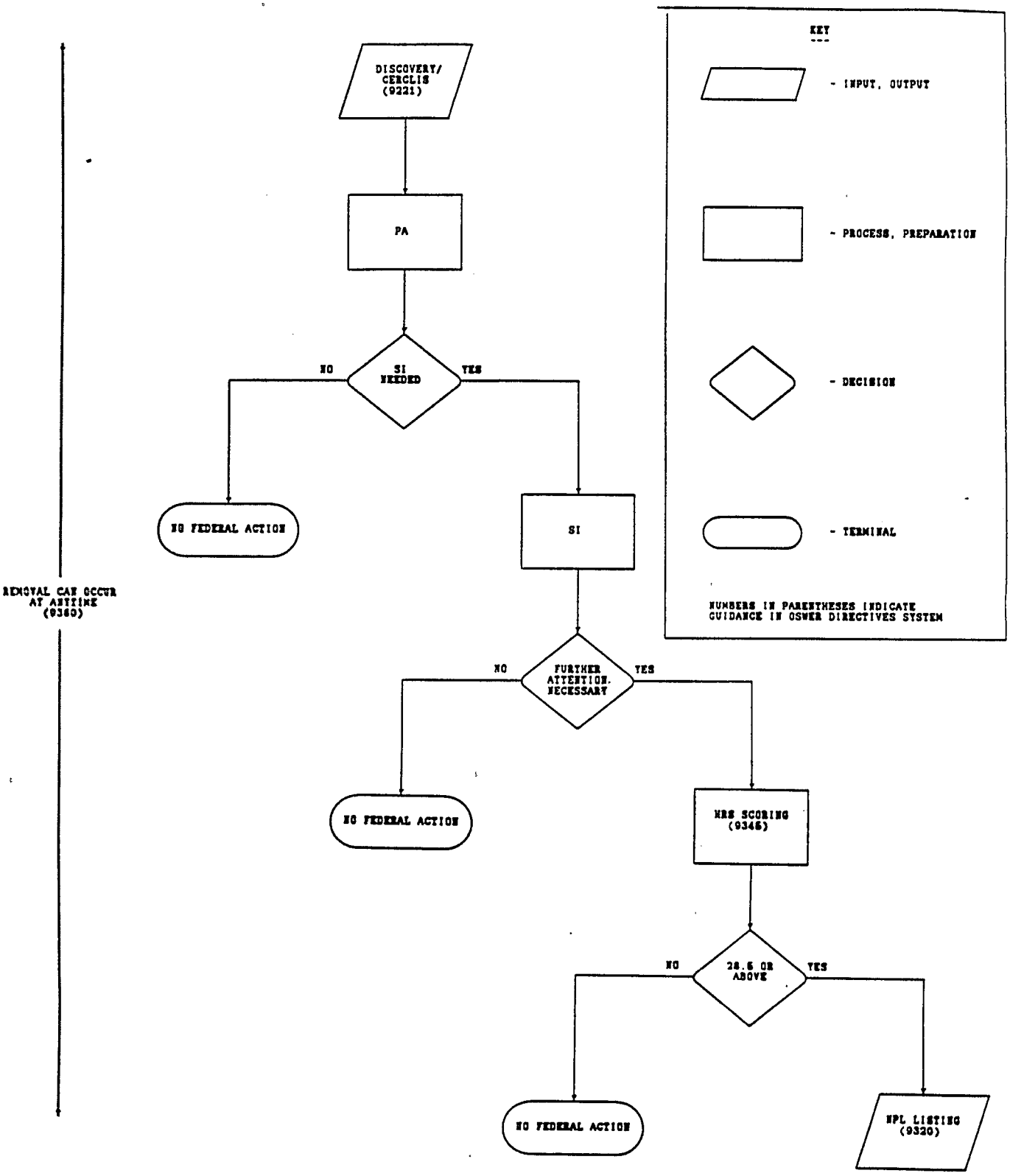
Enforcement Authorities and Fund Financing

Unilateral administrative orders (UAOs) are issued under Section 106(a) of CERCLA if the PRP is unwilling to settle. UAOs tell the parties to conduct the cleanup. Failure to comply with the UAO may result in the imposition of fines, damages, and court orders to conduct the cleanups. If EPA believes the site requires immediate action, EPA may obligate the Trust Fund and proceed with a Fund-financed cleanup. However, Fund-financed cleanups are followed by cost recovery actions.

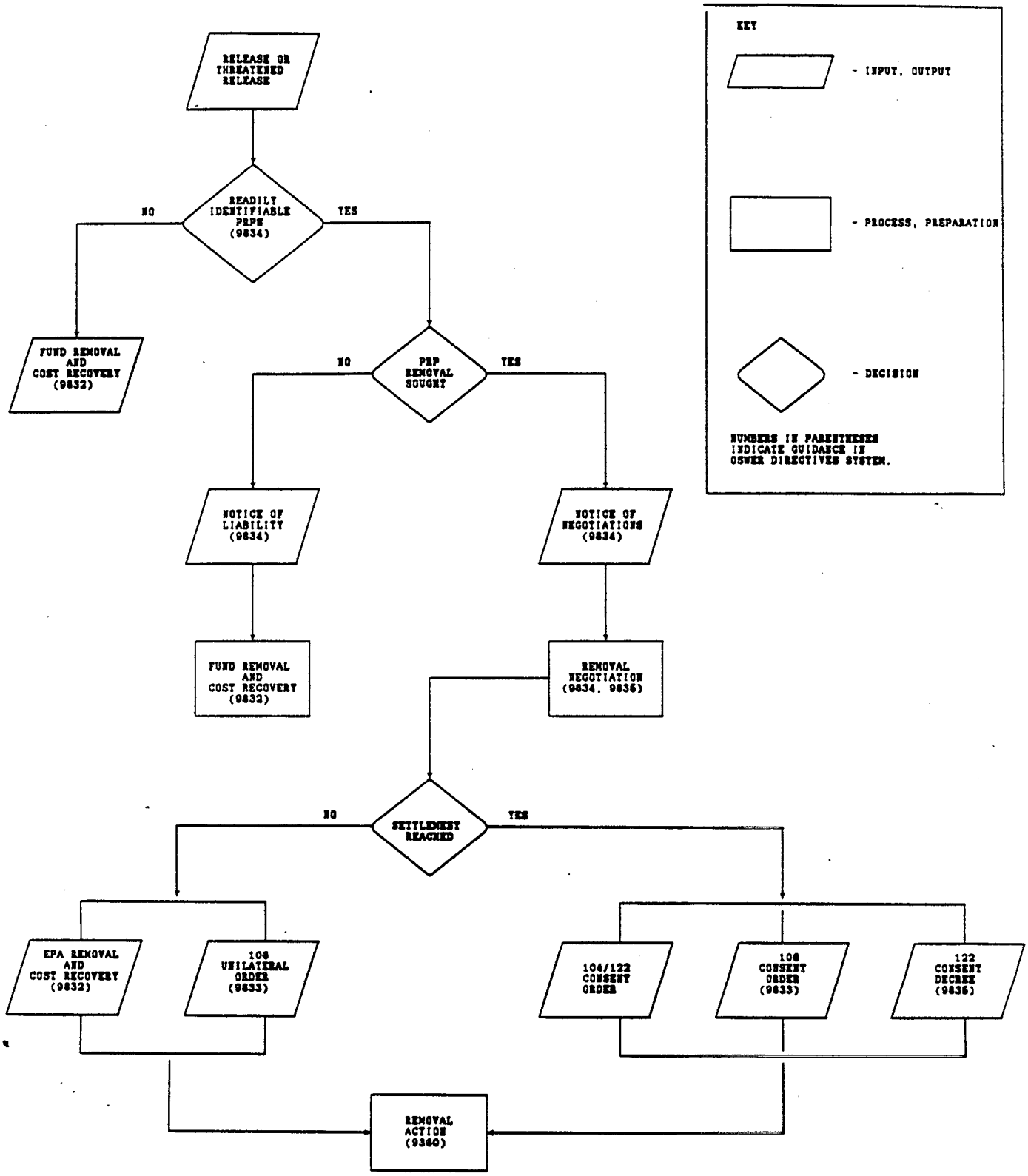
Cost recovery involves all documented costs relating to the cleanup action. Demand letters form the basis for cost recovery negotiations. Under the Superfund Amendments and Reauthorization Act (SARA), EPA can recover its costs, if they total less than $500,000, in an administrative action. Administrative actions give PRPs a right to a hearing, without involving the courts. However, when more than $500,000 is sought, EPA must go to court to recover its expenses.

APPENDIX

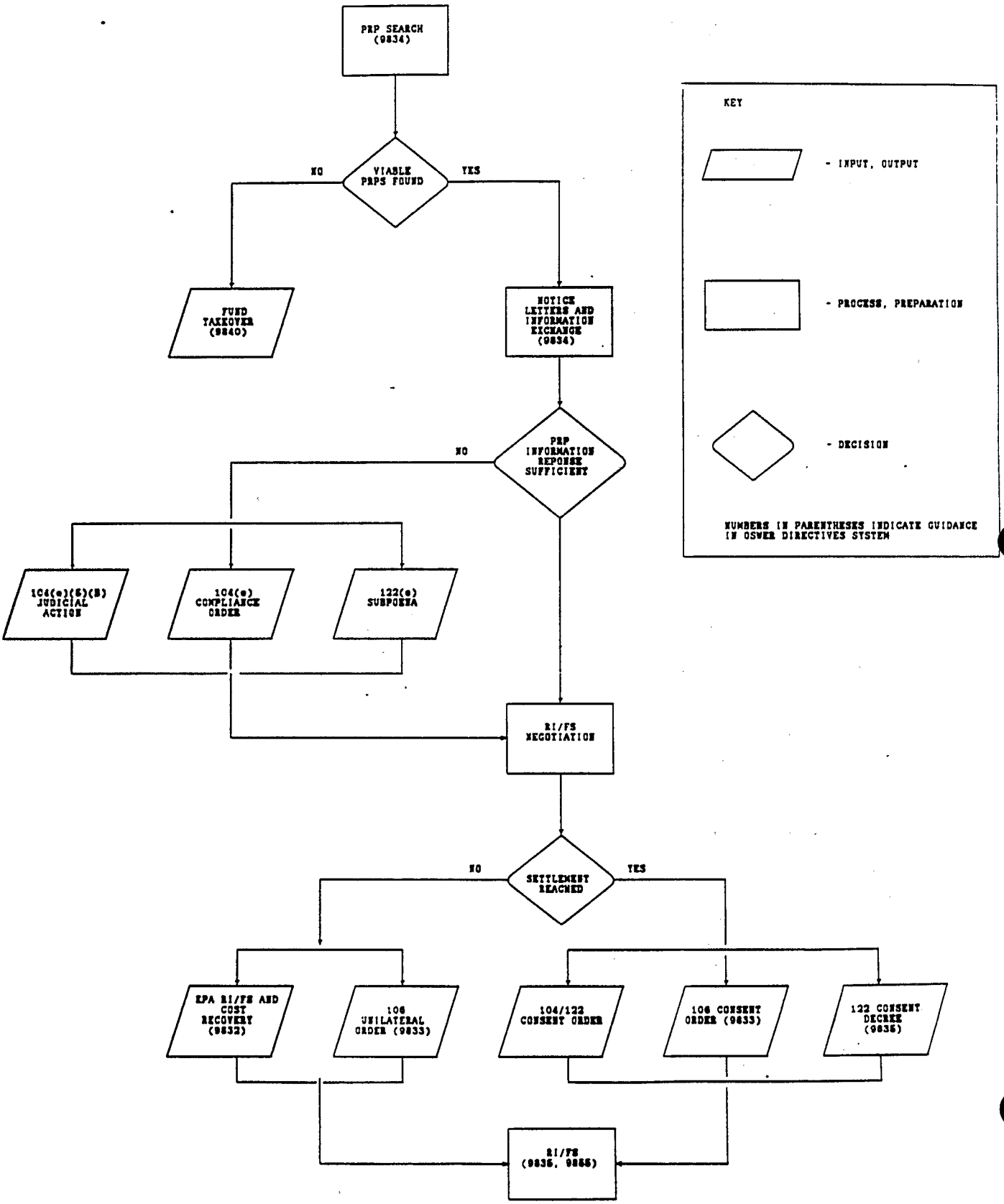
1. DISCOVERY THROUGH LISTING



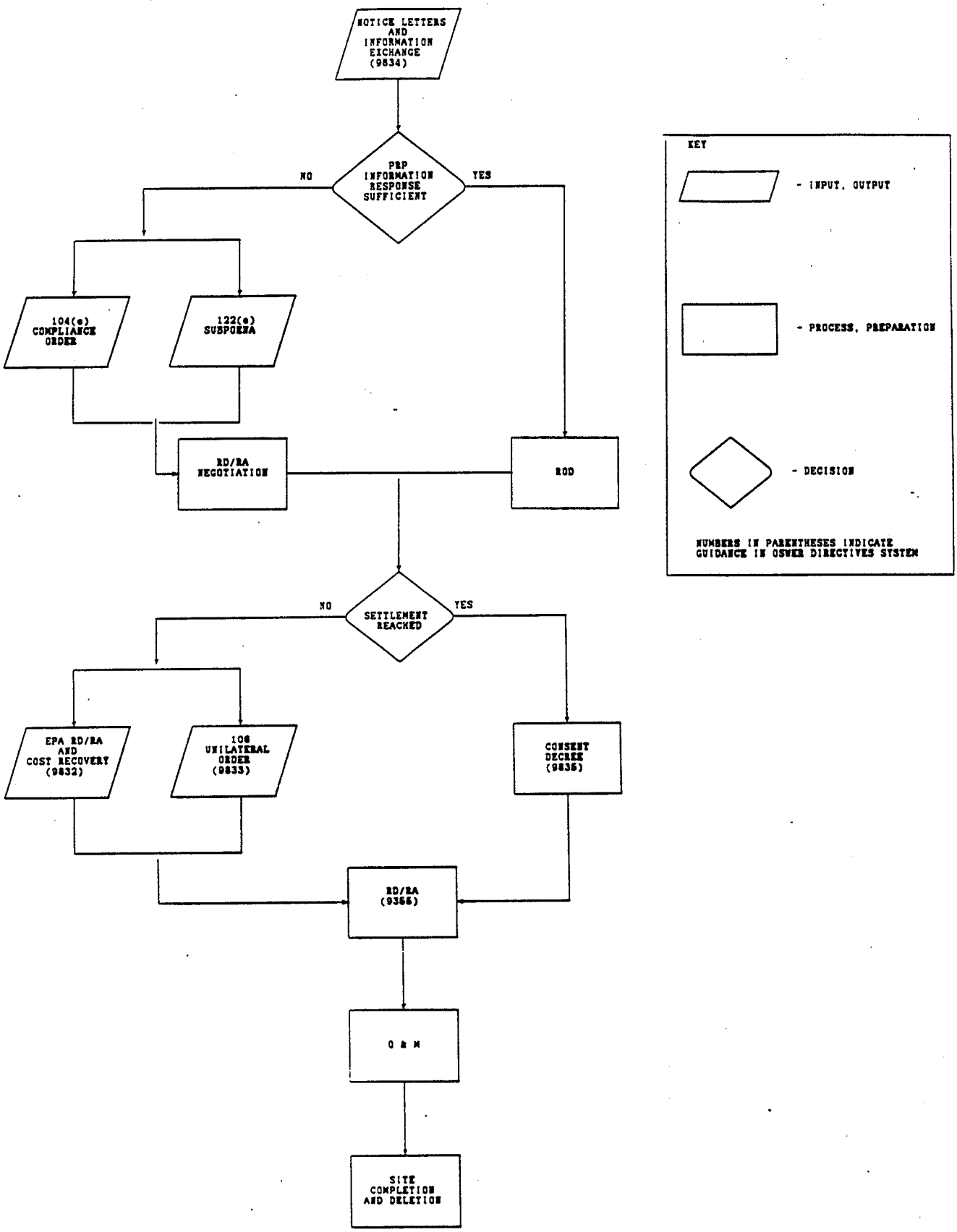
2. REMOVAL ACTIONS



3. PRP SEARCH THROUGH RI/FS



4. RD/RA NOTICE LETTERS THROUGH O & M



BACKGROUND PAPER ON THE MAJOR PROVISIONS OF SUPERFUND REAUTHORIZATION

BACKGROUND PAPER ON THE MAJOR PROVISIONS OF SUPERFUND REAUTHORIZATION

PUBLISHED BY THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE
January 1987

INTRODUCTION

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, was enacted in 1980. This law provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or welfare or the environment. Costs for this program were originally covered by a $1.6 billion Hazardous Substance Response Trust Fund. This fund was designed to pay for cleanup operations, enforcement action, and the recovery of costs from responsible parties.

On October 17, 1986, President Reagan signed into law the Superfund Amendments and Reauthorization Act of 1986 (SARA). These Amendments increase Superfund revenues to $8 5 billion, and strengthen the EPA's authority to conduct short-term (removal), long-term (remedial) and enforcement actions. The Amendments also strengthen State involvement in the cleanup process and the Agency's commitment to research and development, training, health assessments, and public participation. A number of new statutory authorities, such as Community Right-to-Know are also established.

This background paper summarizes the major provisions of the new Superfund law. Figure 1 provides a comparison of the original law and SARA.

THE REMOVAL PROGRAM

A "removal action" is generally a short-term action intended to stabilize or clean up a hazardous incident or site threatening human health and welfare or the environment. Specifically, removal actions may include removing and disposing of hazardous substances; constructing a fence around a site; collecting and analyzing soil, air and water samples; providing alternative water supplies to local residents; or temporarily relocating residents from the area. Removal actions were originally limited to 6 months and a total cost of

$1 million. Exemptions to these limits could be granted if continued Federal response was necessary to prevent, limit, or mitigate an emergency, if there was an immediate risk to public health, welfare or the environment, and if such assistance was not otherwise available on a timely basis.

New Statutory Requirements

The Superfund Amendments of 1986 raise the dollar amount and time limitations on removal actions to $2 million and 12 months. In addition, the law adds a fourth independent condition under which EPA may waive these limitations. A removal action may continue beyond the $2 million/12 month limits if it meets the three exemption requirements outlined above or if it is consistent with the long-term remedial action to be taken at the site.

THE REMEDIAL PROGRAM

A "remedial action" is a long-term remedy for a release or threatened release of a hazardous substance at a hazardous waste site. Specific remedial actions may include the removal of drums or soil containing wastes from the site; the construction of a cap over the site; the construction of dikes to control surface water; incineration of wastes; subsurface cleanup of contamination; treatment of contaminated water or provision of alternate water supplies; or the permanent relocation of residents from the area. Superfund-financed remedial actions may be taken only at sites included on the National Priorities List (NPL), the Agency's list of the Nation's most serious hazardous waste sites. The Superfund Amendments of 1986 provide new requirements for the remedial program.

Cleanup Standards

The original Superfund law did not address cleanup requirements but directed EPA to analyze the cost-effectiveness of the remedial action alternatives. The revised National Contingency Plan did establish a compliance with other environmental statutes policy and directed EPA to consider the use of alternative technologies in choosing a remedial action. Under the new Superfund Amendments, EPA must continue to consider the cost-effectiveness of the clean-up alternatives as well as the following new statutory requirements:

- Standards: EPA is required to select remedies that meet standards under any Federal or State environmental law that apply to the hazardous substance being addressed or are relevant and appropriate under the circumstances. These standards may be waived under certain limited conditions.

- Permanent Solutions: EPA must select cost-effective remedial actions consistent with the National Contingency Plan (NCP).* These actions must also, to the maximum extent practicable, be permanent solutions to protect human health and the environment, and use alternative treatment or resource recovery technologies.

- Off-Site Actions: All hazardous substances transported from hazardous waste sites must be taken to a facility that is operating in compliance with the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), or other applicable Federal and State laws.

- Mandatory Schedules

The Superfund Amendments establish goals for the evaluation of sites contained in CERCLIS (an inventory of potentially hazardous waste sites), as well as mandatory schedules for beginning new Remedial Investigations/Feasibility Studies (RI/FS) and new remedial actions for sites on the National Priorities List (NPL). For example, EPA must start Remedial Investigation/Feasibility Study work at 275 Superfund sites by October 1989. In addition, actual remedial cleanup activities must begin at 175 sites by October 1989, with an additional 200 remedial cleanup activities during 1990 and 1991.

- Health-Related Authorities

These new provisions significantly expand the health-related authorities under SARA to include a list of hazardous substances, toxicological profiles, health effects research and health assessments at all NPL sites. The responsibility for

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* Officially known as the National Oil and Hazardous Substances Pollution Contingency Plan, the NCP is the central Superfund regulation and outlines the responsibilities and authorities for responding to releases into the environment of hazardous substances and other pollutants and contaminants under the statutory authority of CERCLA and section 311 of the Clean Water Act.

conducting these tasks rests primarily with the Agency for Toxic Substances and Disease Registry (ATSDR) within the Department of Health and Human Services (HHS), in consultation with EPA. Specifically, these new provisions include:

- List of Substances: Within six months of enactment, EPA and ATSDR must prepare a list of at least 100 hazardous substances, commonly found at NPL sites, posing the most significant threat to human health.

- Toxicological Profiles: ATSDR must prepare toxicological profiles for each of the listed substances according to a mandatory schedule. A toxicological profile includes a summary of available information on the toxic effects to humans from exposure to a substance.

- Health Effects Research: If ATSDR and EPA determine that adequate information is not available for any of the listed substances, ATSDR must undertake a research program, including laboratory studies, to determine the health effects of those substances.

- Health Assessments: ATSDR must perform health assessments at every NPL site according to a mandatory schedule. ATSDR, in consultation with EPA, sets the priorities for health assessments at NPL sites based upon potential risk to human health, adequacy of existing data, and EPA's NPL and RI/FS schedules.

Citizens also may petition ATSDR to perform a health assessment at any site based upon exposure to the public and environment from a release. As a result of an assessment, followup activities may include pilot health effects studies, full-scale epidemiological studies, development of a registry of exposed persons and health surveillance programs. If the health assessment determines a significant risk to human health, EPA is required to act to reduce exposure and mitigate risk.

. State Involvement

SARA expands an already extensive State participation process. Under the new law, States are more formally involved in the initiation, development and selection of remedial actions . State involvement regulations will provide for a number of opportunities to participate including:

- Participation in pre-remedial activities to assess and investigate sites prior to listing on the NPL

- Participation in identification of and long-term planning for all remedial actions in a State

- Opportunity to review and comment on planning documents, technical data, engineering designs or proposed findings and decisions to waive requirements

- Opportunity to participate in negotiations

- Notification of and opportunity for comment on the proposed plan for remedial action

- Concurrence in deleting sites from the NPL

States are also more formally involved in the settlement process. If the State disagrees with EPA's settlement decision not to require compliance with certain State standards, the State may legally challenge EPA's decision.

ENFORCEMENT AND LEGAL ISSUES

Enforcement is a major EPA activity under Superfund. When Congress passed the original Superfund law, it intended that polluters who create environmental problems should correct them whenever possible. EPA can obtain cleanup action by taking the potentially responsible parties (PRPs) to court, reaching an out-of-court settlement or issuing direct administrative orders where there is an endangerment to public health or the environment. The Superfund Amendments clarify and expand enforcement authorities in the areas of settlements with PRPs, citizen suits, criminal and civil penalties, development of an administrative record, and access and information gathering.

- Settlements: EPA is authorized to enter into settlement agreements with PRPs to conduct site investigations and cleanup actions. In addition, EPA can notify PRPs when EPA determines that negotiations would facilitate reaching an agreement.

- Citizen Suits: Any person may sue any other person, including the United States or individual states, for an alleged violation of any standard, regulation, condition, requirement or order under CERCLA or for failure to perform "non-discretionary duties" such as a health assessment.

- Penalties: The new law increases the criminal penalties for failure to provide notice of a hazardous waste release and makes the submission of false or misleading information a criminal offense.

- Administrative Record: The Superfund Amendments require EPA to establish an Administrative Record upon which the selection of a response action will be based. The record must be available to the public at or near the facility at issue. EPA must promulgate regulations for public participation in the development of the Administrative Record for removal and remedial actions.

- Access and Information Gathering: The new law strengthens EPA's ability to obtain access to sites to perform investigations and site cleanup.

Federal Facilities

The Superfund Amendments add a new section to CERCLA dealing with hazardous substance releases at Federal facilities. This provision confirms CERCLA's applicability to Federal agencies and requires Federal agency compliance with CERCLA requirements. The Amendments clearly define the process Federal agencies must follow in undertaking remedial action, including a requirement that EPA make the final selection of the remedy if there is a disagreement between the Federal agency and EPA. State and local officials also must be given the opportunity to participate in the planning and selection of any remedial action, including the review of all relevant data. States are given a formal opportunity to review remedies to ensure that State standards are incorporated. The Amendments also set forth a schedule for response actions at Federal facilities including a schedule for preliminary assessments, listing on the National Priorities List, remedial investigations/feasibility studies and remedial actions.

COMMUNITY RELATIONS

The original Superfund law did not explicitly address the issue of community involvement and public participation in the Superfund program. Agency policy, however, has established a citizen participation program. The Superfund Amendments strengthen existing procedures for public participation.

Public Participation Requirements

The Amendments require EPA to:

- Publish a notice and brief analysis of the proposed remedial action plan and make the plan available to the public

- Provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting

- Keep a transcript of the public meeting and provide it to the public

- Publish a notice of the final remedial action plan and make it available to the public before the beginning of any remedial action

- Prepare a response to each of the significant comments, criticisms and new data submitted on the proposed remedial action plan.

Technical Assistance Grants

This provision represents new program authority under SARA. The Superfund Amendments allow EPA to make grants available to communities affected by a release or threatened release at a National Priorities List (NPL) site. Community members may use these grants to obtain assistance in interpreting technical information on the nature of the hazard and recommended alternatives for investigation and cleanup throughout each stage of the Superfund process. Grants are limited to $50,000 per site. In addition, the grant recipient is required to contribute at least 20 percent of the total cost of the expert advice.

OTHER ISSUES

The Superfund Amendments of 1986 mandate several ongoing program initiatives that will expand the scope of cleanup operations and EPA's planning and response authorities.

- Research and Development (R&D) and Training

The Amendments establish a comprehensive Federal program for research and development, demonstration and training. SARA promotes the development of alternative and innovative treatment technologies for Superfund response and directs EPA to improve capabilities for evaluating human health effects from exposure to hazardous substances.

The provisions represent new and/or expanded authorities for training and R&D not found in the original law. While many training and R&D activities have been ongoing for the past five years, these new provisions clearly increase and define the scope of future activities and provide new research authorities.

- Emergency Planning/Community Right-To-Know

Chemical release incidents such as Institute, West Virginia and Bhopal, India, heightened Congressional awareness of the critical need for effective emergency planning. EPA also has recognized this need by establishing the Chemical Emergency Preparedness Program (CEPP). These efforts are mandated in a separate title of the CERCLA Reauthorization Amendments, known as the Emergency Planning and Community Right-to-Know Act of 1986. This title, Title III, includes provisions related to emergency planning, notification and reporting requirements.

Emergency Preparedness

- Planning Entities: States are required to establish State emergency response commissions, emergency planning districts and local emergency planning committees to coordinate and provide technical expertise in planning for responses to emergency releases of hazardous chemicals.

- List of Substances: EPA must publish a list of extremely hazardous substances and publish in regulation form a threshold planning quantity for each substance that if released at a facility would likely pose a hazardous substance emergency. This list provides a focus for local emergency response plans.

- Facility Participation in Planning: Facilities that produce, use or store extremely hazardous substances in excess of established thresholds must notify the State emergency response commission that they are subject to Title III planning requirements. Such facilities must designate a facility emergency coordinator to work with and provide information to the local emergency planning committee.

- Comprehensive Emergency Response Plans: Each local emergency planning committee must prepare an emergency plan within two years of enactment and review that plan at least once a year.

- Emergency Notification: Facilities are required to provide immediate notice of the release of a hazardous substance to the local planning committee and the State commission.

Right-to-Know

- Material Safety Data Sheets (MSDS): Any facility which is required to prepare or have available an MSDS under Occupational Safety and Health Administration (OSHA) regulations must submit an MSDS or a list of MSDS chemicals to the appropriate local emergency planning committee, State emergency response commission and fire department. The MSDS contains information on chemical name, chemical characteristics and health hazards.

- Emergency and Hazardous Chemical Inventory Forms: Any facility required to prepare or have available an MSDS under OSHA regulations shall also complete and submit annually to the appropriate emergency planning entities an inventory form. This form contains information on the amount and general location of chemicals at the facility.

- Toxic Chemical Release Forms: Any facility which produces, processes or otherwise uses "toxic chemicals" in amounts over the published threshold quantity must submit a form to EPA and the designated State official describing all releases that occurred during the year. "Toxic chemicals" are the combined Maryland and New Jersey lists.

Figure 1
Comparison of the Original Law to SARA

ORIGINAL LAW	SARA
Removal Program	**Removal Program**
. Sets limits at 6 months and $1 million.	. Raises limits to 1 year and $2 million.
. Includes waiver to limits based upon three criteria.	. Adds additional waiver criterion for consistency with long-term remedial action.
. No provision.	. Requires removals to contribute to the efficient performance of any long-term remedial action.
Remedial Program	**Remedial Program**
. No mandatory schedules or goals.	. Contains goals for preliminary assessments and site inspections and mandatory schedules for new RI/FS starts and new remedial action starts.
. Requires the development and use of criteria and methods for determining extent of remedy. Remedial actions must also be cost-effective and consistent with the National Contingency Plan (NCP).	. Requires remedies to: - Be protective of human health and the environment - Be cost-effective - Attain applicable Federal and State standards - Utilize permanent solutions and alternative technologies to the maximum extent practicable. . Treatment which reduces the volume, mobility and toxicity of the waste is preferred.

Figure 1 (page 2)

ORIGINAL LAW	SARA
• Provides for ATSDR to establish disease registry, health effects literature inventory, list of restricted areas and to provide health screening and medical care.	• Requires ATSDR (with EPA) to prepare list of hazardous substances, to prepare toxicological profiles, and to conduct health effects research and health assessments. A disease registry may also be established.
• Provides for State involvement in response actions through cooperative agreements and contracts.	• Requires establishment of formal State participation regulations providing for document review and comment and participation in every phase of the program.
Enforcement Program	**Enforcement Program**
• No provision.	• Authorizes citizen suits.
• No specific provisions in statute. Settlements authorized under Agency policy.	• Authorizes settlement agreements with PRPs and establishes procedures and tools for reaching settlements.
• No specific provisions in statute. Review of remedy decisions has been on the record.	• Establishes an administrative record upon which a response action will be based.
• Authorizes criminal penalties for failure to provide required notifications.	• Provides civil and increases criminal penalties for these activities.

Figure 1 (page 3)

ORIGINAL LAW	SARA
. Prohibits the use of Fund money for remedial action at Federal facilities.	. Confirms CERCLA's applicability to Federal agencies and requires Federal agency compliance with CERCLA requirements. Also prohibits use of Fund money for remdial actions.
Community Relations	
. No specific provisions in statute. Community relations is authorized under Agency policy.	. Establishes public participation requirements and authorizes technical assistance grants.
Research and Development and Training	**Research and Development and Training**
. No specific provisions in statute.	. Establishes a comprehensive research, development and demonstration program for alternative technologies; training programs for hazardous substance response; and hazardous substance research.
Emergency Planning/Community Right-to-Know	**Emergency Planning/Community Right-to-Know**
. No specific provisions in statute. Emergency planning and preparedness activities are authorized by the NCP and Agency policy.	. Establishes a State and local planning structure, emergency notification and reporting requirements for facilities.

BACKGROUND PAPER

SUPERFUND INNOVATIVE TECHNOLOGY EVALUATION PROGRAM

INTRODUCTION

The Environmental Protection Agency's Office of Research and Development (ORD), joining with the Office of Solid Waste and Emergency Response (OSWER), has initiated the Superfund Innovative Technology Evaluation (SITE) Program. The SITE Program will help EPA find, test, and encourage the use of new ways to destroy, stabilize or otherwise treat hazardous wastes, rather than just burying them in the ground.

The overall goal of the SITE Program is to maximize the use of alternatives to land disposal and containment at Superfund sites. To accomplish this goal, the program will provide reliable cost and performance information on technologies that offer an alternative to land disposal. This information will be generated by conducting pilot-scale or full-scale demonstrations of alternative technologies at Superfund sites.

BACKGROUND

EPA's Superfund program is designed to clean up hazardous waste sites around the country. It has been underway for six years with action taken at over 450 Superfund sites to address long-term problems created by hazardous wastes. More than half of these sites have involved burying the hazardous wastes in specially prepared landfills -- a process called land disposal. While land disposal can be a good way to handle wastes, in some instances it does not provide a permanent solution to the problem. The wastes in the landfill may still be dangerous, and may potentially leak through the confines of the burial site.

Recently, members of the scientific community, the public, and Congress expressed concern that it was time to move away from reliance on land disposal for handling hazardous wastes. These views are reflected in the Hazardous and Solid Waste Amendments of 1985 (HSWA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The Agency responded by altering certain policies and developing regulations regarding hazardous waste disposal in landfills and the expanded use of alternative technologies.

More specifically, the Land Disposal Restriction provisions of HSWA stipulate that certain wastes cannot be land disposed unless they meet specific concentration-based treatment standards that represent best demonstrated available technology. Similarly, the new SARA sets a clear preference for the use of cost-effective

treatment remedies which permanently and significantly reduce the toxicity, mobility or volume of wastes at Superfund sites. In addition to these provisions, SARA directs EPA to carry out a program of research, evaluation, testing, development and demonstration of alternative or innovative technologies to achieve more permanent protection of human health and welfare and the environment. These laws, regulations, and policies clearly provide the impetus toward the use of treatment alternatives for the management of hazardous wastes. Technical and policy guidance on the use and availability of alternative technologies in both the Superfund removal and remedial programs is expected soon.

SITE PROGRAM PHASES

The four phases of the SITE Program listed below are being conducted simultaneously. They will be integrated so that information from one phase can be used in another. Each phase is designed to meet a particular objective of the SITE Program. The SITE program will be periodically reviewed to determine how information generated from all phases may be used to encourage the selection of new technologies at Superfund sites.

- Phase I: Identify and Remove Impediments

  Trained engineers, economists and policy analysts will identify the obstacles to the orderly development and use of alternative technologies to manage hazardous wastes. Resolving issues dealing with permit requirements, treatment residue disposal, liabilities, procurement requirements, and public interest will help pave the way to increased use of treatment alternatives. Recommendations on how EPA can remove or limit obstacles to the use of alternative technologies will be complete by mid 1987.

- Phase II: Conduct a Demonstration Program

  EPA will conduct a demonstration program for innovative technologies at selected Superfund sites. From these demonstrations, EPA will provide performance and cost information for the new technologies. This information will help EPA decide when, and under what circumstances, to use the technology at other hazardous waste sites.

  The demonstration progam will be an ongoing effort. EPA plans to start several demonstrations as soon as possible to obtain information on the most advanced technologies. Demonstrations will then occur on a yearly schedule. An annual SITE demonstration plan will be published for public comment and will discuss the proposed technologies to be demonstrated and the Superfund sites identified for use that year.

- **Phase III: Applications Analyses**

  Applications analyses will be conducted for technologies that warrant further investigation after completion of the demonstration. Such analyses will examine the applicability of the technology to other Superfund sites and include factors such as cost, appropriate site conditions, efficiency characteristics, and waste types. Policies and procedures that need to be taken into account in applying promising new technologies to Superfund sites will be examined.

- Phase IV: Emerging Technologies Development

  ORD will establish a research program to continually evaluate and encourage the development of emerging alternative technologies through pilot testing to full scale demonstrations. This phase will be initiated in the spring of 1987 and will be ongoing thereafter.

THE DEMONSTRATION PHASE: A SUMMARY

Phase II, the Demonstration Phase, will be the most publicly visible of the four phases. Actual work will begin at Superfund sites during the demonstration phase and new technologies will be evaluated. Key events in the demonstration phase are summarized:

- Advertise in Commerce Business Daily

  A notice requesting proposals will be placed in the Commerce Business Daily (CBD) on or before January 15, 1987, and annually thereafter. Developers of new and innovative technologies are asked to obtain from EPA the information necessary to submit proposals for demonstrating their technology. Proposals submitted in response to the CBD announcement can be made through February. Information about the Request for Proposals (RFP) can be obtained from Mr. Steve James (ORD) by calling 513-569-7877 (commercial) or 684-7877 (FTS).

  In addition to choosing technologies based on the CBD advertisement, EPA has set up a second mechanism where innovative technologies may also be demonstrated as part of routine response actions. Superfund or other cleanup sites on which EPA is planning to use treatment technologies as part of the response action may be adapted for SITE demonstrations.

- Select Technologies

Potential new technologies will be carefully screened by OSWER and ORD. The screening process will be competitive and must be completed within 90 days of receiving the completed application. In selecting technologies to be demonstrated, EPA must consider, at a minimum, the following criteria:

1. The potential for contributing to solutions to those waste problems which pose the greatest threat to human health, which cannot be adequately controlled under present technologies, or which otherwise pose significant management difficulties.

2. The availability of technologies which have been sufficiently developed for field demonstration and which are likely to be cost-effective and reliable.

3. The availability and suitability of sites for demonstrating such technologies, and the capability to conduct demonstration projects in such a manner as to assure the protection of human health and the environment.

4. The likelihood that the data to be generated from the demonstration project at the site will be applicable to other sites.

- Match Technologies to Sites

Many of the new technologies may only be suited for specific kinds of wastes at a specific site. Using the expertise and knowledge in EPA Headquarters, laboratories, and the EPA Regions, technologies will be matched with wastes at available Superfund sites. The new Superfund law requires EPA to conduct a minimum of ten technology demonstrations each year. While most demonstrations will take place at Superfund sites, some technologies may be tested at commercial hazardous waste sites or at special test and evaluation facilities operated by EPA or the developer. Factors such as risk, public interest, expense, disposal of residues and involvement of potentially responsible parties will be considered when matching sites and wastes with technologies.

- **Develop Annual SITE Demonstration Plan**

  The annual SITE demonstration plan will discuss the technology demonstration projects planned, how and when the projects will be carried out, the tentative sites selected, the resource requirements for conducting the demonstrations, and the means for public involvement and input. This plan will be published for public review and comment.

- **Implement Site-Specific Community Relations Programs**

  Once a site and technology have been tentatively selected, EPA will develop and implement a community relations plan to seek the ideas and suggestions of local residents. In accordance with the plan, EPA will introduce the community to the SITE Program and its role at their local site, and will provide information on the specific technologies. Public comment will be sought throughout the demonstration project and community relations activities will continue for the duration of the demonstration.

- **Conduct Demonstration**

  After reviewing and incorporating comments on the SITE demonstration plan, EPA will enter into a contract, letter agreement, or cooperative agreement with the developer of the technology. The demonstration will begin and probably last several months, depending upon the time required to gather information on the effectiveness and reliability of the technology. The developer will provide the equipment and be responsible for set-up and operation at the demonstration site. The technology will treat Superfund wastes during the test, but since it is only a demonstration, it will not be expected to clean up all of the wastes at the Superfund site. If necessary, another standard technology will be used to handle the remaining wastes. EPA's role will be to ensure credible results by providing the testing protocols and procedures and preparing the analytical and quality assurance/quality control work plans so the performance data can be consistently and accurately interpreted.

- **Complete Evaluation and Distribute Information**

  At the close of each demonstration, EPA will evaluate the results of all tests. If the results are positive, the technology could be applied at other similar Superfund sites. EPA will modify Agency policies and procedures to encourage the use of these and other alternative technologies.

EPA will make available the results of the evaluation of each new technology to the hazardous waste cleanup industry, regulatory agencies and the public. The Agency is developing a technology transfer program to ensure the distribution of accurate information as quickly as possible.

THE PROGRAM TO DATE

The Superfund reauthorization calls for a minimum of ten field demonstrations per year through 1991. Congress authorized $20 million per year for the demonstration program, including demonstrations of innovative monitoring equipment. The alternative technology demonstration program is limited to $10 million per year, with a $3 million cap for a single demonstration.

In anticipation of reauthorization, EPA began setting up the SITE Program in 1986. In March of 1986, the first notice requesting proposals was placed in the Commerce Business Daily. In response to RFP SITE-001, twenty proposals were received representing the following technologies:

10 Incineration/Thermal
3 Biological Treatment
2 Containerization
1 Solidification/Stabilization
1 In-Situ Vapor Extraction
1 Chemical Detoxification
1 Robotics
1 Vapor Condensation

The proposals were evaluated and ranked according to the specified criteria. In addition, EPA identified several potential demonstrations through the second mechanism -- routine response actions. A listing of firms, tentative sites (where determined), and a brief description of the technologies which are potentially proposed for demonstration during 1987 is attached.

CONTACTS

- **OSWER:** Don White 202-475-8600 (commercial) or 475-8600 (FTS)
  For information on Superfund wastes and sites and other general information.
- **ORD:** Ron Hill 513-569-7861 (commercial) or 684-7861 (FTS) or Steve James 513-569-7877 (commercial) or 684-7877 (FTS)
  For information related to applications of treatment technologies, the Commerce Business Daily announcement, and the Request for Proposals.
- Superfund/RCRA Hotline 800-424-9346
  202-382-3000

SUPERFUND INNOVATIVE TECHNOLOGY EVALUATION (SITE) PROGRAM:
PROPOSED DEMONSTRATION PROJECTS AS OF NOVEMBER 25, 1986

Main Track (CRD)

Developer	Technology	Tentative Location of Demonstration
Waste-Tech Services, Inc. 18400 West 10th Avenue Golden, Colorado 80401 Contact: Eliot Cooper 303-279-9712	Mobile thermal combustor-fluidized bed	Coors Company Golden, Colorado
Advanced Combustion Technologies Inc. P.O. Box 940498 Atlanta, Georgia 30340 Contact: Thomas McGowan 404-662-5360	Pure oxygen burner	EPA ORD Test and Evaluation Facility
Shirco Infrared Systems, Inc. 1195 Empire Central Dallas, Texas 75247 Contact: Scott Berdine 214-630-7511	Electric infrared incinerator	To be determined
Hazcon, Inc. P.O. Box 947 Katy, Texas 77492 Contact: Ray Funderburk 713-391-1085	Solidification/ stabilization process	To be determined
Westinghouse Electric Corp. Waste Technology Services Division P.O. Box 286 Madison, Pennsylvania 15663 Contact: Carrie Forman 412-722-5709	(1) Pyroplasm system	To be determined
Contact: William Reed 412-722-5303	(2) Electric pyrolyzer	To be determined
Terra Vac, Inc. P.O. Box 550 Dorado, Puerto Rico 00646 Contact: James Malot 809-723-9171	In-situ vacuum extraction	To be determined

Through Response Actions

Developer	Technology	Tentative Location of Demonstration
New York State Department of Environmental Conservation (Plasma Systems, Inc.) 50 Wolf Road Albany, New York 12233 Contact: Norman Nosenchuck 518-262-1338	Plasma pyrolysis thermal unit	Love Canal Niagara Falls, New York
GA Technologies, Inc. P.O. Box 85608 San Diego, California 92138 Contact: Harold Diot 619-455-2383	Circulating bed combustor	GA Technologies' facility; test on waste from McColl, Fullerton, CA (remedial action)
Resources Conservation Company 3101 N.E. Northup Way Bellevue, Washington 98004 Contact: Paul McGough 206-828-2455	Basic Extraction Sludge Treatment (BEST): solvent extraction technology	General Refinery, Inc. Savannah, Georgia (removal action)
General Electric One River Road Schenectady, New York 12345 Contact: John Harrsen 518-385-0045 and International Waste Technologies 807 North Waco, Suite 31 Wichita, Kansas 67203 Contact: Jeff Newton 316-262-1338	In-situ solidification/ fixation process	General Electric Haileah, Florida

GLOSSARY OF TERMS AND ACRONYMS USED

AA (Assistant Administrator): Assistant Administrator for the Office of Solid Waste and Emergency Response (OSWER).

ANPRM (Advance Notice of Proposed Rulemaking): An announcement appearing in the Federal Register that notifies the public of EPA's intent to publish a specific proposed rule.

AOC (Administrative Order of Consent): An agreement reached between EPA and a potentially responsible party that is used to agree on the roles, responsibilities, and payment for conducting removal and RI/FS actions.

AOC (Area of contamination): A continuous (significant) extent of contamination at a Superfund site. For the purposes of ARARs, is used as the equivalent of a RCRA land-based unit to determine whether disposal occurs.

ARARS (Applicable or Relevant and Appropriate Requirements): Those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, or that address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site.

ARCS (Alternative Remedial Contracts Strategy): A contracting initiative intended to promote the continuity of contractor performance from RI/FS to construction management (or remedial action), increase the level of competition for contract awards, and facilitate the delegation of contract management to the Regions.

ATS (Action Tracking System): A data base that tracks the development of major regulations, guidance, and policy for all EPA programs.

ATSDR (Agency for Toxic Substances & Disease Registry): An Agency within the Department of Health and Human Services that conducts health assessments at Superfund sites.

CA (Cooperative Agreement): A Federal assistance agreement with States and/or its political subdivisions to transfer Federal funds and/or responsibilities. Cooperative agreements are required for State-lead, fund-financed Superfund actions.

CDC (Centers for Disease Control): An operating health agency within the Public Health Service of the U.S. Department of Health and Human Services that develops and implements programs to deal with environmental health problems, including responding to environmental, chemical, and radiation emergencies.

CEPP (Chemical Emergency Preparedness Program): As part of EPA's Air Toxics Strategy, provides guidance, training, and technical assistance to States and local communities to help them in preparing for and responding to chemical accidents.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): A Federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The Acts created a special tax that goes into a Trust Fund, commonly known as Superfund,

to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under the program, EPA can either: (1) Pay for site cleanup when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work; or (2) Take legal action to force parties responsible for site contamination to clean up the site or pay back the Federal government for the cost of the cleanup.

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System): EPA's comprehensive data base and management system that inventories and tracks releases addressed or needing to be addressed by the Superfund program.

CFR (Code of Federal Regulations): All Federal regulations in force are published annually in codified form in the Code of Federal Regulations. The NCP is found at 40 CFR Part 300.

CLP (Contract Lab Program): Laboratories under contract to EPA that analyze soil, water, and waste samples taken from areas at or near Superfund sites.

CMS (Case Management System): A data base that contains general information on all enforcement activities, with information on cost recovery and settlements.

CMS (Corrective Measures Study): The portion of a RCRA corrective action that is generally equivalent to an FS taken under Superfund.

COE (U.S. Army Corps of Engineers): A branch of the U.S. Department of Defense that has specialized equipment and personnel for maintaining navigation channels for removing navigation obstruction, for accomplishing structural repairs, and for performing maintenance to hydropower electric generating equipment. The Corps can also provide design services, perform construction, and provide contract writing and contract administrative services for other Federal agencies, such as EPA for Superfund actions.

Cost-Effective Alternative: The cleanup alternative selected for a site on the National Priorities List (NPL) based on protectiveness, technical feasibility, permanence, reliability, and cost. The selected alternative does not require EPA to choose the least expensive alternative. It requires that if there are several cleanup alternatives available that deal effectively with the problems at a site, EPA must choose the remedy on the basis of the criteria mentioned above.

CRP (Community Relations Plan): A plan that is prepared at the start of most Superfund response activities to direct activities that will allow the community affected by the site to be kept informed of EPA, State, and PRP activities.

CWA (Clean Water Act): A statute under which EPA promulgates Water Quality Criteria and administers the National Pollutant Discharge Elimination System (NPDES) permit program, as well as regulates discharges to or dredging of wetlands.

DoD (Department of Defense): A Federal department that operates many military facilities that are potentially subject to CERCLA actions.

DOE (Department of Energy): A Federal department that operates many nuclear weapons and research facilities that are potentially subject to CERCLA actions.

DOI (Department of the Interior): A Federal department that is responsible for Federal lands on which Superfund sites may be located.

DOJ (Department of Justice): A federal department that is responsible for bringing legal actions to court on behalf of EPA against potentially responsible parties.

DQO (Data Quality Objectives): Qualitative and quantitative statements that are developed before sampling begins to allow EPA to identify the quality of data that must be collected during Superfund actions.

EA (Endangerment Assessment): A study conducted as a supplement to a remedial investigation to determine the nature and extent of contamination at a Superfund site and the risks posed to public health and/or the environment. EPA or State agencies conduct the study when legal action is pending to require potentially responsible parties to perform or pay for the site cleanup.

EE/CA (Engineering Evaluation/Cost Analysis): Performed to evaluate alternate removal actions or expedited response actions (ERAs) in terms of their effectiveness, implementability, and cost.

EERU (Environmental Emergency Response Unit): Provides emergency response support to hazardous waste sites or spills posing an immediate threat.

ERA (Expedited Response Actions): Actions taken by the remedial program using removal program contract authorities. ERA's generally require an EE/CA and are designed to remove immediate threats discovered during a remedial investigation.

ERCS (Emergency Response Cleanup Services): Together with TAT and EERU, these contracts provide the technical assistance and cleanup service that EPA needs to implement an effective removal program.

ERD (Emergency Response Division): Under the supervision of a Director, who reports to the Director of the Office of Emergency and Remedial Response (OERR), ERD is made up of three subordinate units: Response Operations Branch, Response Standards and Criteria Branch, and Environmental Response Team (ERT).

ERNS (Emergency Response Notification System): A central data base that provides EPA with a more comprehensive perspective on release notifications nationwide because it includes, in addition to the National Response Center (NRC) reports, notifications of releases reported directly to EPA Regional offices and to the U.S. Coast Guard district offices.

ERT (Environmental Response Team): EPA hazardous waste experts who provide 24-hour technical assistance to EPA Regional offices and States during all types of emergencies involving releases at hazardous waste sites and spills of hazardous substances. ERT also provides hazardous site response training for all EPA employees.

ESAT (Environmental Services Assistance Teams): Contractor teams that provide laboratory, analytical, and review services to all areas of the Superfund program.

ESD (Environmental Services Division): Regional divisions that often provide data validation and quality assurance/quality control functions.

FIT (Field Investigation Team): Contracts that provide support for pre-remedial activities, often by conducting PAs and SIs.

FR (Federal Register): Each Federal working day, the Government Printing Office publishes current Presidential proclamations and Executive Orders, Federal agency regulations having general applicability and legal effect, proposed agency rules, and documents that are required by statute to be published in the Federal Register.

FS (Feasibility Study): A study undertaken by the lead agency to develop and evaluate options for remedial action. The feasibility study emphasizes data analysis, implementability of alternatives, and cost analyses, as well as compliance with mandates to protect human health and the environment and attain regulatory standards of other laws. The FS is generally performed concurrently and in an interactive fashion with the remedial investigation, using data gathered during the remedial investigation.

FTE (Fulltime Equivalent): Represents the level of effort or labor for one person for one year.

FY (Fiscal Year): For the U.S. government, begins on October 1 and ends on September 30. For example, FY88 began on October 1, 1988 and ended on September 30, 1989.

GAD (Grants Administration Division): Made up of the following four branches: Grants Operations Branch; Grants Information and Analysis Branch, which handles Interagency Agreements and the Asbestos-in-Schools Grants; Compliance Branch, which manages environmental and suspension activities for both grants and contracts; and Grants Policies and Procedures Branch, which oversees the regulations, policies, and procedures for EPA assistance agreements.

GOB (Grants Operations Branch): As part of the Grants Administration Division, awards EPA Headquarters grants and research and development grants to the public.

HRS (Hazard Ranking System): A scoring system used to evaluate potential relative risks to public health and the environment from releases or threatened releases of hazardous substances. EPA and States use the HRS to calculate a site score, from 0 to 100, based on the actual or potential threat of a release of hazardous substances to air, surface water, or groundwater. This score is the primary factor used to decide if a hazardous waste site should be placed on the National Priorities List (NPL).

HSCD (Hazardous Site Control Division): Under the supervision of a Director, who reports to the Director of the Office of Emergency and Remedial Response (OERR), HSCD is made up of five subordinate units: Remedial Planning Staff, Site Policy and Guidance Branch, Remedial Planning and Response Branch, Design and Construction Management Branch, and State and Local Coordination Branch. This Division also includes the Fund-lead Regional Coordinators.

HSED (Hazardous Site Evaluation Division): Under the supervision of a Director, who reports to the Director of the Office of Emergency and Remedial Response (OERR), HSED is made up of four subordinate units: Site Assessment Branch, Analytical Operations Branch, Hazard Ranking and Listing Branch, and Toxics Integration Branch.

HSWA (Hazardous and Solid Waste Amendments): Amendments to the Resource Conservation and Recovery Act (RCRA) that Congress passed in 1984. HSWA added the land disposal restrictions, minimum technology requirements, and expanded corrective action authorities to the RCRA statute.

Hazardous Substance: Section 101(14) of CERCLA, as amended, defines "hazardous substance" chiefly by reference to other environmental statutes, such as the Solid Waste Disposal Act, Federal Water Pollution Control Act, Clean Air Act, and Toxic Substances Control Act. The term excludes petroleum, crude oil or any fraction thereof, natural gas, natural gas liquids, or synthetic gas usable

for fuel. Under the Act, OERR also may include other substances that it specifically designates as "hazardous."

IAG (Interagency Agreement): A comprehensive document that addresses all hazardous waste activities that will be conducted at a Federal facility or with another Federal Agency (e.g., Corps of Engineers), from the RI/FS through the implementation of the remedial action. An IAG formalizes the procedure and timing for submittal and review of documents and establishes a mechanism to resolve disputes.

IG (Office of the Inspector General): Responsible for overseeing the implementation by EPA of Federal environmental legislation; conducting internal management audits, financial management and indirect costs audits, and operation and maintenance audits of EPA programs and operations; overseeing the accounting systems and procedures of EPA contractors and subcontractors; and conducting criminal investigations of EPA personnel, contractors, and subcontractors.

LDRs (Land Disposal Restrictions): A RCRA program that restricts the land disposal of RCRA hazardous wastes and requires treatment to promulgated treatment standards. The LDRs may be an important ARAR for Superfund actions.

LTRA (Long Term Response Actions): Actions such as ground-water pump and treat operations that require extensive timeframes to achieve remedial cleanup objectives.

MCLs (Maximum Contaminant Levels): Under the Safe Drinking Water Act, the maximum permissible level of a contaminant in water that is delivered to any user of a public water system that serves 15 or more connections and 25 or more people. The standards set as MCLs take into account the feasibility and cost of attaining the standard.

MCLG (Maximum Contaminant Level Goals): A non-enforceable goal established under the Safe Drinking Water Act for drinking water that considers only health-based factors.

MOU (Memorandum of Understanding): A statement agreed to by two or more parties that recognizes the interrelationship of their functions and specifies appropriate interactions between or among the parties.

NAAQS (National Ambient Air Quality Standards): Standards established under the Clean Air Act that regulate the ambient air quality for six priority pollutants. These may be potential ARARs for Superfund sites.

NCP (National Oil and Hazardous Substances Pollution Contingency Plan): The Federal regulation (40 CFR 300) that guides the Superfund program. The revised NCP was newly signed on February 2, 1990.

NESHAPS (National Emission Standards for Hazardous Air Pollutants): Standards set under the Clean Air Act that regulate the release of hazardous substances from specific sources. These standards may be ARARs for Superfund actions.

NOAA (National Oceanic and Atmospheric Administration): A Federal administration that may provide assistance on coastal zone or atmospheric issues.

NPL (National Priorities List): EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response using money from the Trust Fund.

The list is based primarily on the score a site receives on the Hazard Ranking System (HRS). EPA is required to update the NPL at least once a year.

NPRM (Notice of Proposed Rulemaking): A document published in the Federal Register that sets forth proposed regulatory language, provides notice of issues to be commented on, and presents other supplementary and background information about the rulemaking.

NRC (National Response Center): The center operated by the U.S. Coast Guard that receives and evaluates reports of oil and hazardous substance releases into the environment and notifies the appropriate agency(s). The NRC can be contacted 24-hours a day, toll-free at (800) 424-8802.

NRT (National Response Team): Representatives of 12 Federal agencies that coordinate Federal responses to nationally significant pollution incidents and provide advice and technical assistance to the responding agency(s).

NSF (National Strike Force): Consists of the Strike Teams established by the U.S. Coast Guard on the Pacific and Gulf Coasts. These teams can provide a variety of response support services including communications, technical advice and assistance, specialized equipment, training, and contingency planning.

OECM (Office of Enforcement and Compliance Monitoring): Coordinates civil and criminal enforcement actions with the U.S. Department of Justice and provides Superfund enforcement support through the activities of the National Enforcement Investigation Center (NEIC). The NEIC performs special environmental monitoring work, evidence audit control processes to ensure proper chain-of-custody procedures, cleanup of Federal facility sites, and nonbinding preliminary allocations of responsibility (NBARs).

OERR (Office of Emergency and Remedial Response): Under the supervision of a Director, is responsible to the Assistant Administrator for the emergency and remedial response functions of the Office of Solid Waste and Emergency Response (OSWER). The Director is responsible for developing national strategy, programs, technical policies, regulations, and guidelines for the control of abandoned hazardous waste sites and response to and prevention of oil and hazardous substance spills.

OHMTADS (Oil and Hazardous Material Technical Assistance Data System): An automated informational repository data base containing 126 fields of information on physical, chemical, biological, toxicological, and commercial data on approximately 1,400 oil and hazardous materials that are potentially harmful to human health and welfare and/or the environment.

O&M (Operation and Maintenance): Activities conducted at a site, generally by States, after a response action occurs to ensure that the cleanup or containment system is functioning properly.

OPM (Office of Program Management): Under the supervision of a Director, who reports to the Director of the Office of Emergency and Remedial Response (OERR), OPM is made up of three subordinate units: Policy and Analysis Staff, Management and Evaluation Staff, and Resources Management Staff.

OSC (On-Scene Coordinator): The Federal official who coordinates and directs superfund removal actions.

OSW (Office of Solid Waste): As part of the Office of Solid Waste and Emergency Response (OSWER), is responsible for managing and implementing the RCRA program.

OSWER (Office of Solid Waste and Emergency Response): Provides policy, guidance, and direction for EPA's hazardous waste and emergency response programs. The functions of these programs include the development and enforcement of policies, standards, and regulations for solid and hazardous waste treatment, storage, and disposal; national management of Superfund; and the development of guidelines for the Emergency Preparedness, "Community Right-to-Know," and Underground Storage Tank programs.

OU (Operable Unit): An action taken as one part of an overall site cleanup. For example, a carbon adsorption system could be installed to halt rapidly spreading groundwater contaminants while a more comprehensive and long-term remedial investigation/feasibility study (RI/FS) to investigate soil contamination is underway. A number of operable units can be used in the course of a site cleanup.

OWPE (Office of Waste Programs Enforcement): As part of the Office of Solid Waste and Emergency Response (OSWER), provides enforcement policy and support for the Superfund and RCRA programs.

PA (Preliminary Assessment): The process of collecting and reviewing available information about a known or suspected hazardous waste site or release. EPA or States use this information to determine if the site requires further study. If further study is needed, a Site Inspection (SI) is undertaken.

PIAT (Public Information Assist Team): A U.S. Coast Guard organization available through the NRC to assist OSCs and Regional offices in meeting demands for public information and participation.

PRP (Potentially Responsible Party): Any individual or company (such as an owner, operator, transporter, or generator) potentially responsible for, or contributing to, the contamination problems at a Superfund site. Whenever possible, EPA requires PRPs, through administrative and legal actions, to clean up sites contaminated by hazardous substances.

QA/QC (Quality Assurance/Quality Control): A system of procedures, checks, audits, and corrective actions used to ensure that field work and laboratory analysis during the investigation and cleanup of Superfund sites meet established standards.

RA (Remedial Action): The actual construction or implementation phase that follows the remedial design of the selected cleanup alternative at a site on the National Priorities List (NPL).

RAC (Response Action Contractor): Any person who agrees, by contract, to provide a removal or remedial action at a facility listed on the NPL, or to provide evaluation, planning, engineering, surveying and mapping, design, construction, equipment, or any ancillary services related to a removal or remedial action.

RAS (Routine Analytical Services): RAS are routine laboratory analyses of samples by contract labs as part of the Contract Lab Program (CLP). RAS activities are managed by the Analytical Operations Branch of the Hazardous Site Evaluation Division (HSED), Office of Emergency and Remedial Response (OERR).

RC (Remedial Construction): The actual construction that occurs during the remedial action (RA) phase at a site on the National Priorities List (NPL).

RCMS (Removal Cost Management System): An automated system used to track removal costs and produce management reports on site costs and utilization of personnel, equipment, and materials. RCMS can also be used to project the cost of a removal action and to assist the OSC in rapidly reviewing contractor invoices.

RCRA (Resource Conservation and Recovery Act of 1976): A Federal law that established a structure to track and regulate hazardous wastes from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new, uncontrolled hazardous waste sites. The law also regulates the disposal of solid waste that may not be considered hazardous.

RD (Remedial Design): An engineering phase that follows the Record of Decision (ROD) when technical drawings and specifications are developed for the subsequent remedial action (RA) at a site on the National Priorities List (NPL).

REM (Remedial Planning): A type of contract that is awarded on an east-west zone basis and used to promote the continuity of contractor performance from RI/FS to construction management (or remedial action), increase the level of competition for contract awards, and facilitate the delegation of contract management to the Regions. The ARCS contracts will replace the REM contracts.

RFA (RCRA Facility Assessment): The first step in the RCRA corrective action process, generally equivalent to a PA/SI taken in Superfund.

RFI (RCRA Facility Investigation): The second step of a RCRA corrective action, generally equivalent to the RI portion of the Superfund process.

RI (Remedial Investigation): A process undertaken by the lead agency to determine the nature and extent of the problem presented by the release. The remedial investigation emphasizes data collection and site characterization, and is generally performed concurrently and in an interactive fashion with the feasibility study (FS). The remedial investigation includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for remedial action (RA) and to support the evaluation of remedial alternatives.

RI/FS (Remedial Investigation/Feasibility Study): Two distinct but related studies. They are usually performed at the same time, and together referred to as the "RI/FS." They are intended to (1) Gather the data necessary to determine the type and extent of contamination at a Superfund site; (2) Establish criteria for cleaning up the site; (3) Identify and screen cleanup alternatives for remedial action; and (4) Analyze in detail the technology and costs of the alternatives.

ROD (Record of Decision): A legal document that explains which cleanup alternative(s) will be used to cleanup Superfund remedial sites. The Record of Decision is based on information and technical analysis generated during the remedial investigation/feasibility study (RI/FS) and consideration of public comments and community concerns.

RP (Responsible Party): A party that admits to or that EPA or the DOJ prove was responsible for contamination at a Superfund site.

RPM (Remedial Project Manager): The official designated by the lead agency to coordinate, monitor, or direct remedial or other response activities.

RQs (Reportable Quantities): Established under CERCLA section 102 as triggers for notification of the Federal government when hazardous substances are released. The release of a hazardous substance that equals or exceeds its RQ must be reported immediately to the National Response Center (NRC).

RRC (Regional Response Center): Provides facilities and personnel for communications, information storage, and other requirements for coordinating response.

RRT (Regional Response Team): Representatives of Federal, State, and local agencies who may assist in coordination of activities at the request of the On-Scene Coordinator (OSC) or Remedial Project Manager (RPM) before and during response actions.

RS (Responsiveness Summary): A summary of oral and/or written public comments received by EPA during a comment period on key EPA documents, and EPA's responses to those comments. The responsiveness summary is especially valuable during the Record of Decision (ROD) phase at a site on the National Priorities List (NPL) when it highlights community concerns for EPA decision makers.

RTS (Removal Tracking System): Provides a comprehensive removal data base that includes start date, location, lead agency, and NPL status.

Remedial Response: A long-term action that stops or substantially reduces a release or threatened release of hazardous substances that is serious, and poses an immediate or future threat to public health and/or the environment.

Removal Action: An immediate action taken over the short-term to address a release or threatened release of hazardous substances.

Response Action: A CERCLA-authorized action at a Superfund site involving either a short-term removal action or a long-term remedial response that may include, but is not limited to, the following activities: (1) Removing hazardous materials from a site to an EPA approved, licensed hazardous waste facility for treatment, containment, or destruction; (2) Containing the waste safely on-site to eliminate further problems; (3) Destroying or treating the waste on-site using incineration or other technologies; and (4) Identifying and removing the source of groundwater contamination and halting further movement of the contaminants.

Risk Assessment: An evaluation performed as part of the remedial investigation to assess conditions at a Superfund site and determine the baseline risks posed to public health and/or the environment.

SARA (Superfund Amendments and Reauthorization Act): Modifications to CERCLA enacted on October 17, 1986.

SAS (Special Analytical Services): Provide special laboratory analyses of samples as part of the Contract Lab Program (CLP). SAS activities are managed by the Analytical Operations Branch of the Hazardous Site Evaluation Division (HSED), Office of Emergency and Remedial Response (OERR), which surveys labs, evaluates bids, and selects labs.

SCAP (Superfund Comprehensive Accomplishments Plan): The planning mechanism that provides data on all response activities and drives the allocation of resources for remedial activities. With the incorporation of SCAP into the CERCLIS management system, the Regions become responsible for the planning and reporting that determine the adequacy of budgetary allotments and how Regional accomplishments are reported.

SERA (Superfund Emergency Response Actions): A three-volume compilation of Fund-financed removal descriptions that ERD updates annually. Each description provides basic facts about the site, the nature of the problem, and mitigative actions taken.

SI (Site Inspection): A technical phase that follows a Preliminary Assessment (PA), designed to collect more extensive information on a hazardous waste site. The information is used to score the site with the Hazard Ranking System (HRS) to determine whether response action is needed.

SITE (Superfund Innovative Technology Evaluation): A program intended to accelerate the development, demonstration, and use of new or innovative treatment technologies and to demonstrate and evaluate new, innovative measurement and monitoring technologies.

SMCRA (Surface Mining Control and Reclamation Act): An act that controls and regulates the reclamation of coal and other ore mining areas.

SMOA (Superfund Memorandum of Agreement): A voluntary, non-binding agreement executed by an EPA Regional Administrator and the head of a State agency establishing the nature and extent of EPA and State interaction during the pre-remedial, remedial, and enforcement response process.

SMP (Site Management Plan): A site-specific schedule or action plan, usually prepared by the Remedial Project Manager (RPM)

SOW (Statement of Work): A document that specifies the scope of work and procedures that will be used to undertake a discrete step of a Superfund investigation or action.

SPCC (Spill Prevention Control and Countermeasure): A program that establishes procedures to prevent discharges of oil from non-transportation-related facilities into or upon the waters of the United States or adjoining shorelines.

SPMS (Strategic Planning and Management System): An accountability system used in conjunction with SCAP to identify projects that could slip or issues that could affect project schedules, such as State cost assurances, site access, disposal capacity, or property acquisition.

SSC (Scientific Support Coordinator): Available at the request of the OSC to assist with responses to releases of hazardous substances, pollutants, or contaminants. The SSC also provides scientific support for the development of Regional and local contingency plans,

SSC (Superfund State Contract): A contract signed between EPA and the State that provides a legal obligation for the State to meet the assurances that are specified in Section 104 of CERCLA.

Superfund: The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also referred to as the Trust Fund.

TAGs (Technical Assistance Grants): Designed to provide funds to communities for the purpose of hiring advisors to interpret technical information related to cleanup of Superfund sites listed on the NPL.

TAT (Technical Assistance Team): Serves as an adjunct to ERCS, providing initial site response support, determinations of the size and nature of the site, and support for OSCs during actual cleanup.

TBC (To-Be-Considered): Guidance, advisories, or criteria that are not promulgated (and therefore cannot be considered ARARs), but that may be used to establish protective Superfund remedies.

TES (Technical Enforcement Services): Contracts that provide EPA Headquarters or Regions with assistance during enforcement-related activities, such as PRP searches or oversight of PRP-conducted investigations or actions.

TPQ (Threshold Planning Quantity): The amount of an Extremely Hazardous Substance (EHS) which, if present at a facility, subjects that facility to the emergency planning requirements of SARA sections 302 and 303.

TSDF (Treatment, Storage, and Disposal Facility): A facility regulated under RCRA that manages in one of the ways mentioned RCRA hazardous wastes.

USCG (U.S. Coast Guard): An agency in the U.S. Department of Transportation that is the predesignated OSC in the Coastal Zone and has the authority under CERCLA to respond to any release or threatened release of hazardous substances involving the Coastal Zone, Great Lakes waters, ports, and harbors. The USCG shares with EPA responsibility for the emergency response activities under the NCP.

WQC (Water Quality Criteria): A non-enforceable standard that EPA promulgates under the Clean Water Act and is used as a basis for States to set enforceable water quality standards for surface water bodies.

POLITICAL SUBDIVISION INVOLVEMENT IN SUPERFUND

United States Environmental Protection Agency

Office of Solid Waste and Emergency Response

Publication No. 9375.5-03/FS
April 1990

Political Subdivision Involvement in Superfund

Office of Emergency and Remedial Response
Hazardous Site Control Division (OS-220)

Quick Reference Fact Sheet

INTRODUCTION

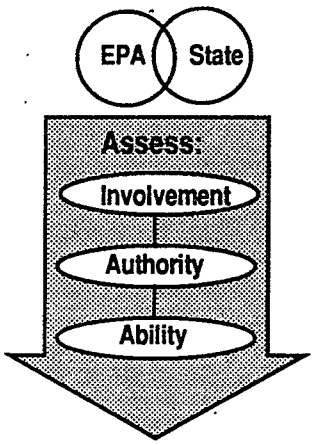
Political Subdivisions May Include:

- **Counties**
- **Towns**
- **Water Districts**
- **Parishes**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, allows EPA to provide funds to States, political subdivisions thereof, and federally recognized Indian Tribes for Superfund response. The definition of political subdivision varies from State to State, so each State determines what units of government meet its legislative definition. A political subdivision can participate in Superfund cleanup as a lead or support agency when EPA and the State agree that this enhances the cleanup process and results in an efficient, economical, and well-coordinated use of resources.

A POLITICAL SUBDIVISION CAN LEAD A SUPERFUND RESPONSE

A political subdivision can participate in Superfund as the lead agency, the primary party planning and implementing the response action, or as a support agency, furnishing data, reviewing documents, and assisting the lead agency as requested. EPA, the State, and the political subdivision work together to gauge when a political subdivision is best suited to lead Superfund cleanups. To determine this, EPA and the State assess the political subdivision's involvement and agree that:



Role of Political Subdivision

- It is economical and advantageous to designate the political subdivision as lead
- The political subdivision has the authority to enter into a Cooperative Agreement with the Federal Government and to administer Federal dollars
- The political subdivision is able to conduct the response activities.

To receive CERCLA funds directly from EPA in a Cooperative Agreement, a political subdivision acting as lead agency must meet Federal regulatory requirements and be accountable for the Superfund cleanup. A political subdivision can also receive CERCLA funds through the State to perform cleanup activities under the State's Cooperative Agreement with EPA. In this case, the State remains accountable to EPA under 40 CFR Part 35 Subpart O for the successful completion of the task.

When the political subdivision receives funds as the lead agency, EPA and the State are required by law to fulfill certain roles. To clearly define the role of each party, EPA requires a 3-party Superfund State Contract.

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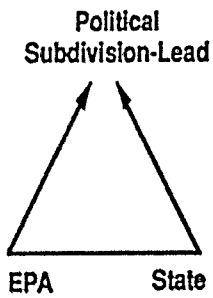
HOW DOES THE 3-PARTY PARTNERSHIP WORK?

Even when a political subdivision is authorized to undertake the lead, State involvement must be ensured in a Superfund State Contract. Pursuant to CERCLA Section 121(f), States must be involved in the decision-making process, and must have an opportunity to:



- Review political subdivision planning documentation
- Consult on the remedy
- Respond to decisions made by the political subdivision.

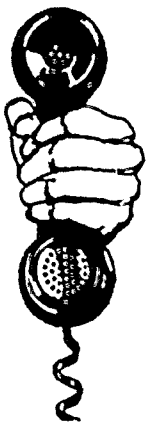
In addition, CERCLA Section 104 requires that, once a remedy is selected, States must provide certain assurances prior to Fund-financed remedial actions at a site. A three-party Superfund State Contract entered into by EPA, the State, and the political subdivision is the mechanism that provides for these assurances when a political subdivision takes the lead for Superfund activities. CERCLA requires EPA to accept these written assurances only from the State, not from a political subdivision or any other entity, even if the political subdivision will implement them. The State must guarantee EPA that it will share in the cost of cleanup, and provide for O&M after the remedy is in place. If necessary, the State must accept title to interest in real property acquired to do the response activities, and ensure the availability of a facility(ies) for disposal of hazardous materials removed from a site during cleanup. Finally, before entering into a Superfund State Contract, EPA must find that the State has adequate disposal capacity for all hazardous waste (not just Superfund hazardous waste) to be generated within its borders for 20 years.

WHAT IS THE LOCAL REIMBURSEMENT PROGRAM?

In addition to funding through Superfund Cooperative Agreements, local governments may also receive reimbursement from EPA for expenses incurred (up to $25,000) in carrying out temporary emergency measures in response to hazardous substance threats, pursuant to CERCLA Section 123. Temporary measures may include such activities as erecting security fences to limit access to a site, and responding to fires and explosions. To be eligible for reimbursement under this program, these measures must be necessary to prevent or mitigate injury to human health or the environment. EPA allocates funds available under the local reimbursement program to applicants who demonstrate the greatest financial burden.

FOR ADDITIONAL INFORMATION

Opportunities and requirements for political subdivision involvement in the Superfund program are described in detail in EPA regulations and directives. These include:



- Subpart F of the NCP, 40 CFR Part 300, which outlines the requirements for State, local, and Indian Tribal involvement as lead or support agency in all phases of Superfund response
- 40 CFR Part 35 Subpart O, which describes the administrative procedures for entering into Cooperative Agreements and Superfund State Contracts for Superfund response
- 40 CFR Part 310, which describes the procedures for reimbursement to local governments that respond to hazardous substance releases in emergencies
- OSWER directives in the 9375.5 series which pertain to State, political subdivision, and Indian Tribal involvement in the Superfund program.

For additional information on political subdivision involvement in the Superfund program, contact the RCRA/Superfund Hotline at 202-382-3000 or 1-800-424-9346. For a complete list of directives and publications, contact the Superfund Docket and Information Center (SDIC) at 202-382-6940.

SECTION II

INTERIM CERCLA MUNICIPAL SETTLEMENT POLICY

INTERIM CERCLA MUNICIPAL SETTLEMENT POLICY -- Environmental Fact Sheet

INTERIM CERCLA MUNICIPAL SETTLEMENT POLICY FACT SHEET

DECEMBER 1989
OFFICE OF WASTE PROGRAMS ENFORCEMENT

I. INTRODUCTION

This fact sheet summarizes certain key provisions of the "Interim Policy on CERCLA Settlements Involving Municipalities or Municipal Wastes" (OSWER Directive #9834.13); it does not cover all aspects of the interim policy nor provide definitions of key terms. The Municipal Settlement Policy has been developed to provide the Regions with national guidance on how to involve municipalities and municipal wastes (i.e., municipal solid waste (MSW) or sewage sludge) in the Superfund settlement process. It also addresses how the treatment of municipalities and municipal wastes affects the treatment of private parties and certain kinds of commercial, institutional, or industrial wastes.

II. CERCLA LIABILITY

CERCLA does not provide an exemption from liability for municipalities nor for municipal wastes. Municipalities may be potentially responsible parties (PRPs) like private parties if they fall within the categories of liability specified under Section 107(a) of CERCLA (e.g., if they are owners/operators of facilities, or generators/transporters of hazardous substances). Municipal wastes may be considered hazardous substances if they are covered under the definition of hazardous substances in Section 101(14) of CERCLA and if they are the subject of a release or threatened release. The interim policy does not provide an exemption from legal liability for any party or any substance; potential liability continues to apply in all situations covered under Section 107 of CERCLA.

III. INFORMATION GATHERING

All owners/operators and generators/transporters should generally be included in the information gathering process (e.g., they should all generally receive Section 104(e) information request letters). This includes municipal owners/operators of facilities as well as municipal and private party generators/transporters of municipal wastes.

IV. NOTIFICATION

Owners/operators: Both municipal and private party past and present owners/operators should generally receive notice letters.

Generators/transporters of municipal solid waste: Municipal and private party generators/transporters of MSW will not generally be notified as PRPs unless:

- the Region obtains site-specific information that the MSW contains a hazardous substance; AND
- the Region has reason to believe that the hazardous substance is derived from a commercial, institutional, or industrial process or activity.

Notwithstanding this general policy, EPA may consider notifying generators/transporters for MSW containing a hazardous substance derived only from households in truly exceptional situations where the total contribution of commercial, institutional, and industrial hazardous waste by private parties is insignificant when compared to the MSW.

Generators/transporters of sewage sludge: Municipal and private party generators/transporters of sewage sludge will not generally be notified as PRPs unless:

- the Region obtains site-specific information that the sewage sludge contains a hazardous substance; AND
- the Region has reason to believe that the hazardous substance is derived from a commercial, institutional, or industrial process or activity.

Generators/transporters of trash from a commercial, institutional, or industrial entity: Parties who are generators/transporters of trash from a commercial, institutional, or industrial entity will not generally be notified as PRPs if such parties demonstrate to the Region that:

- none of the hazardous substances contained in the trash are derived from a commercial, institutional, or industrial process or activity; AND

- the amount and toxicity of the hazardous substances contained in the trash do not exceed those which one would expect to find in common household trash.

Generators/transporters of any other hazardous substance, including low-hazardous industrial wastes: Municipalities and private parties who are generators/transporters of any hazardous substance or any substance that contains a hazardous substance (except those discussed above) will generally be notified as PRPs. This includes low-hazardous industrial wastes like certain paint sludges and industrial wastewaters.

V. SETTLEMENTS

The overall process and goals for reaching settlements at sites involving municipalities or municipal wastes is the same as for other Superfund sites (e.g., to reach one settlement agreement), although separate settlements like de minimis settlements may be used where appropriate.

Nonetheless, there are some settlement provisions that may be particularly suitable for municipal PRPs (e.g., delayed payments, delayed payment schedules, and in-kind contributions). These settlement provisions are not routinely available to municipal PRPs, but may be considered where a municipality has successfully demonstrated to EPA that they are appropriate. These settlement provisions may be separate settlements or may be folded into a larger settlement that includes private parties. Although these settlement provisions may be particularly appropriate for municipalities, they may be available to private parties, such as certain small businesses, where appropriate.

TRANSMITTAL MEMORANDUM OF INTERIM POLICY ON CERCLA SETTLEMENTS INVOLVING MUNICIPALITIES AND MUNICIPAL WASTES & ATTACHMENTS:

a) **INTERIM CERCLA MUNICIPAL SETTLEMENT POLICY FACT SHEET**

b) **INTERIM POLICY ON CERCLA SETTLEMENTS INVOLVING MUNICIPALITIES OR MUNICIPAL WASTES**

United States
Environmental Protection
Agency

December 1989

Solid Waste And Emergency Response (OS-510) 9834.13FS

EPA

Environmental Fact Sheet

Interim CERCLA Municipal Settlement Policy

Overview

The Environmental Protection Agency (EPA) has developed an interim policy on how municipalities and municipal waste will be included in the Superfund settlement process under Section 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). This interim policy focuses on situations where EPA is seeking voluntary settlement of cleanup at Superfund sites that involve municipalities or municipal wastes. It also addresses EPA's treatment of private parties and certain kinds of commercial, institutional, or industrial wastes. Its publication follows nearly two years of discussions with state and local governments and organizations, industry and environmental groups, as well as Congressional staff. EPA has listened to all points of view in developing the new approach, which it believes is both fair and manageable.

EPA is publishing the interim policy at this time to inform the public about the proposed new nationwide approach and to solicit public comment. The policy provides EPA's Regional offices for the first time with nationally consistent guidelines for exercising their enforcement discretion in dealing with municipalities and municipal wastes in the Superfund settlement process. It also provides municipalities and private parties who may be potentially liable for the cost of Superfund cleanups with a sense about how EPA will treat them in the settlement process.

Content

The interim policy generally provides that wastes from households will not be included by EPA in the Superfund settlement process, and that, when municipalities are potentially liable for cleanup, they will be treated in the same manner as private parties.

EPA generally will continue to pursue both municipal and private-party owners or operators of facilities that have become Superfund sites. EPA generally will also continue to pursue both municipal and private-party generators or transporters of hazardous substances.

EPA generally will not pursue municipalities and private parties who are generators or transporters of **municipal solid waste or sewage sludge** to help pay for Superfund cleanup costs when the waste is believed to be derived from households, except in some truly exceptional situations. EPA may pursue such parties, however, if either waste contains a hazardous substance from a commercial, institutional, or industrial process or activity. EPA generally will not pursue generators or transporters of **trash from a commercial, institutional, or industrial entity** when the content of the waste is believed to be very similar to that derived from households. EPA generally will pursue generators or transporters of **low-hazardous industrial wastes** such as certain paint sludges and industrial wastewaters because such wastes are derived from a commercial, institutional, or industrial process or activity.

When municipalities are considered to be potentially liable for cleanup costs, they will be treated essentially the same as private parties in the Superfund settlement process although delayed payments, delayed payment schedules, and in-kind contributions may be available to some municipalities under certain circumstances.

Significance

Involving municipalities and municipal wastes in the settlement process is an issue because questions have been raised about how such parties and wastes should be treated in the settlement process. Until the development of this interim policy, EPA had not addressed these questions from a national perspective.

This issue is important because about 25 percent of the sites proposed for or actually included on EPA's National Priorities List (NPL) for Superfund cleanup are sites that involve municipalities or municipal wastes. Of those, about one in five sites is a municipal landfill. EPA expects the number of NPL sites involving municipalities or municipal waste to increase in the future. This issue is particularly complex because sites that typically involve municipalities or municipal waste are often municipal landfills that include multiple responsible parties (sometimes hundreds of parties), multiple sources of wastes (often municipal and industrial wastes), as well as diverse waste streams (in terms of amount and toxicity).

The important questions addressed in the interim policy are who should be included in the information gathering process, who should be considered potentially responsible for cleanup costs by EPA, how municipalities should be treated in the settlement process once they are considered potentially liable by EPA, and how the treatment of municipalities and municipal wastes affect EPA's treatment of private parties and certain kinds of commercial, institutional, or industrial wastes. Private parties and certain kinds of commercial, institutional, or industrial wastes are an issue for this interim policy because private parties sometimes handle municipal waste or generate waste streams that may be considered to be similar to municipal wastes, and because municipal and industrial wastes are often co-disposed at individual sites.

Public Involvement

In March 1988, EPA sponsored a Municipal Settlement Conference that was attended by over 100 representatives of state and local governments and organizations; industry, environmental, and other groups; as well as Congressional staff. To continue this dialogue with interested parties, EPA established the Municipal Settlement Discussion Group which met in June, August, and October 1988. These forums have been open to the public and have been organized primarily as information exchange mechanisms; EPA has used these forums to inform interested parties about the issues EPA is addressing as part of the interim policy as well as to stimulate public debate on these issues.

Forum Participants have included: the National League of Cities; the U.S. Conference of Mayors; the National Association of Towns and Township Officials; National Association of Counties; the International City Managers Association; the Government Refuse Collection and Disposal Association; the National Governors' Association; the National Association of Attorneys General; the Association of State and Territorial Solid Waste Management Officials; the U.S. Chamber of Commerce; the National Solid Waste Management Association; the National Association of Manufacturers; the Chemical Manufacturers Association; the American Petroleum Institute; Waste Management, Inc.; Browning-Ferris, Inc.; the Natural Resources Defense Council; the Conservation Foundation; and Congressional staff. Other representatives from private companies, individual state and local governments, and law firms representing municipal and private party clients have either attended and participated in these forums or have been kept informed through EPA's minutes of these meetings.

Comments Sought

The interim policy is expected to be published in the Federal Register for public comment on December 12, 1989. The public will be provided with 60 days from the date of publication to review and comment on the interim policy. EPA may change the interim policy at a later date or address additional issues in response to public comment or as EPA gains experience in implementing it over the next several months.

Who To Contact

For further information on this interim policy, please contact Kathleen MacKinnon in the Office of Waste Programs Enforcement at 202-475-6771.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC - 6 1989

OSWER Directive # 9834.13

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Transmittal of "Interim Policy on CERCLA Settlements Involving Municipalities and Municipal Wastes" (referred to as the "Municipal Settlement Policy")

FROM: Don R. Clay
Assistant Administrator

TO: Regional Administrators

Attached is a package containing the interim "Municipal Settlement Policy" and other related documents as follows:

- The "Interim CERCLA Municipal Settlement Policy Fact Sheet" which summarizes certain key provisions of the interim policy.

- The "Interim Policy on CERCLA Settlements Involving Municipalities or Municipal Wastes" which provides guidance to the Regions on how to involve municipalities and wastes in the Superfund settlement process and other related issues.

- The "Federal Register Notice" which explains to the public the process the Agency used for developing this interim policy, the Agency's rationale for this interim decision, and how they may provide the Agency with formal comment.

Attachments

cc:

Directors, Waste Management Divisions, Regions I, IV, V, VII, and VIII
Director, Emergency and Remedial Response Division, Region II
Director, Hazardous Waste Management Division, Region III
Directors, Air and Waste Management Division, Regions II and VI
Director, Toxics and Waste Management Division, Region IX
Director, Hazardous Waste Division, Region X
CERCLA Branch Chiefs, Regions I - X
CERCLA Section Chiefs, Regions I - X
Regional Counsels, Regions I - X
Regional Counsel Branch Chiefs, Regions I - X

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OSWER DIRECTIVE
#9834.13

DEC - 6 1989

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Interim Policy on CERCLA Settlements Involving Municipalities or Municipal Wastes

FROM: Don R. Clay
Assistant Administrator

TO: Regional Administrators, Regions I - X

I. INTRODUCTION

A) Focus of Interim Policy

This memorandum establishes EPA's interim policy on settlements involving municipalities or municipal wastes under Section 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). In particular, this interim policy indicates how EPA will exercise its enforcement discretion when pursuing settlements which involve municipalities or municipal wastes.[1] The municipal wastes addressed by this interim policy are municipal solid waste (MSW) and sewage sludge as defined below. This interim policy has been developed to provide a consistent Agency-wide approach for addressing municipalities and municipal wastes in the Superfund settlement process.

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[1] This interim policy does not provide an exemption from potential CERCLA liability for any party; potential liability continues to apply in all situations covered under Section 107 of CERCLA.

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Although this interim policy focuses on municipalities and municipal wastes, it addresses how private parties and certain kinds of commercial, institutional, or industrial wastes will be handled in the settlement process as well. It is important to address private parties and certain kinds of commercial, institutional, or industrial wastes in this interim policy because private parties sometimes handle municipal wastes or wastes of a similar nature and because municipal and private party waste streams are sometimes co-disposed at sites, particularly municipal landfills. The kinds of commercial, institutional, or industrial wastes covered by this interim policy include "trash from a commercial, institutional, or industrial entity" and "low-hazardous industrial wastes" as defined below.

There are three fundamental issues addressed by this interim policy. First is whether to notify generators/transporters of MSW or sewage sludge that they are considered to be potentially responsible parties (PRPs) and to include them in the Superfund settlement process. Such parties are usually municipalities, although they may include private parties as well. Second is how municipalities should be handled in the Superfund settlement process when the decision is made to notify them that they are PRPs under Section 107(a) of CERCLA. Third is how the treatment of municipalities and municipal wastes under this interim policy affects the treatment of private parties and certain kinds of

commercial, institutional, or industrial wastes in the Superfund settlement process.

Key questions specifically addressed as part of this interim policy include the following:

- Information Gathering: Should municipalities be included in the Agency's information gathering process? Should generators/transporters of MSW or sewage sludge be included in the information gathering process?
- Notification: Should municipalities be notified that they are PRPs? Should generators/transporters of MSW or sewage sludge be notified as PRPs?
- Settlements: How should municipalities be handled in the Superfund settlement process? What settlement process and settlement tools should be used to facilitate settlement involving municipalities or municipal wastes?
- Private Parties: How does the treatment of municipalities and municipal wastes affect the Agency's treatment of private parties and certain kinds of commercial, institutional, or industrial wastes?

B) Key Terms Used in Interim Policy[2]

The following defines the key terms used in this interim policy:

- The term "municipalities" refers to any political subdivision of a State and may include cities, counties, towns, townships, and other local governmental entities.
- The term "municipal solid waste" refers to solid waste generated primarily by households, but may include some contribution of wastes from commercial, institutional and industrial sources as well. As defined under the Resource Conservation and Recovery Act (RCRA), MSW contains only those wastes which are not required to be managed as hazardous wastes under Subtitle C of RCRA (e.g., non-hazardous substances, household hazardous wastes (HHW), or small quantity generator (SQG) wastes). Although the actual composition of such wastes varies considerably at individual sites, MSW is generally composed of large volumes of non-hazardous substances (e.g., yard waste, food waste, glass, and

[2] The definitions provided under this section are for the purpose of this interim policy only. Where possible, this interim policy includes already existing definitions used under other Federal environmental programs (e.g., under the Resource Conservation and Recovery Act or the Clean Water Act). However, nothing in this interim policy affects the regulatory efforts of these other programs.

aluminum) and may contain small quantities of household hazardous wastes (e.g., pesticides and solvents) as well as small quantity generator wastes.[3] Many industrial solid wastes and some commercial and institutional solid wastes are managed separately from household wastes, but may enter the MSW waste stream.

- The term "municipal landfill" refers to any landfill, whether publicly or privately owned, that has received municipal solid waste for disposal.
- The term "sewage sludge" refers to any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage.[4]
- The term "trash from a commercial, institutional, or industrial entity" refers to waste which is very

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[3] All household wastes, including household hazardous wastes, are unconditionally exempt from the Federal hazardous waste regulations promulgated under Subtitle C of RCRA (See 40 CFR Section 261.4 (b)(1)). With regard to non-household sources of solid waste, if such waste is not a listed or characteristic hazardous waste accumulated in quantities exceeding the small quantity generator limitations (i.e., less than 100 kg/month of hazardous wastes and less than 1 kg/month for acute hazardous wastes), such waste is not required to be managed in a RCRA Subtitle C hazardous waste treatment, storage, or disposal facility (See 40 CFR Section 261.5). "Household hazardous wastes" refers to those wastes which are generated by households and would be managed as hazardous wastes under RCRA Subtitle C if they were generated by a non-household in quantities exceeding the small quantity generator limitations.

[4] The definition of sewage sludge is contained in the National Pollutant Discharge Elimination System Sewage Sludge Permit Regulations published in the Federal Register as a final rule May 2, 1989 (See 40 CFR Part 122.2).

similar to the MSW that is derived from households. This term covers only those wastes that are essentially the same as what one would expect to find in common household trash. This term does not include hazardous substances that are derived from a commercial, institutional, or industrial process or activity.

- The term "low-hazardous industrial wastes" refers to high volume wastes that contain small quantities of hazardous substances derived from an industrial, commercial, or institutional process or activity. Examples may include certain paint sludges or industrial wastewaters.

II. CERCLA LIABILITY

Important questions have been raised about whether municipalities may be PRPs and whether municipal wastes (i.e., MSW and sewage sludge) may be considered hazardous substances under CERCLA.

A) Municipalities as PRPs

The statute does not provide an exemption from liability for municipalities. Municipalities may be PRPs like private parties if municipalities fall within the categories of liability specified under Section 107(a) of CERCLA. In general, Section 107(a) establishes liability for past and present owners or operators of facilities as well as generators or transporters of hazardous substances for the release or threatened release of

hazardous substances. Such parties may be liable for the costs of responding to a release or threatened release of hazardous substances as well as for resulting damages to natural resources. The specific categories of liable parties under Section 107(a) are:

1. the owner and operator of a vessel or a facility,
2. any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
3. any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, [commonly referred to as "generators"[5]], and
4. any person who accepts or accepted any hazardous substances for transport to disposal or treatment

[5] Persons who fall into this category are commonly referred to as "generators," although liability under this Section extends beyond "true generators" of hazardous substances to include persons who arranged for the disposal or treatment of hazardous substances owned or possessed by such party or another party. The term "generator" is used throughout this document to refer to any party who is potentially liable under Section 107(a)(3).

facilities, incineration vessels, or sites selected by such person [commonly referred to as "transporters"].

Section 107(a) describes liable parties as "persons" and the definition of "person" under Section 101(21) includes municipalities and political subdivisions of a State. Municipalities may, therefore, be PRPs as part of CERCLA's broad definition of who is potentially liable.

B) Municipal Wastes as Potential CERCLA Hazardous Substances

Similarly, the statute does not provide an exemption from liability for municipal wastes. Municipal wastes may be considered hazardous substances if they are covered under the definition of hazardous substances in Section 101(14) of CERCLA. As indicated under the definitions of MSW and sewage sludge, these municipal wastes are generally characterized by large volumes of non-hazardous substances and may contain small quantities of household hazardous or other wastes, although the actual composition of the waste streams vary considerably at individual sites. To the extent municipal wastes contain a hazardous substance that is covered under Section 101(14) of CERCLA and there is a release or threatened release, such municipal wastes may fall within the CERCLA liability framework.

III. INFORMATION GATHERING

The Regions should include all municipal and private party owners/operators and generators/transporters in the information

gathering process, including the generators/transporters of municipal wastes. This means that municipal owners/operators as well as municipal generators/transporters should generally receive Section 104(e) information request letters and should otherwise be fully included in the information gathering process like private parties. Information obtained through such letters or through other means is important for determining (among other things) whether it is appropriate to notify a party as a PRP, including whether to notify a generator/transporter of MSW or sewage sludge as discussed below.[6]

IV. NOTIFICATION OF POTENTIAL RESPONSIBILITY

A) Owners/Operators

The same approach will be used for both municipalities and private parties when determining whether to notify them as owners/operators. Specifically, such parties will generally be notified where they were past owners or operators of facilities at the time of disposal of hazardous substances, or they are present owners or operators of facilities where hazardous substances have been released or there is a threatened release.

[6] The Regions may accept and consider credible site-specific information from any party to supplement their own information gathering efforts as appropriate.

B) Generators/Transporters[7]

1. Municipal solid waste: Municipalities and private parties will be treated the same when determining whether to notify them as PRPs when they are generators/transporters of MSW. Specifically, such parties will not generally be notified unless:

- the Region obtains site-specific information that the MSW contains a hazardous substance;[8] AND
- the Region has reason to believe that the hazardous substance is derived from a commercial, institutional, or industrial process or activity.

This means that EPA will not generally notify municipalities or private parties who are generators/transporters of MSW if only household hazardous wastes (HHW) are present, unless the truly exceptional situation discussed below exists. The general policy

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[7] The categories of wastes discussed below, i.e., relating to municipal solid waste, sewage sludge, trash from a commercial, institutional, or industrial entity, and low-hazardous industrial wastes, are defined in the "Introduction" to this interim policy (See I.B.).

[8] The term "site-specific" information refers to information pertaining to a particular Superfund site. "Site-specific" information does not generally include, for example, "general studies" conducted by EPA or other parties which draw general conclusions about whether MSW or sewage sludge typically contain a certain percentage of hazardous substances, unless the "general study" includes "site-specific" information obtained from the PRP or Superfund site in question. "General studies" may nonetheless be used to supplement "site-specific" information.

of not notifying parties who are generators/transporters of HHW extends to "HHW collection day programs" as well.[9]

This also means that such parties may be notified as PRPs if the MSW contains hazardous substances from non-household sources. Non-household sources include, but are not limited to, small quantity generator (SQG) wastes from commercial or industrial processes or activities, or used oil or spent solvents from private or municipally-owned maintenance shops.

Notwithstanding the above general policy, there may be truly exceptional situations where EPA may consider notifying generators/transporters of MSW which contains a hazardous substance derived only from households. Such notification may be appropriate where the total contribution of commercial, institutional, and industrial hazardous waste by private parties to the site is insignificant when compared to the MSW.[10] In this

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[9] The term "HHW collection day programs" refers to programs that have generally been sponsored by municipalities or community organizations whereby residents voluntarily remove their HHW from their household waste. The HHW is then typically disposed of in a RCRA Subtitle C hazardous waste facility and the household waste is typically disposed of in a RCRA Subtitle D solid waste facility.

[10] The Regions should consider both the volume and the toxicity of the commercial, institutional, and industrial hazardous waste when determining whether it is insignificant when compared to the MSW. In determining whether the volume is insignificant, the Regions should consider the total volume of such waste contributed by all private parties. In determining whether the toxicity is insignificant, the Regions should consider whether such waste is significantly more toxic than the MSW and whether such waste requires a disproportionately high treatment and disposal cost or requires a different or more costly remedial technique than that which otherwise would be

situation, the Regions should seriously consider notifying the generators/transporters of MSW containing a hazardous substance from households as PRPs and include them in the settlement process where it would promote either settlement or response action at the site.

2. Sewage sludge: Municipalities and private parties will be treated the same when determining whether to notify them as PRPs when they are generators/transporters of sewage sludge. Specifically, such parties will not generally be notified unless:

- the Region obtains site-specific information that the sewage sludge contains a hazardous substance; AND
- the Region has reason to believe that the hazardous substance is derived from a commercial, institutional, or industrial process or activity.

3. Trash from a commercial, institutional, or industrial entity: Parties who are generators/transporters of trash from a commercial, institutional, or industrial entity will not generally be notified as PRPs if such parties demonstrate to the Region that:

- none of the hazardous substances contained in the trash are derived from a commercial, institutional, or industrial process or activity; AND

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technically adequate for the site.

- the amount and toxicity of the hazardous substances contained in the trash does not exceed that which one would expect to find in common household trash.

4. Any other hazardous substance, including low-hazardous industrial wastes: Municipalities or private parties who are generators/transporters of "any other hazardous substance" will generally be notified as PRPs if the Region obtains information that the substance is hazardous or that it contains a hazardous substance. This includes notification of private parties who are the generators/transporters of low-hazardous industrial wastes. "Any other hazardous substance" in this category refers to any hazardous substance covered under Section 101(14) of CERCLA other than hazardous substances that may be contained in MSW, sewage sludge, or trash from a commercial, institutional, or industrial entity (as discussed under IV.B.1., IV.B.2., or IV.B.3. above). The generators/transporters of hazardous substances that may be contained as part of the waste streams discussed under IV.B.1., IV.B.2., or IV.B.3. should be addressed as specified above.

V. SETTLEMENTS

A) Settlement Process

Once the notification decision is made, the general goal and overall process for reaching settlement at sites involving municipalities or municipal wastes is the same as for other sites. The general goal remains to negotiate with PRPs to reach one settlement agreement that provides complete resolution of all

pending CERCLA claims, and is consistent with both applicable statutory requirements and EPA's Interim CERCLA Settlement Policy.[11] This means that at sites where both municipal and private PRPs exist, EPA will attempt to include both types of parties in one settlement agreement.

Although one settlement agreement is the goal for each site, separate settlement agreements may be used at any site to facilitate settlement, where appropriate. This includes sites involving municipalities or municipal wastes. Separate settlements are not automatically available to municipalities and are generally available to such parties under the same conditions as for private parties. Examples of separate settlements are Section 122(g) de minimis settlements and cash-outs which may be used when they are consistent with applicable statutory requirements and existing EPA guidance.[12]

B) Settlement Provisions That May Be Particularly Suitable for Certain Municipalities

As indicated, once parties are notified as PRPs, the overall process and goals for reaching settlement at sites involving municipalities or municipal wastes is the same as for other Superfund sites. Nonetheless, there are some settlement provisions (e.g., delayed payments, delayed payment schedules,

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[11] "Interim CERCLA Settlement Policy", February 5, 1985, 50 FR 5034.

[12] For example, see "Interim Guidance on Settlements with De Minimis Waste Contributors," June 30, 1987, 52 FR 24333.

and in-kind contributions) that may be particularly suitable for facilitating settlement with certain municipal PRPs because they take into account a municipality's status as a governmental entity.[13]

Such settlement provisions are not routinely available to municipalities. As a general rule, they may be considered where a municipality has successfully demonstrated to EPA that they are appropriate (e.g., where valid ability to pay or procedural constraints that affect the timing of payment exist). These settlement provisions may be embodied in separate settlements or they may be folded into a larger settlement that includes private parties. In addition, although these settlement provisions may be particularly suitable for municipalities, they may also be available to private parties, such as certain small businesses, where appropriate.

The following discusses how delayed payments, delayed payment schedules, and in-kind contributions may be used:

1. Delayed payment: If a municipality has demonstrated difficulty providing a lump-sum payment upfront for past costs or

[13] In some circumstances a municipality's governmental status may impose practical constraints on its ability to carry out its legal obligation as a PRP under CERCLA. For example, a municipality may need to hold a special vote involving its legislative body or its citizens to gain approval to issue a bond or arrange other financing to cover cleanup costs at a Superfund site where it is a PRP. These settlement provisions are designed to take into account these types of unavoidable constraints that may exist.

for cleanup needs, the settlement could be structured to allow the municipality to pay at a specified future date. This would allow the municipality time to raise the money needed to cover its contribution. This may include an interest payment.

2. Delayed payment schedules (payments over time): An alternative to a delayed payment is to allow a delayed payment schedule where the settlement is structured to allow the municipality to pay over time based upon a predetermined schedule of payments. The payment schedule would be adjusted in such a way that the discounted present value of the payment would be greater than or equal to the settlement.[14]

3. In-kind contributions: The settlement could be structured to allow for an in-kind contribution, especially where a municipality can provide only a portion of its share of costs or is unable to provide a monetary payment. In-kind contributions may be made in conjunction with or in lieu of cash. Factors the Regions may use in considering the appropriateness of an in-kind contribution may include the overall financial health of the municipality, the amount of the municipality's share, the

[14] Delayed payment schedules may include "structured settlements" which are settlements paid over time generally through an annuity. EPA is currently developing guidance, titled "Interim Guidance on the Use of Structured Settlements Under CERCLA," which will establish criteria for evaluating whether a particular site is a good candidate for a structured settlement. EPA expects to issue this interim guidance in the Spring of 1990.

value of the in-kind contribution, and the effect of the in-kind contribution on the overall effort to achieve settlement.

One mechanism for allowing an in-kind contribution could be a "carve-out" order when, for example, the municipal PRP has agreed to provide the operation and maintenance at the facility. Other in-kind contributions could include the use of trucks and equipment to carry out cleanup activities, the installation of fences and the provision of other security measures to control public access to the site, or the use of the municipality's sewage treatment plant.

C) Contribution Protection

Nothing in this interim policy affects the rights of any party in seeking contribution from another party, unless such party has entered into a settlement with the United States or a State and obtained contribution protection pursuant to Section 113(f) of CERCLA.[15]

VI. DISCLAIMER

This interim policy is intended solely for the guidance of EPA personnel. It is not intended and can not be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. The Agency reserves

[15] Under Section 113(f), where EPA determines that settlement is in the best interests of the Federal government, CERCLA provides contribution protection to the settling parties for matters covered by the settlement. This may include a party who has not been notified as a PRP by EPA but wishes to settle its potential CERCLA liability.

the right to act at variance with this policy and to change it at any time without public notice.

VII. FOR FURTHER INFORMATION

For further information or questions about this interim policy, the Regions may contact Kathleen MacKinnon in the Office of Waste Programs Enforcement at FTS-475-9812. Inquiries by other persons should be directed to Ms. MacKinnon at 202-475-6771.

DEC - 6 1989

OSWER DIRECTIVE
#9834.13

FEDERAL REGISTER NOTICE

Superfund Program; Interim Municipal Settlement Policy

AGENCY: Environmental Protection Agency

ACTION: Request for Public Comment

SUMMARY: The Agency is publishing the "Interim Policy on CERCLA Settlements Involving Municipalities or Municipal Wastes" (referred to as the Municipal Settlement Policy) today to inform the public about this interim policy and to solicit public comment. This interim policy focuses on settlements involving municipalities or municipal wastes under Section 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). It also addresses how the treatment of municipalities and municipal wastes affects the treatment of private parties and certain kinds of commercial, institutional, or industrial wastes in the Superfund settlement process as well.

DATE: Comments must be provided no later than 60 days after publication of this interim policy.

ADDRESS: Comments should be addressed to Kathleen MacKinnon, U.S. Environmental Protection Agency, Office of Waste Programs Enforcement, Guidance and Oversight Branch (OS-510), 401 M Street, S.W., Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT: Kathleen MacKinnon at the above address or at (202) 475-6771.

SUPPLEMENTAL INFORMATION:

The following supplemental information is provided to assist the public in reviewing and commenting on EPA's interim policy:

I. Effective Date of Interim Policy and Role of Public Comment

II. Purpose of Interim Policy

III. Focus of Interim Policy

IV. Why Settlement Involving Municipalities or Municipal Wastes Is An Issue

V. Discussion of Interim Policy

A. Public Input

B. EPA Consideration of Competing Public Interests

I. Effective Date of Interim Policy and Role of Public Comment

This interim policy is effective immediately. However, the Agency emphasizes that this is an interim policy and that there is an important role for public comment. We are providing the public with 60 days to review and submit comments in writing. Based upon public comment or on our experience in implementing the interim policy, the Agency may address additional issues or revise the interim policy accordingly.

II. Purpose of Interim Policy

The primary purpose of this interim policy is to provide interim guidance to EPA Regional offices on how they should

exercise their enforcement discretion in dealing with municipalities and municipal wastes in the Superfund settlement process. An additional purpose is to provide municipalities and private parties who may be potentially liable under Section 107(a) of CERCLA with information about how EPA will handle them in the settlement process. We believe this interim policy is important for establishing a national framework that will help facilitate our ability to reach settlements and will ensure that sites involving municipalities or municipal wastes are addressed consistently throughout the country.

III. Focus of Interim Policy

The interim policy focuses on how EPA will proceed in attempting to reach settlements at sites involving municipalities or municipal wastes. Focusing on settlements means the interim policy indicates how EPA will attempt to reach voluntary agreements for responsible party financing and/or cleanup of sites involving municipalities or municipal wastes. Nothing in the interim policy affects any party's potential legal liability under CERCLA. Any decision EPA makes in exercising its enforcement discretion under this interim policy does not mean that potential CERCLA legal liability no longer applies. In particular, nothing in the interim policy precludes a third party from initiating a contribution action.

Focusing on settlements involving municipalities or municipal wastes means that the primary intent of the interim

policy is to address questions about how EPA should handle municipalities or municipal wastes in the Superfund settlement process. However, in the process of addressing those questions we found it necessary to address other issues relating to private parties and certain kinds of commercial, institutional, or industrial wastes. We have addressed these related issues because private parties sometimes handle municipal wastes, private parties generate some waste streams that are similar in nature to municipal wastes, and municipal and industrial wastes are sometimes co-disposed at the same site (particularly municipal landfills).

Specific questions that have been examined by EPA as part of this interim policy relate to who should be included in the information gathering process, who should be notified as potentially responsible parties, how municipalities should be handled in the settlement process, and how the treatment of municipalities and municipal wastes affects the Agency's treatment of private parties and certain kinds of commercial, institutional, or industrial wastes.

IV. Why Settlement Involving Municipalities or Municipal Wastes Is An Issue

Involving municipalities and municipal wastes in the Superfund settlement process is an issue because questions have been raised about how such parties and wastes should be treated in the settlement process. Until the development of this interim

policy, EPA had not addressed these questions from a national perspective. This issue is important because there are a significant number of proposed and final sites on the National Priorities List (NPL) that involve municipalities or municipal wastes, and EPA expects more of these sites to be added to the NPL in the future.

EPA has identified 320 (about 25%) of the 1219 proposed and final NPL sites that may involve municipalities or municipal wastes. Of those sites, 236 (about 20%) have been classified as municipal landfills. EPA defines a municipal landfill as any landfill, either publicly or privately owned, which has received municipal solid waste. Although it is difficult to accurately predict how many of those sites involving municipalities or municipal wastes may be added to the NPL, historically about 20% of each NPL update has included municipal landfills. Municipal landfills are particularly complex sites to address because they typically involve multiple responsible parties (sometimes hundreds of different parties), multiple sources of wastes (often municipal and industrial wastes), as well as diverse waste streams (in terms of amount and toxicity).

V. Discussion of Interim Policy

In the development of this interim policy, EPA has examined a variety of issues and options for addressing these issues. We have also made an effort to provide meaningful opportunities for interested parties to participate in the debate about

municipal settlements. EPA has listened to all sides of the debate and has attempted to develop an approach that is both fair and manageable.

A. Public Input

Throughout the development of this interim policy, EPA has established and maintained an extensive dialogue with a full range of interested parties. For example, in March of 1988 EPA sponsored a Municipal Settlement Conference attended by over 100 representatives from State and local governments and organizations; industry, environmental, and other groups; as well as Congressional staff. EPA sought input from all interested parties to facilitate our efforts to develop a fair assessment of the issues, particularly from municipal and industrial representatives who are most directly affected by the interim policy. Both municipalities and private parties are affected by this interim policy because, as mentioned above, both municipalities and private parties handle municipal waste, private parties generate waste streams that have similar characteristics to municipal waste streams, and municipal and industrial waste streams are often co-disposed at individual sites.

As a followup to this conference, EPA established the Municipal Settlement Discussion Group. The discussion group met in June, August, and October of 1988 and was generally comprised of the same groups and interests that participated in the March

conference. All discussion group meetings were open to the public and a notice of each meeting was published in the Federal Register.

The purpose of this dialogue has been for EPA to inform the public about the issues that the Agency is addressing as part of our effort to develop the Municipal Settlement Policy. At the same time, the Agency has sought to stimulate the public debate about these issues by providing a public forum for the exchange of ideas. The conference and discussion group activities have been conducted as an information exchange and public debate exercise. EPA has not requested recommendations nor attempted to reach a consensus among the various parties. Minutes of all meetings have been prepared and are available to the public upon request.

A final meeting of the discussion group is expected to be held in January 1990, before the close of the 60 day public comment period. The purpose of this meeting will be to discuss the interim policy and to further facilitate public comment. A notice of this meeting will be published in the Federal Register. Minutes of this meeting will be kept and made available to the public upon request.

B. <u>EPA Consideration of Competing Public Interests</u>

Input from the public has played an important role in EPA's development of this interim policy. Within the context of CERCLA's statutory language and objectives, EPA has considered

the competing interests and objectives of the various parties interested in this issue, especially municipalities and private parties who are directly affected by the interim policy. EPA has developed an interim policy which the Agency believes is appropriate, is in the interests of the public, and is fair to both municipalities and private parties as well as one which can be managed and implemented by EPA's Regional offices. The following examples highlight how EPA considered competing interests on key issues. The discussion below only summarizes (and sometimes paraphrases) certain key aspects of the interim policy; readers should refer to the interim policy itself for an indication or clarification of how EPA will proceed.

1. Treatment of municipalities as owners/operators: Some interested parties expressed uncertainty about whether potential CERCLA liability should apply to municipal owners/operators of facilities where hazardous substances are present. In addition, there are different views about how municipal owners/operators should be handled in the settlement process. For example, some municipal representatives have suggested that when potential owner/operator liability applies that municipalities should be given "special treatment" (e.g., provided with an early opportunity to meet with EPA to resolve their potential liability). Industry representatives have indicated that municipal owners/operators should be handled the same as other

PRPs and should be part of the larger settlement process that may involve other parties, including private parties.

EPA's interim policy clarifies that municipal owners/ operators may be potentially liable just like private parties, and that such parties will generally be notified and handled in the same manner during the settlement process as private parties.

2. Treatment of generators/transporters of municipal wastes and certain kinds of commercial, institutional, or industrial wastes: There are different views on whether the generators/transporters of municipal wastes (e.g., municipal solid waste and sewage sludge) (usually municipalities) should be notified that they are considered to be potentially responsible parties and brought into the Superfund settlement process. Municipalities and some States do not believe it is appropriate to include the generators/transporters of municipal wastes as potentially responsible parties. Industry representatives have generally taken the opposite view.

EPA's approach to this issue is as follows: when the source of the municipal waste is believed to come from households, regardless of whether household hazardous waste may be present, the general policy is to exclude such municipal wastes from the Superfund settlement process, unless the Region obtains site-specific information that the municipal solid waste or sewage sludge contains a hazardous substance from a commercial, institutional, or industrial process or activity.

The only exception to this general policy is that EPA may consider bringing generators/transporters of municipal solid waste that contains a hazardous substance derived only from households into the settlement process as potentially responsible parties if the total privately generated commercial, institutional, and industrial waste at the site is insignificant compared to the municipal solid waste. EPA expects this exception to be sparingly applied.

When we are dealing with industrial wastes (including low-hazardous industrial wastes), the generators/transporters of the wastes will generally be notified as potentially responsible parties because the source of the waste is a commercial, institutional, or industrial process or activity.

One question raised by the interim policy relates to how EPA will handle trash from a commercial, institutional, or industrial entity which is very similar to municipal solid waste that is derived from households. Although the source of the waste in this situation is not households, when the generator/transporter shows EPA that its waste is very similar to that generated by households and that it is not the result of a commercial, institutional, or industrial process or activity, the generator/transporter generally will not be notified as a potentially responsible party by EPA and brought into the Superfund settlement process.

In carrying out this approach, EPA is exercising its enforcement discretion in determining whether we will treat generators/transporters as potentially responsible parties for certain categories of wastes. EPA believes this approach is fair and manageable. For example, this approach treats municipalities and private parties that handle the same waste streams in the same manner (e.g., municipal generators/transporters of municipal solid waste are treated the same as private party generators/ transporters of such waste).

This approach also treats different waste streams in a logical and consistent manner. A key factor in determining whether to notify generators/transporters of municipal solid waste, sewage sludge, trash from a commercial, institutional, or industrial entity, or low-hazardous industrial wastes is tied to whether a hazardous substance is present that is derived from a commercial, institutional, or industrial process or activity.

Finally, this approach is one that can be effectively managed and implemented by EPA's Regional offices. For example, based on our experiences at Superfund sites, especially municipal landfills, we believe that it is generally not a cost-effective use of our enforcement resources to pursue those generators/ transporters whose only contribution at a Superfund site appears to have been substances that may have been contaminated only with relatively small quantities of household hazardous waste (e.g., municipal solid waste). The resource-intensive nature of

obtaining sufficient evidence to demonstrate the presence of household hazardous waste as well as the potentially increased transaction costs of settlement and/or litigation far outweigh the possible benefit the Government may derive from obtaining cleanup costs from such parties. The Agency believes that its enforcement resources are better spent on pursuing other potentially responsible parties to achieve the cleanups needed to effectively implement the Superfund program and to protect human health and the environment.

3. Role of municipalities in the settlement process: There are also different views on the appropriate treatment of municipalities vis-a-vis private parties in the settlement process (i.e., whether municipalities should receive "special treatment" because they are governmental entities). Municipalities generally believe they should be treated differently than private potentially responsible parties while industry generally believes they should not.

EPA believes that municipalities and private parties should generally be handled in the same manner in the settlement process. Handling municipalities and private parties the same means that EPA will seek information in appropriate circumstances from all parties, including municipalities. This also means that all parties who are owners/operators of facilities will generally be notified as potentially responsible parties.

Relating to municipal solid waste or sewage sludge, all parties who are generators/transporters (either municipalities or private parties) are generally exempt from notification unless we obtain site-specific information that the waste contains a hazardous substance from a commercial, institutional, or industrial activity or process. In instances relating to notification as a potentially responsible party, we focus on the nature/source of the waste, not whether the party is a municipality or private party.

The interim policy also handles municipalities and private parties essentially in the same manner once they are notified as potentially responsible parties by attempting to negotiate and settle with such parties as one group, unless separate settlements such as de minimis settlements pursuant to Section 122(g) of CERCLA are appropriate. Nevertheless, EPA does recognize that municipalities have unique characteristics as governmental entities which EPA may take into account when designing specific settlements (e.g., by considering delayed payments, delayed payment schedules, or in-kind contributions under appropriate circumstances).

12/6/89
Date

Don R. Clay, Assistant Administrator, Office of Solid Waste and Emergency Response

SECTION III

REPORTS ON MUNICIPAL WASTE

REPORT ANALYZES MUNICIPAL WASTE COMBUSTION ASH, ASH EXTRACTS, AND LEACHATES -- Environmental Fact Sheet

United States
Environmental Protection
Agency

Solid Waste and
Emergency Response
(OS-305)

EPA/530-SW-90-029O
April 1990

Office of Solid Waste

EPA

Environmental Fact Sheet

REPORT ANALYZES MUNICIPAL WASTE COMBUSTION ASH, ASH EXTRACTS, AND LEACHATES

BACKGROUND

Incineration of municipal solid waste (MSW) has become an important part of integrated waste management. Besides being an effective means of reducing the volume of MSW, incineration is also a source of energy recovery. As incineration of MSW has increased in recent years, so has concern over the management of municipal waste combustion (MWC) ash. EPA and the Coalition on Resource Recovery and the Environment (CORRE) cosponsored this study to characterize ash and to gain a better understanding of how it behaves in the environment.

The study was conducted to characterize MWC ash, laboratory extracts of MWC ash, and leachates from ash disposal facilities. Combined bottom and fly ash samples from five state-of-the-art mass burn municipal waste combustion facilities were collected. Leachate samples from the companion ash disposal facilities also were collected. The ash samples were subjected to six laboratory extraction procedures.

CONCLUSIONS

— Ash frequently fails EPA-approved tests for determing whether wastes are regulated as hazardous, because it leaches lead and cadmium at levels of concern.

— The disposal of ash in a well-designed monofill greatly reduces the leachability of constituents of concern such as lead and cadmium.

Although the data indicate that ash frequently fails the test used to determine whether a waste is hazardous, there has been considerable controversy over whether Congress intended to exempt ash from energy recovery MWCs from hazardous waste controls. Two recent court decisions ruled that ash is exempt from regulation as a hazardous waste. These cases are expected to be appealed.

over, please...

Regardless of the outcome of these cases, Congress is considering legislation that would regulate all ash as a special waste and require stringent management controls for ash from the point of generation through disposal or recycling. EPA continues to support such legislation so that all ash can be handled in a manner which protects human health and the environment.

AVAILABILITY

The full report, *Characterization of Municipal Waste Combustion Ash, Ash Extracts, and Leachates* (EPA/530-SW-90-029A), can be purchased from the National Technical Information Service (NTIS), U.S. Department of Commerce, Springfield, VA 22161; telephone 703-487-4650. The document number is PB 90-187-154. A limited number of copies of the Executive Summary (EPA/530-SW-90-029B) and copies of this Fact Sheet can be obtained free of charge.

All publications can be ordered by contacting the RCRA Hotline, Monday-Friday, 8:30 a.m. to 7:30 p.m., EST. The national, toll-free number is (800) 424-9346; TDD (800) 553-7672 (hearing impaired). In Washington, D.C., the number is (202) 382-3000; TDD (202) 475-9652. Send written requests to: RCRA Docket Information Center (RIC), Office of Solid Waste (OS-305), U. S. EPA, 401 M Street SW, Washington, DC 20460.

CHARACTERIZATION OF MUNICIPAL SOLID WASTE IN THE UNITED STATES: 1990 Update -- EXECUTIVE SUMMARY

United States
Environmental Protection
Agency

Solid Waste and
Emergency Response
(OS-305)

EPA/530-SW-90-042A
June 1990

EPA

Characterization of Municipal Solid Waste in the United States: 1990 Update

Executive Summary

EPA/530-SW-90-042A

Characterization of Municipal Solid Waste in the United States: 1990 Update

Executive Summary

June 13, 1990

United States Environmental Protection Agency

Office of Solid Waste

Acknowledgements

The report, *Characterization of Municipal Solid Waste in the United States: 1990 Update*, was developed under EPA contract No. 68-01-7310 under the direction of Paul Kaldjian at EPA. Appreciation is extended to the many individuals in the Office of Solid Waste who reviewed and commented on drafts of the report. EPA also wishes to give special thanks to Jo Nord, the artist of the cover illustration.

Ordering Information

The complete report is available through the National Technical Information Service (NTIS). To order, call NTIS at (703) 487-4650. A fact sheet highlighting the major findings of the report is also available. To obtain additional copies of this Executive Summary (EPA/530-SW-90-042A) or the fact sheet (EPA/530-SW-90-042B) at no charge, call the RCRA/Superfund Hotline at (800) 424-9346; TDD (800) 553-7672 for the hearing impaired. In Washington, DC, the number is (202) 382-3000; TDD (202) 475-9652.

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CHARACTERIZATION OF MUNICIPAL SOLID WASTE IN THE UNITED STATES
1990 Update

Executive Summary

Many areas of the United States currently face serious problems in safely and effectively managing the garbage they generate. As a nation, we are generating more trash than ever before. At the same time, we are finding that there are limits to traditional trash management practices. As the generation of municipal solid waste (MSW) continues to increase, the capacity to handle it is decreasing. Many landfills and combustors have closed, and new disposal facilities are often difficult to site. As a result, many communities face hard choices when weighing trash management options. Some communities end up paying premium prices to transport their garbage long distances to available facilities. Others try to site facilities nearby and encounter intense public conflict. Of course, not all communities face such problems; numerous communities have found creative solutions through source reduction and recycling programs. Still, for much of the nation, the generation and management of garbage presents problems that require our focused attention.

Identifying the components of the waste stream is an important step toward solving the problems associated with the generation and management of garbage. MSW characterizations, which analyze the quantity and composition of the municipal solid waste stream, involve estimating how much MSW is generated, recycled, combusted, and disposed of in landfills. By determining the makeup of the waste stream, waste characterizations also provide valuable data for setting waste management goals, tracking progress toward those goals, and supporting planning at the national, state, and local levels. For example, waste characterizations can be used to highlight opportunities for source reduction and recycling and provide information on any special management issues that should be considered.

Features of This Report

This report is the most recent in a series of reports released by the U.S. Environmental Protection Agency (EPA) to characterize MSW in the United States. It characterizes the national waste stream based on data through 1988 and includes:

- Information on MSW generation from 1960 to 1988.
- Information on recovery for recycling, composting, and combustion from 1960 to 1988.
- Information characterizing MSW by volume as well as by weight.

- Projections for MSW generation to the year 2010.
- Projections for MSW combustion through 2000.
- Projections (presented as a range) for recovery and recycling through 1995.

Unlike previous EPA characterization reports, this report does not include long-range projections for materials recovery. This is due to the significant uncertainties in making those projections. For example, rapid changes are now taking place at the federal, state, and local level that may have profound effects on such projections. In addition, shifts in consumer attitudes and behaviors, industry practices and efforts, and technological advances will greatly influence recovery and recycling. The potential impact of all of these changes is very difficult to predict.

Readers should note that this report characterizes the municipal solid waste stream of *the nation as a whole*. The information presented here may not, therefore, correlate with individual state or local estimates of waste generation and management.

DEFINITIONS

Municipal solid waste includes wastes such as durable goods, nondurable goods, containers and packaging, food wastes, yard wastes, and miscellaneous inorganic wastes from residential, commercial, institutional, and industrial sources. Examples of waste from these categories include appliances, newspapers, clothing, food scraps, boxes, disposable tableware, office and classroom paper, wood pallets, and cafeteria wastes. MSW does not include wastes from other sources, such as municipal sludges, combustion ash, and industrial nonhazardous process wastes that might also be disposed of in municipal waste landfills or incinerators.

Generation refers to the amount (weight, volume, or percentage of the overall waste stream) of materials and products as they enter the waste stream and before materials recovery, composting, or combustion (incineration) takes place.

Recovery refers to materials removed from the waste stream for the purpose of recycling and/or composting. Recovery does not automatically equal recycling and composting, however. For example, if markets for recovered materials are not available, the materials that were separated from the waste stream for recycling may simply be stored or, in some cases, sent to a landfill or incinerator.

Discards include the municipal solid waste remaining after recovery for recycling and composting. These discards are usually combusted or disposed of in landfills, although some MSW is littered, stored, or disposed of on site, particularly in rural areas.

Methodology

There are two primary methods for conducting a waste characterization study. The first is a site-specific approach in which the individual components of the waste stream are sampled, sorted, and weighed. Although this method is useful for defining a local waste stream, extrapolating from a limited number of studies can produce a skewed or misleading picture if used for a nationwide characterization of waste. Any errors in the sample or atypical circumstances encountered during sampling would be greatly magnified when expanded to represent the nation's entire waste stream.

The second method, used in this report to estimate the waste stream on a nationwide basis, is called the "material flows methodology." EPA's Office of Solid Waste and its predecessors in the Public Health Service sponsored work in the 1960s and early 1970s to develop the material flows methodology. This methodology is based on production data (by weight) for the materials and products in the waste stream, with adjustments for imports, exports, and product lifetimes.

Report Highlights

This report underscores the problems we face in municipal solid waste management: the generation of MSW continues to increase steadily, both in overall tonnage and in pounds per capita. In addition, the report indicates that materials recovery for recycling and the combustion of MSW have increased in recent years, while discards to landfills have decreased. Major findings include the following:

- **In 1988, 180 million tons, or 4.0 pounds per person per day of MSW were generated.** After materials recovery for recycling, discards were 3.5 pounds per person per day. Virtually all of these discards were combusted or sent to a landfill.

- **Without source reduction, the amount of waste generated in 1995 is expected to reach 200 million tons, or 4.2 pounds per person per day. By 2000, generation is projected to reach 216 million tons, or 4.4 pounds per person per day. The per capita figure for the year 2000 is a 10 percent increase over 1988 levels.**

- **Based on current trends and information, EPA projects that 20 to 28 percent of MSW will be recovered annually by 1995.** Exceeding this projected range will require fundamental changes in government programs, technology, and corporate and consumer behavior.

- **Recovery of MSW materials for recycling was 13 percent in 1988. Combustion was 14 percent of total generation, and the remaining 73 percent of the municipal solid waste stream was sent to landfills or otherwise disposed of.**

- **For the first time in this series of characterization reports, MSW is also characterized by *volume*.** The results indicate which materials in MSW occupy the greatest proportion of volume in landfills, and compare these percentages to those by weight. For example, paper and paperboard products make up 34 percent of the discards (after recovery) by weight and 34 percent by volume; plastics account for 9 percent by weight and 20 percent by volume; and yard wastes make up 20 percent by weight and 10 percent by volume.

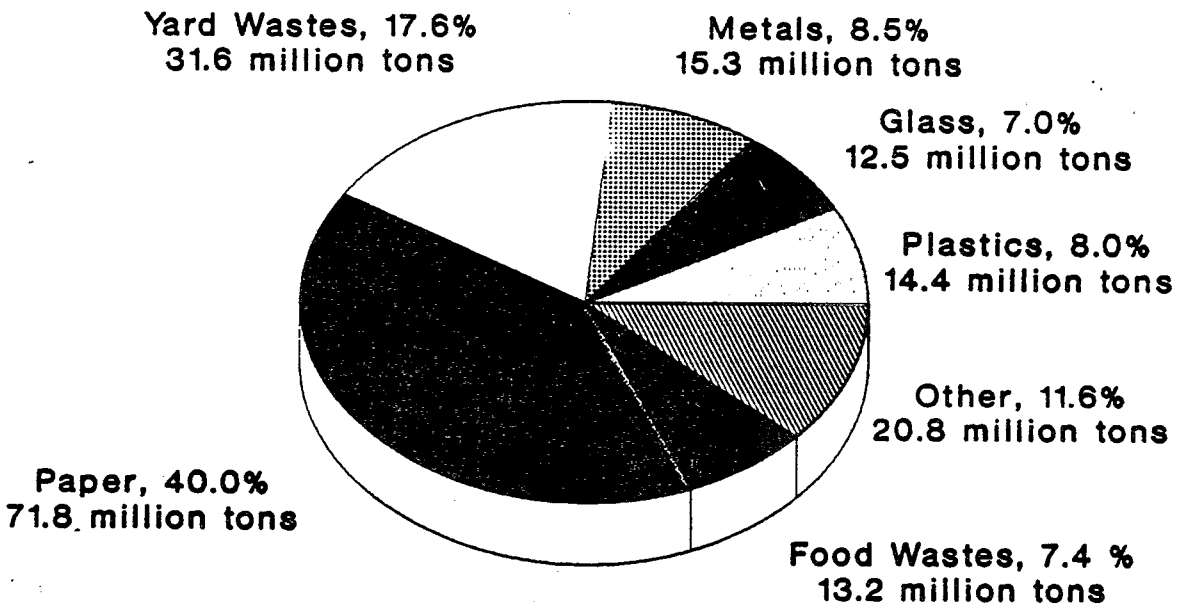
Municipal Solid Waste in 1988

In 1988, generation of municipal solid waste totaled 179.6 million tons. Figure ES-1 provides a breakdown by weight of the *materials* generated in MSW in 1988. It shows that paper and paperboard products are the largest component of municipal solid waste by weight (40 percent of generation) and yard wastes are the second largest component (roughly 18 percent of generation). Four of the remaining materials in MSW—glass, metals, plastics, and food wastes—range between 7 and 9 percent each by weight of total MSW generated. Other materials in MSW include rubber, leather, textiles, wood, and small amounts of miscellaneous wastes, which each made up less than 4 percent of MSW in 1988.

The breakdown of how much waste went to recycling, combustion, and landfills is shown in Figure ES-2. *Recovery of materials* for recycling and composting was an estimated 13 percent in 1988. That amount varied significantly according to the type of waste (Table ES-1). For example, nearly 26 percent of waste paper was recovered in 1988, while less than 2 percent of plastic wastes were recovered.

The broad categories of materials in MSW are made up of many individual *products*. The products are grouped into major product categories as shown in Figure ES-3. In 1988, containers and packaging were the largest single product category generated in MSW by weight, at roughly 32 percent of the total. Nondurable goods (such as newspapers and disposable food service items) were the second largest category, at 28 percent of the total. Yard wastes were approximately 18 percent and durable goods (such as furniture and tires) were 14 percent of total generation in 1988.

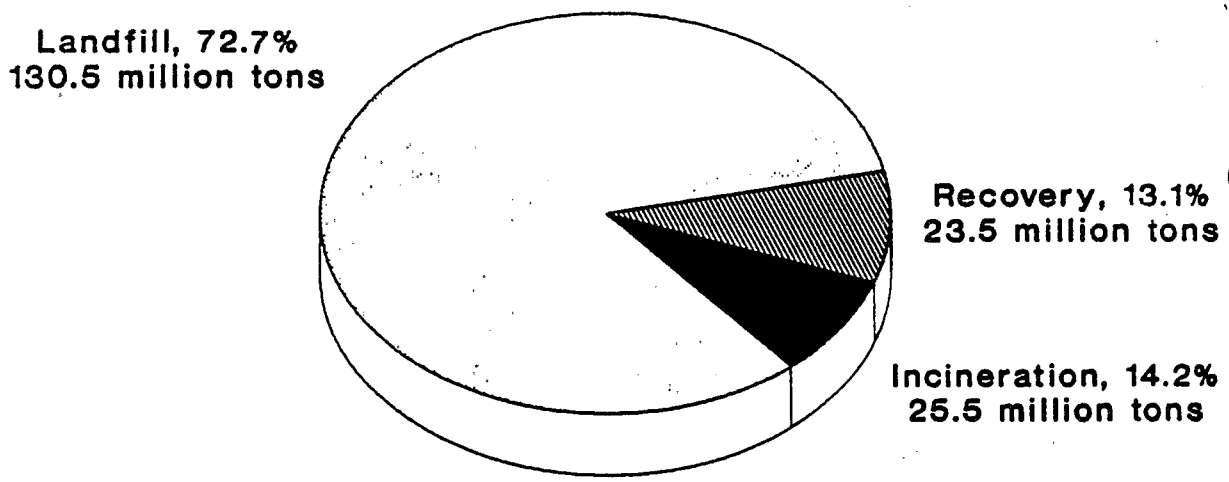
MATERIALS GENERATED IN MSW BY WEIGHT, 1988



TOTAL WEIGHT = 179.6 million tons

FIGURE ES-1

MANAGEMENT OF MSW IN U.S., 1988



TOTAL WEIGHT = 179.6 million tons

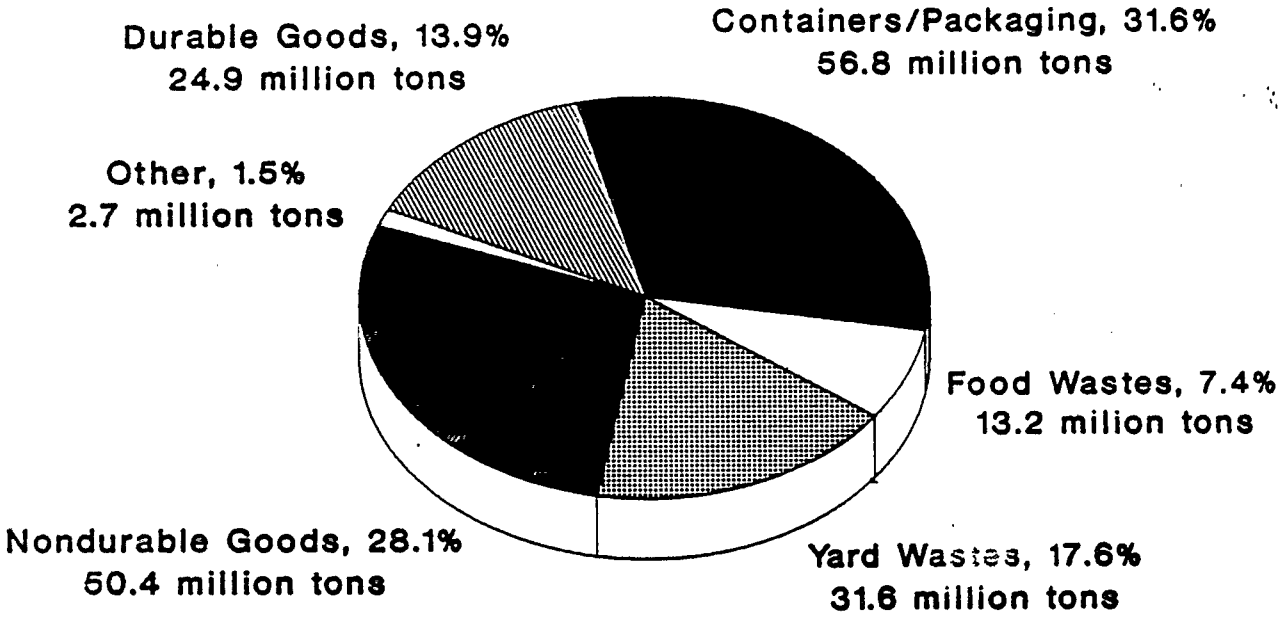
FIGURE ES-2

TABLE ES-1

Generation of MSW, Recovery of Materials and Composting of Food and Yard Waste, 1988

	Weight Generated (in Millions of Tons)	Weight Recovered (in Millions of Tons)	Percent of Generation of Each Material
Paper and Paperboard	71.8	18.4	25.6
Glass	12.5	1.5	12.0
Metals			
Ferrous	11.6	0.7	5.8
Aluminum	2.5	0.8	31.7
Other Nonferrous	1.1	0.7	65.1
Total Metals	15.3	2.2	14.6
Plastics	14.4	0.2	1.1
Rubber and Leather	4.6	0.1	2.3
Textiles	3.9	0.0	0.6
Wood	6.5	0.0	0.0
Other	3.1	0.7	21.7
Total Nonfood Product Wastes	132.1	23.1	17.5
Other Wastes			
Food Wastes	13.2	0.0	0.0
Yard Wastes	31.6	0.5	1.6
Miscellaneous Inorganic Wastes	2.7	0.0	0.0
Total Other Wastes	47.5	0.5	1.1
Total MSW	179.6	23.5	13.1

PRODUCTS GENERATED IN MSW BY WEIGHT, 1988



TOTAL WEIGHT = 179.6 million tons

FIGURE ES-3

MSW Volume Estimates

Although solid waste is usually characterized by weight, information about volume is important for such issues as determining how quickly landfill capacity is being filled and identifying the rate at which the volumes of various materials in the waste stream are changing.

Volume estimates of solid waste, however, are far more difficult to make than weight estimates. A pound of paper is a pound of paper whether it is in flat sheets, crumpled into a wad, or compacted into a bale, but the volume occupied in each case will be very different. The figures in this report are estimations of the volume of materials as they would typically be found in a landfill (a significant amount of compaction occurs in a landfill). These estimates are based largely on empirical data that are then used to estimate density factors (pounds per cubic yard) for components of solid waste under simulated landfill conditions, with corroboration from actual landfill studies.

Figure ES-4 shows the materials in MSW by volume as a percent of total MSW discards in 1988. The paper and paperboard category ranks first in volume of MSW discarded (34 percent). Plastics rank second in volume, at 20 percent of the total, and yard wastes are third, at 10 percent. Paper and plastics combined account for over one-half of the volume of MSW discarded in 1988.

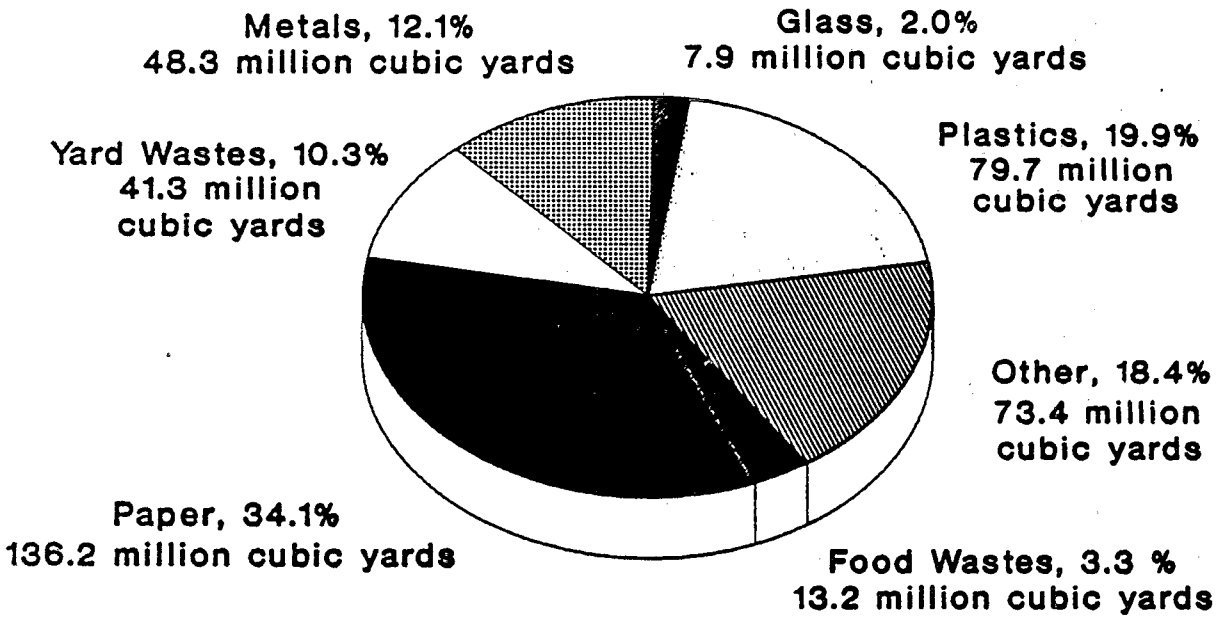
Table ES-2 compares 1988 volume and weight estimates for materials in MSW contained in the report. The right-hand column shows the ratio of volume to weight for each material. A ratio of 1.0 means that the material occupies the same proportion by volume as by weight. Values greater than 1.0 mean that the material occupies a larger proportion of volume than weight. Four materials have ratios greater than 2.0: plastics, rubber and leather, textiles, and aluminum. By contrast, yard wastes, food, and glass each have ratios of 0.5 or less, indicating that these materials are quite dense and occupy proportionately less volume in landfills.

Figure ES-5 shows the product categories that make up MSW by volume of total discards in 1988. Nondurable goods rank first in volume percentage at 34 percent. Containers and packaging are second in volume (roughly 30 percent), and durable goods are third (approximately 22 percent).

Trends in MSW Generation, Recovery, and Discards

Generation of municipal solid waste grew steadily between 1960 and 1988, from 88 million to nearly 180 million tons per year. Per capita generation of MSW increased from 2.7 pounds per person per day in 1960 to 4.0 pounds per person per day in 1988. Between 1986 and 1988, generation increased from 3.8 to 4.0 pounds per person per day (167 million to 180 million tons per year). By 2000, projected per capita MSW generation is 4.4

LANDFILL VOLUME OF DISCARDS IN MSW, 1988



TOTAL VOLUME = 400 million cubic yards

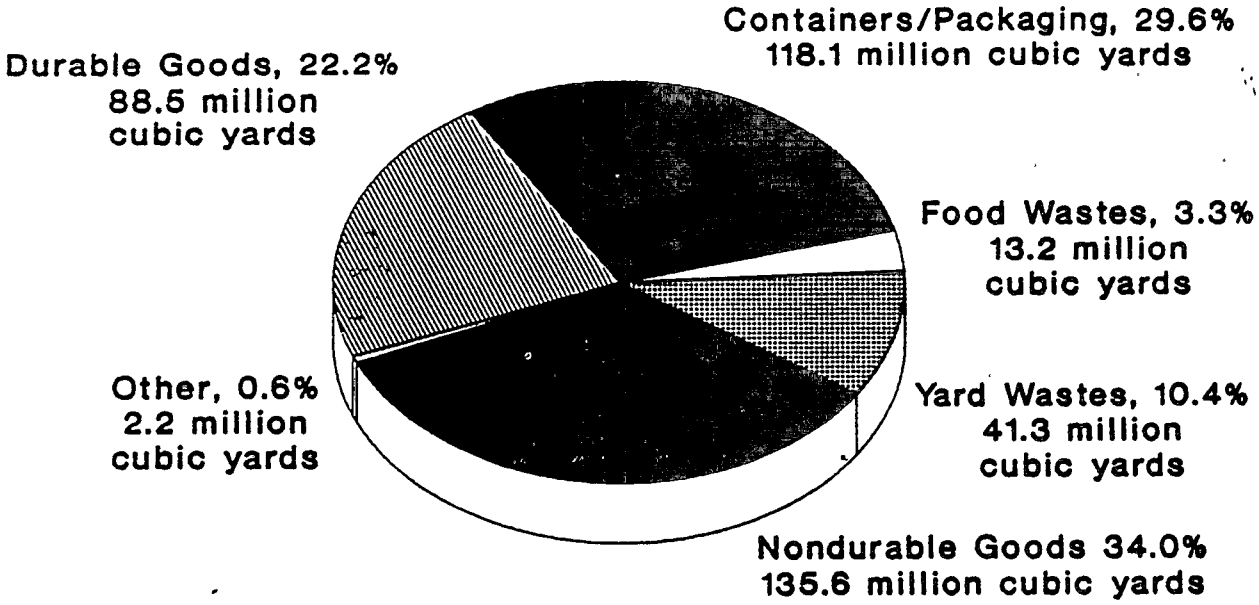
FIGURE ES-4

TABLE ES-2

Volume of Materials Discarded in MSW, 1988

	1988 Discards (mil tons)	Weight (% of MSW total)	Volume (% of MSW total)	Ratio (vol %/ wt %)
Paper and Paperboard	53.4	34.2	34.1	1.0
Plastics	14.3	9.2	19.9	2.2
Yard Wastes	31.0	19.9	10.3	0.5
Ferrous Metals	10.9	7.0	9.8	1.4
Rubber and Leather	4.4	2.9	6.4	2.3
Textiles	3.8	2.5	5.3	2.1
Wood	6.5	4.2	4.1	1.0
Food Wastes	13.2	8.5	3.3	0.4
Other	5.6	3.6	2.5	0.7
Aluminum	1.7	1.1	2.3	2.1
Glass	11.1	7.1	2.0	0.3
TOTALS	156	100	100	1.0

PRODUCTS DISCARDED IN MSW BY VOLUME, 1988



TOTAL VOLUME = 400 million cubic yards

FIGURE ES-5

pounds per person per day (216 million tons). Projected MSW generation in the year 2010 is over 250 million tons, or 4.9 pounds per person per day. Figure ES-6 shows the generation (in millions of tons) of materials in MSW between 1960 and 1988 with projections to 2010.

Recovery has increased gradually from about 7 percent of the waste generated in 1960 to 13 percent in 1988. Recovery is projected to reach between 20 percent and 28 percent of MSW generated in 1995. These projections are presented as a range because of the many unpredictable factors that might influence the growth of recovery and recycling over the next 5 years. These factors include possible changes in the Resource Conservation and Recovery Act (RCRA), which regulates the treatment, storage, and disposal of the nation's solid waste; other federal and state legislative proposals; deposit bills; bans; regional and local efforts; municipal waste combustion and landfill source separation proposals; municipal source reduction and recycling programs; industry efforts and recycling technology. While specific predictions about recycling might be misleading, EPA believes that with fundamental changes in activities and programs related to recycling, we can achieve even higher recycling rates than those projected.

Combustors handled an estimated 30 percent of MSW generated in 1960, most of them with no energy recovery and no air pollution controls. In the 1960s and 1970s, combustion dropped steadily as the old incinerators were closed, reaching a low of less than 10 percent of MSW generated by 1980. More recently, combustion of MSW has been increasing again (to 25.5 million tons, or roughly 14 percent of generation, in 1988). All major new facilities have energy recovery and are designed to meet air pollution standards.

The report projects that more than 45 million tons of MSW will be combusted in 1995, and 55 million tons will be combusted in 2000. It should be noted that because of the long lead time in planning, permitting, and constructing incineration facilities, projections for combustion are easier to make than projections for recovery. Estimates of combustion projections are based on assumptions that assume the facilities will operate at 80 percent of capacity.

Landfill use fluctuates with changes in the use of alternative solid waste management methods. For example, when the use of incineration for MSW management declines and recovery rates are low, the MSW percentage sent to landfills increases. Alternatively, when recovery and combustion of MSW increase, the percentage of MSW discarded to landfills declines. In 1960, approximately 62 percent of MSW was sent to landfills. This increased to 81 percent in 1980, then decreased to 73 percent in 1988 due to changing trends in municipal solid waste management.

U.S. MSW GENERATION, 1960-2010

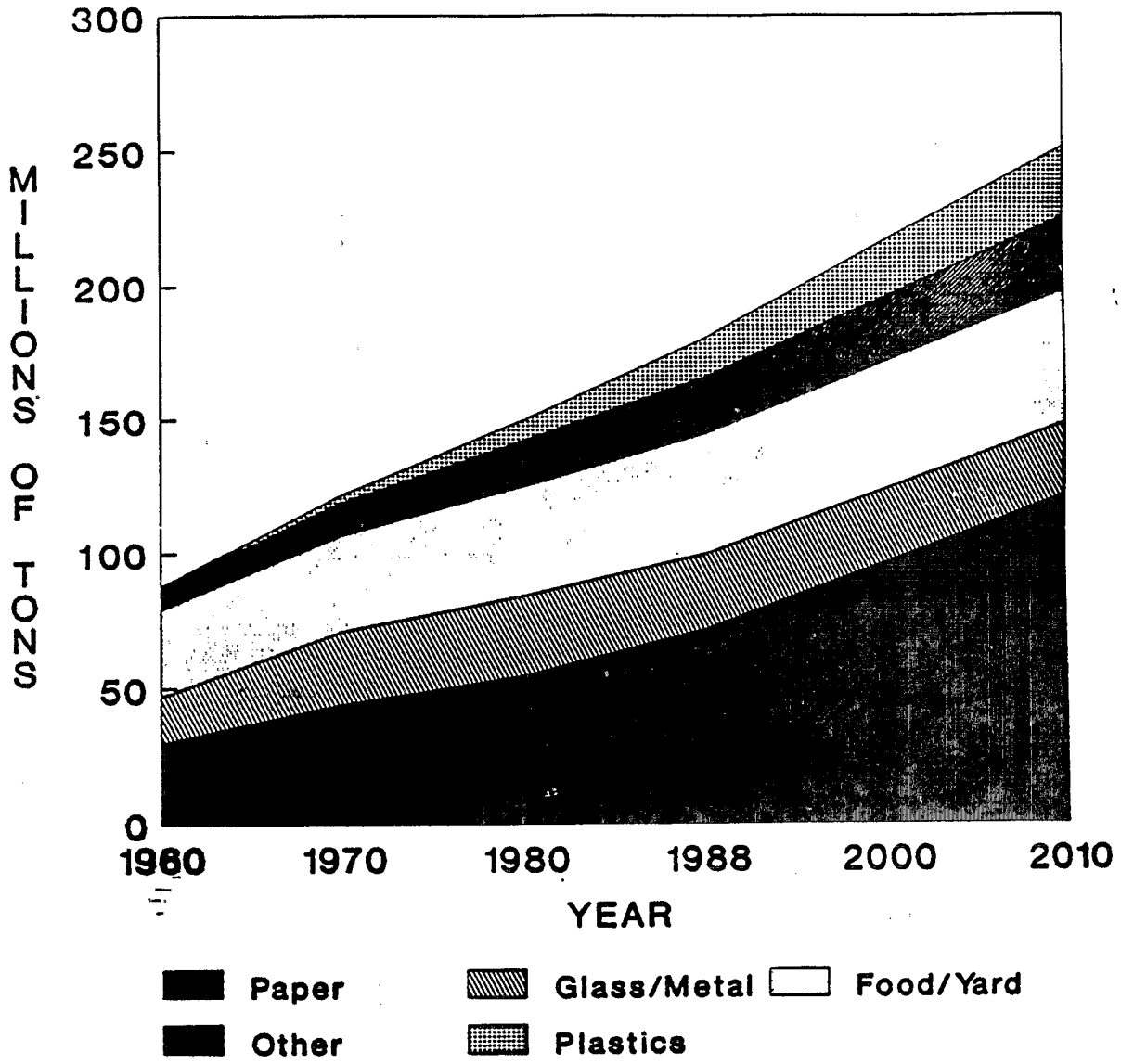


FIGURE ES-6

As we approach the twenty-first century, integrated waste management is clearly the solution to our growing waste needs. Through source reduction and recycling, we can reduce generation and increase recovery, and, in turn, reduce our reliance on combustors and landfills.

SECTION IV

NATIONAL CONTINGENCY PLAN

THE FINAL NATIONAL CONTINGENCY PLAN: NEW DIRECTIONS FOR SUPERFUND

EPA

February, 1990

The Final National Contingency Plan: New Directions For Superfund

Today EPA is issuing the final revisions to the National Contingency Plan (NCP), the regulatory blueprint for implementing the Superfund law. The Superfund program - the nation's effort to clean up abandoned toxic waste sites - has evolved significantly since its start nearly ten years ago. In 1986, Congress amended the Superfund law, adding major new authorities and responsibilities to the program. Last year, the Environmental Protection Agency (EPA) undertook a thorough self-appraisal, the Superfund "Management Review," which includes a series of recommendations on how the program could be improved. EPA believes that together the final NCP and the Management Review provide a firm basis for progress in cleaning up the nation's worst toxic waste problems.

The NCP embodies the essential points of the Management Review of Superfund conducted last year. The Management Review establishes a management framework for Superfund. With the promulgation of the NCP, EPA has revised its policy and regulatory framework for Superfund. Both documents describe what the program realistically can accomplish and emphasize the need for taking action at sites -- rather than prolonged investigation and analysis. The documents also recognize the importance of increased state participation and public involvement in the Superfund program.

While the Management Review focuses on EPA's internal management, the NCP sets forth the legal requirements for how all federal agencies, states and private parties respond to toxic releases and oil spills. The NCP provides for a national system to respond to hazards caused by toxic waste and oil spills, a process for investigating and cleaning up toxic waste sites, environmental standards for cleanup, and a structured analytical process to promote consistency in deciding on cleanups across the country.

Assuring long-term protection.

The NCP confirms EPA's commitment to seek **long-term solutions** to toxic wastes problems near Superfund sites. Consistent with the Superfund law, the NCP **emphasizes using treatment** to eliminate or reduce to safe levels the threat posed by highly toxic waste. Treatment is given preference over covering up highly toxic waste or moving it to another location. Another important emphasis is on **restoring contaminated resources** -- such as ground water which may be a source of drinking water -- so that such valuable resources can be used safely.

Taking action quickly.

The Management Review recognizes the importance of making sites safer in the near-term by **controlling acute threats immediately**. The NCP provides the framework for taking early action at sites. Early actions are encouraged to stabilize or reduce the high-risk threats at a site. Longer-term investigations and analyses can then proceed. These investigations and analyses will still, however, be tailored to the scope and complexity of the site so that the ultimate action(s) that provide long-term protection will be taken as quickly as possible.

Setting realistic expectations for Superfund.

The Management Review points out the need to have a clear statement of EPA's expectations about what cleanup or remedy to implement at a site. The NCP includes a new program goal and lays out a series of expectations to guide the process of deciding on remedies.

The NCP's **program goal is to select remedies that protect human health and the environment, that maintain protection over time and that minimize untreated waste.** EPA believes that treating waste is the best method to achieve long-term protection. Detailed expectations are intended to inform the public of the types of remedies that EPA has selected, and anticipates selecting, for certain types of sites, for example:

- Waste that poses a high level of risk, i.e., highly toxic or mobile waste, will be treated to reduce its toxicity or mobility.
- Waste left on-site after the Superfund action, i.e., waste that poses a relatively low long-term threat, will be controlled, generally by preventing further releases and capping the site.
- Many sites will use a combination of treatment and containment.
- Ground water that is an actual or potential source of drinking water will be restored to levels safe for drinking, where practical.
- Soil will be restored to levels appropriate for current and reasonably potential uses.

Emphasizing treatment technologies.

A major thrust of the Superfund law is to require more use of hazardous waste treatment technologies. The Management Review points out the need to remove regulatory and policy barriers to the use of treatment technologies. The NCP repeatedly emphasizes treatment. **Treatment is the centerpiece of the program goal and expectations** described above. The NCP requires that preference be given to remedies that use treatment over remedies that do not. Additionally, the **NCP promotes use of innovative technologies** in order to bolster the development of new methods to provide long-term protection.

Defining Cleanup standards.

The NCP, as directed by the Superfund law, requires that standards of protection under other federal and state environmental laws be attained at Superfund sites. For example, standards for drinking water under the Safe Drinking Water Act will be used as the cleanup level for water that is or may be used for drinking at a Superfund site. When standards of protection under other laws are not available, e.g., for a particular type of waste, the program will make a site-specific determination on an appropriate cleanup level. For waste that may cause cancer, the risk posed by the waste generally will be reduced to fall within an acceptable risk range -- 10^{-4} to 10^{-6} -- A range of 10^{-4} to 10^{-6} is shorthand for a range of 1 in 10,000 to 1 in 1,000,000 with a presumption that cleanup targets should be set at the more protective end of the range or 10^{-6}.

Increasing public participation.

From the inception of the Superfund program, EPA has recognized that the community affected by a Superfund site should participate in Agency decision-making and should be informed of the status of action at the site. The Management Review recommends that EPA involve citizens even more extensively in the process of making decisions about cleanups at Superfund sites.

status of action at the site. The Management Review recommends that EPA involve citizens even more extensively in the process of making decisions about cleanups at Superfund sites.

The NCP ensures public involvement in decision-making by providing opportunities for the public to inform EPA of concerns about a site, to participate in the investigation and analysis of a site and to review and comment on documents used in deciding on cleanups. The NCP requires that the public be allowed at least 30 days, which will be extended to 60 days on request, to complete its review and submit comments before EPA will decide on a cleanup. To facilitate public understanding about the site further, a direct reference to the Technical Assistance Grants (TAG) program is made in the NCP. These grants allow communities to obtain the necessary technical expertise to review and comment on decision documents. Other public involvement requirements ensure that the community is kept informed on the status of action at the site. In addition to the minimum requirements, the NCP provides many suggestions for public involvement activities that should be considered for implementation at individual sites, including informing the public of the nature of discussions with potentially responsible parties.

Strengthening state involvement.

The NCP provides opportunities for states to work with EPA to address the nation's worst toxic waste site problems. All states are strongly encouraged to participate with EPA in deciding on cleanups. Further, depending on a state's capability, the NCP **authorizes the states to conduct investigations, analyze alternatives and recommend the selection of a remedy to EPA.** EPA retains the ultimate authority to decide on cleanup remedies that use federal funds. States may also supervise design and construction of a remedy.

Ensuring sites remain safe.

The Management Review points out the need to monitor and maintain sites over the long-term. The NCP requires a review of a site where waste is left behind at least once every five years to ensure that the site remains safe. **No site will be deleted from the National Priorities List (NPL) after completion of the cleanup until at least one five-year review has been conducted.**

Measuring success.

The Management Review notes that deletions of sites from the NPL are not the only measure of progress for Superfund. Major initiatives are underway within EPA to provide new measures of success. The NCP provides that sites where the remedy is complete will be described as "construction complete" sites to distinguish them from sites where action is either underway or about to start.

Encouraging Private party cleanups.

One emphasis of the Management Review is on maximizing the number of private party cleanups. Because the requirements of the NCP apply to both government and private party cleanups, EPA believes that private party cleanups conducted under the NCP will not compromise environmental goals and will protect public health. EPA will provide oversight of private party cleanups conducted under the NCP.

Conclusion.

EPA believes that the Superfund program is now making significant and meaningful progress in reducing the hazards posed by the nation's worst toxic waste sites. The Management Review and the final NCP provide the comprehensive management and regulatory tools needed to accomplish the program's difficult objectives.

QUESTIONS AND ANSWERS REGARDING THE 1990 NCP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

February 1990

QUESTIONS AND ANSWERS REGARDING THE 1990 NCP

INTRODUCTION

What is the National Contingency Plan (NCP)?

- The NCP is the major framework regulation for the federal hazardous substance response program. The NCP includes procedures and standards for how EPA, other federal agencies, states, and private parties respond under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to releases of hazardous substances and under the Clean Water Act to discharges of oil.

What is the purpose of the revisions to the NCP?

- CERCLA, originally enacted in 1980, was amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), which mandates that the NCP be revised to implement the requirements of SARA, particularly with regard to procedures and standards for remedial actions.

- The revisions also clarify 1985 NCP language, reorganize the 1985 NCP to describe more accurately the sequence of response actions, and incorporate changes based on program experience since the 1985 revisions to the NCP.

What is the relationship between the revised NCP and the Management Review of the Superfund Program (the 90-day Study)?

- The 1990 (or final) NCP is consistent with, and embodies the spirit of, the 1989 Management Review of the Superfund Program. Both documents describe what the program realistically can accomplish and emphasize the need for taking action -- rather than prolonged investigation and analysis -- at sites. The documents also recognize the importance of increased state participation and public involvement in the Superfund program. The documents differ in that the Management Review focused on EPA's internal management of the program and left certain national policy decisions, e.g., the process of deciding on cleanups, to be addressed in the NCP. EPA believes that together the 1990

NCP and the Management Review provide a firm basis for progress in cleaning up the nation's worst toxic waste problems.

What are the major areas of change from the 1985 NCP to the 1990 NCP?

Note: More detail on each of these major changes is provided below.

- Subpart E (Subpart F in the 1985 NCP) which addresses the elements of hazardous substance response is significantly revised. EPA's process implements the requirements of CERCLA § 121 and focuses on selection of treatment technologies, uses nine specified criteria when evaluating and selecting remedies, provides for conducting early actions, and encourages streamlining of remedial activities.

- Subpart F on state involvement is a new subpart added to implement the 1986 statutory mandate to promulgate regulations for substantial and meaningful state involvement in CERCLA response actions. The major new concepts are Superfund Memoranda of Agreement (SMOAs) between EPA regions and states and EPA/state concurrence in remedy selection.

- Subpart I is a new subpart added to implement the 1986 statutory requirements for the establishment of an administrative record. The record contains documents that form the basis for the selection of a remedy at a CERCLA site.

What sections from the 1985 NCP have generally remained unchanged?

- Subpart A, the introduction, defines key terms and states the purpose, authority, applicability, and scope of the NCP. Some definitions have been added, e.g., "source control maintenance measures," and some definitions have been revised, e.g. "CERCLIS" and "cooperative agreement," but most definitions remain unchanged.

- Subpart B describes the organization and responsibility of federal agencies regarding response activities. For example, roles and responsibilities of the National Response Team (NRT) and the Regional Response Teams (RRT) are described. The revised Subpart B combines the 1985 NCP's Subparts B and C without major revisions.

- Subpart C addresses preparedness activities, federal and regional contingency plans, and planning responsibilities of state and local agencies. The revised Subpart C contains information from the 1985 NCP's Subpart D and adds information on SARA Title III.

- Subpart D sets forth the phases of response to discharges of oil and contains no major revisions from the 1985 NCP.

- Subpart G contains the designations of federal trustees to act on behalf of the President in assessing damages to natural resources from discharges of oil or releases of hazardous substances. Subpart G also outlines in general the responsibilities of trustees under the NCP.

- Subpart H is a new subpart that consolidates 1985 NCP language on participation by other persons in response activities and recovery of their costs. Persons conducting a cleanup may recover their costs from a party liable under CERCLA § 107 if they substantially comply with requirements of the NCP and conduct a "CERCLA-quality cleanup."

- Subpart J on use of dispersants for oil spills is similar to the 1985 NCP's Subpart H; only minor clarifying revisions have been made.

Why was the NCP on a court-ordered schedule?

- In the fall of 1988, the Natural Resources Defense Council and several other national environmental groups sued EPA for failure to meet the statutory deadline (April 17, 1988) for revising the NCP. EPA's response indicated that because of the magnitude of the project, the number of interests involved, and the Agency's efforts to achieve consensus among all parties, the process was taking longer than anticipated to complete. To resolve the litigation, the parties agreed to a schedule for completion of revisions to the NCP that would result in the delivery of the 1990 NCP to the Federal Register by February 5, 1990.

How does the Hazard Ranking System (HRS) relate to the NCP?

- The HRS is Appendix A to the NCP (40 CFR Part 300). The HRS is the mechanism used to evaluate whether releases should be listed on the National Priorities List (NPL). The NPL is a list of releases that appear to warrant long-term evaluation and response. EPA proposed

revisions to the HRS in a separate rulemaking on December 23, 1988 (53 FR 51962).

What are some of the common abbreviations used in the NCP?

ARARs -- Applicable or relevant and appropriate requirements.
FS -- Feasibility study.
HRS -- Hazard Ranking System.
NPL -- National Priorities List.
OSC -- On-scene coordinator.
O&M -- Operation and maintenance.
PRP -- Potentially responsible party.
RA -- Remedial action.
RD -- Remedial design.
RI -- Remedial investigation.
ROD -- Record of decision.
RPM -- Remedial project manager.
SMOA -- Superfund Memorandum of Agreement.
TBC -- Criteria, advisories or guidance to-be-considered.

REMOVAL PROGRAM

How is the removal program modified under the 1990 NCP?

- The NCP codifies the increase in the statutory time and dollar limits for Fund-financed removal actions from 6 months and $1 million to 12 months and $2 million.

- The NCP also codifies a statutory exemption from these limits: where continued response is otherwise appropriate and consistent with the remedial action to be taken. EPA expects to use the exemption primarily for proposed and final NPL sites, and only rarely for non-NPL sites.

- The NCP confirms EPA's policy that removal actions will comply to the extent practicable with applicable or relevant and appropriate requirements under other federal or state environmental laws

- Requirements relating to community relations and administrative record are discussed in other sections below.

REMEDIAL PROGRAM

What changes does the 1990 NCP make in the remedial response program?

- The final rule implements the statutory requirements to select remedies that:

  -- Protect human health and the environment.

  -- Comply with applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws (or invoke a waiver).

  -- Are cost-effective.

  -- Use permanent solutions and treatment to the maximum extent practicable.

  -- Satisfy the preference for remedies in which treatment that permanently reduces the toxicity, mobility, or volume of hazardous substances, pollutants, or contaminants is a principal element.

What are some of the features of the final remedy selection process?

- In the remedy selection process, a range of alternatives should be developed, representing distinct, viable alternative approaches to managing the site problem. For source control response actions, a range of alternatives involving treatment as a principal element should be included, as well as containment and no-action alternatives, as appropriate. For ground-water response actions, alternatives should be developed that restore usable ground water to beneficial uses within a timeframe that is reasonable given particular site circumstances.

- The detailed analysis uses the following nine criteria to compare relative advantages and disadvantages of the alternatives under consideration:

  Threshold

  1. Overall protection of human health and the environment.

2. Compliance with applicable or relevant and appropriate requirements (or invoke a waiver).

Balancing

3. Long-term effectiveness and permanence.

4. Reduction of toxicity, mobility, or volume through treatment.

5. Short-term effectiveness (e.g., environmental impacts of the cleanup itself).

6. Implementability (e.g., whether technology being considered is available within the necessary timeframe).

7. Cost.

Modifying

8. State acceptance.

9. Community acceptance.

How does EPA intend that these categories of criteria be used?

- An alternative must meet the threshold criteria in order to be selected; these requirements are taken directly from CERCLA and cannot be compromised.

- The balancing and modifying criteria were developed to encompass other CERCLA requirements. One requirement is to use permanent solutions and treatment to the maximum extent practicable. By including practicability, Congress appeared to acknowledge that not all of the waste at a site may be treated and that judgments would be required on whether or to what extent permanent solutions and treatment would be used (and the extent to which waste is left on-site). EPA believes that these judgments are dependent upon site conditions and technological, economic and implementation constraints. By evaluating and comparing the alternatives by means of the balancing and modifying criteria, the decision-maker can make the site-specific judgments necessary to select the most appropriate approach.

- State and community concerns, encompassed by the modifying criteria, generally are considered in altering an otherwise viable approach rather than in deciding between very different approaches, e.g., treatment versus containment.

How does this process differ from the process outlined in the proposed NCP?

- The 1990 NCP process has been revised from what was proposed in order to encourage selection of more treatment remedies (and to comply with the CERCLA preference for remedies that employ treatment as a principal element). The two criteria of "long-term effectiveness and permanence" and "reduction of toxicity, mobility or volume through treatment" are given the most weight in the balancing process.

- Also, the threshold, balancing, and modifying labels have been removed from the discussion of the nine evaluation criteria during the detailed analysis of alternatives. During the detailed analysis, each alternative approach should be evaluated using each of the nine criteria, without assigning greater weight to any of the criteria. The categories of criteria are now part of the remedy selection step.

What is the meaning of a "bias for action" stated in the NCP?

- Bias for action means that actions should be taken, as early as possible, when necessary or appropriate to achieve significant risk reduction quickly, when phased analysis and response is necessary or appropriate given the size or complexity of the site, or to expedite the completion of total site cleanup.

What is "streamlining?"

- Streamlining means tailoring site-specific data needs, the evaluation of alternatives, and the documentation of the selected remedy to reflect the scope and complexity of the specific site problems being addressed. For example, a streamlined RI/FS can be used when site problems are straightforward such that it would be inappropriate to develop a full range of alternatives.

To what extent does EPA intend to clean up ground water?

- The goal of EPA's Superfund ground-water approach is to return usable ground waters to their beneficial uses within

a timeframe that is reasonable, given the circumstances at the site.

- EPA intends to restore contaminated ground water that is a current or potential source of drinking water to levels that are safe for drinking. EPA intends to attain such levels throughout the contaminated plume, except directly below any waste that is left in place.

What is a "risk range" and how does it relate to selection of remedial actions?

- Contaminants that are considered carcinogenic are thought to pose a risk at any level of exposure. This risk may be small or large depending on the amount and duration of exposure and the type of carcinogen involved. When Superfund cannot entirely eliminate potential exposure to a carcinogen, it determines that a remedy protects human health when the amount of exposure is reduced so that the risk is very small, i.e., at an acceptable level.

- The 1990 NCP states that generally acceptable levels fall within a range of 10^{-4} to 10^{-6}. This means that an acceptable exposure is when the excess risk to an individual of contracting cancer due to a lifetime exposure to a certain concentration of a carcinogen falls between 10^{-4} to 10^{-6}.

- The proposed revisions to the NCP had included a risk range of 10^{-4} to 10^{-7}. The risk range for Superfund cleanups included in the final rule is consistent with the accepted de minimis level used by other EPA programs and other federal agencies. It also reflects currently available analytical and detection techniques.

What actions are interpreted to fall under the 10-year provision regarding the remediation of ground water?

- CERCLA section 104(c)(6) defines remedial action to include the operation of measures to restore contaminated ground or surface water for a period of up to 10 years after the commencement of operation of such measures. The practical effect is that federal funds will be used to pay 90 percent (or 50 percent for a publicly operated site) of the cost of ground or surface water restoration for up to 10 years. The state will pay the difference. This provision, however, does not apply:

-- To source control maintenance measures initiated to prevent contamination of ground or surface waters.

-- To ground or surface water measures initiated for the primary purpose of providing a drinking water supply, not for the purpose of restoring ground water.

How does EPA define "on-site" for purposes of the CERCLA section 121(e) exemption from obtaining federal, state, or local permits for activities conducted entirely on-site?

- EPA defines "on-site" as the "areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." Flexibility in defining "on-site" is necessary in order to provide expeditious response to site hazards.

What are the requirements for deleting sites from the NPL?

- Sites may be deleted from or recategorized on the NPL where no further response is appropriate and any of the following criteria has been met:

  -- Responsible parties or other persons have implemented all appropriate response actions required.

  -- All appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate.

  -- The remedial investigation has shown that the release poses no significant threat to public health or the environment and, therefore, taking of remedial measures is not appropriate.

- EPA must obtain state concurrence in order to delete a site from the NPL. Also, EPA must provide the opportunity for public comment on a proposed deletion.

What is the "Construction Completion" category.

- EPA has established a new "category" as part of the NPL, the "Construction Completion" category. Sites may be categorized as "construction complete" only after remedies have been implemented and are operating properly. These may be:

-- Sites awaiting deletion.

-- Sites awaiting five-year review and/or deletion (see next question on five-year reviews).

-- Sites undergoing long-term remedial actions (LTRAs). LTRAs are taken at sites where activities over a relatively long duration are necessary in order to attain cleanup levels identified in the ROD (e.g., pump and treat of ground water for many years).

How does EPA ensure that sites remain safe after the remedial action has been completed?

- The NCP requires a review of a site where waste is left behind at least once every five years to ensure that the site remains safe. No site will be deleted from the National Priorities List (NPL) after completion of the cleanup until at least one five-year review has been conducted.

What contractor conflict of interest requirements are in the 1990 NCP?

- For Fund-financed remedial design/remedial action (RD/RA) and operation and maintenance (O&M) activities, the NCP requires the lead agency to include appropriate language in solicitations requiring potential prime contractors to submit information about their status, as well as the status of their subcontractors, parent companies, and affiliates, as potentially responsible parties at a site.

- Prior to contract award, the lead agency must evaluate the information to determine if a conflict of interest exists that could significantly impact the performance of the contract or the liability of the prime contractors or subcontractors.

- The purpose of this evaluation is to decide whether more oversight of the performance of the contract is appropriate or whether a contractor has an unresolvable conflict of interest such that it should be declared nonresponsible or ineligible for contract award.

DEFERRAL POLICIES

The preamble to the proposed NCP solicited public comment on the possible expansion of the Agency's policy for deferring the listing of sites on the National Priorities List for response under other authorities. What was EPA's decision on expanding the policy?

- EPA decided not to establish an expanded deferral policy at this time. EPA is still evaluating the complex issues involved and believes that any changes in this policy are best decided within the context of CERCLA reauthorization. Current policies with regard to what sites are appropriate for inclusion on the NPL will remain in effect.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

What are applicable requirements?

- Applicable requirements are cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site.

What are relevant and appropriate requirements?

- Relevant and appropriate requirements are cleanup standards, etc. that, while not applicable, address problems or situations sufficiently similar to those encountered at a CERCLA site that their use is well-suited to the particular site.

How does the 1990 NCP change the role of ARARs?

- Prior to the 1986 amendments, EPA required compliance with all federal ARARs, but only consideration of state requirements. The 1990 NCP incorporates the new statutory requirement that remedies must comply not only with ARARs under federal laws, but also with promulgated standards, requirements, criteria, or limitations under state environmental or facility siting laws that are more stringent than corresponding federal standards. The 1990 NCP defines "promulgated" state requirements as those laws

or regulations that are of general applicability and are legally enforceable.

- The 1990 NCP provides that the lead and support agency identify their respective federal and state ARARs in a timely manner. "Timely manner" is defined in Subpart F as sufficient time for the lead agency to consider and incorporate ARARs into the remedy selection process without inordinate delays and duplication of effort.

- The 1986 amendments establish six limited exceptions or waivers to the general mandate that remedial actions attain all ARARs. The NCP specifies the six waivers:

  -- The alternative is an interim measure and will become part of a total remedial action that will attain ARARs.

  -- Compliance with ARARs will result in greater risk to human health and the environment than other alternatives.

  -- Compliance with ARARs is technically impracticable from an engineering perspective.

  -- Another alternative that does not comply with the ARAR will result in an equivalent standard of performance.

  -- The state ARAR has not been consistently applied in similar circumstances.

  -- Attainment of ARARs will not provide a balance between the need for protection of human health and environment at the site and the availability of Fund monies to respond to other sites. The preamble to the 1990 NCP suggests a threshold for routine consideration of this waiver at four times the average cost of an operable unit.

Can non-promulgated criteria, such as advisory levels or guidance, be considered when determining cleanup standards?

- Criteria, advisories, or guidance that do not meet the definition of ARARs but that may assist in determining what is necessary to be protective or that are otherwise useful in developing Superfund remedies are described as information to-be-considered (TBC). Three general categories of TBCs are: (1) health effects information with a high degree of creditability, e.g., reference doses; (2) technical information on how to perform or evaluate site

investigations or response actions; and (3) policy, e.g., EPA's ground-water policy.

- The proposed NCP's description of TBCs was revised in the 1990 NCP to emphasize that they should be used on an "as appropriate" basis and that TBCs are intended to complement use of ARARs, not to be in competition with ARARs.

When are MCLs or MCLGs considered relevant and appropriate in the selection of ground-water restoration levels?

- Maximum contaminant levels (MCLs) are enforceable standards under the Safe Drinking Water Act for specific contaminants in public water supplies. Maximum contaminant level goals (MCLGs) are non-enforceable goals on which MCLs are based.

- Consistent with CERCLA's direction to use maximum contaminant level goals (MCLGs) as cleanup levels, the NCP states that ground water that is or could be used for drinking generally will be restored to MCLGs that are above zero. When the MCLG equals zero (generally for carcinogens), the corresponding maximum contaminant level (MCLs) generally will be used as the cleanup level.

- The NCP explains that a cleanup level of zero is not appropriate for Superfund because CERCLA does not require the complete elimination of risk and because it is impossible to detect whether "true" zero has actually been attained.

- The proposed NCP had stated that MCLs generally will be used as the cleanup level and stated that MCLGs would be used only in cases where multiple contaminants or pathways posed a risk in excess of 10^{-4}.

Has the role of ARARs changed significantly in going from proposed to final revisions?

- The role of ARARs in the 1990 NCP is essentially the same as in the proposed rule. New language was added to the rule, however, to clarify that requirements that are promulgated or modified after the ROD is signed will be attained only when determined to be ARAR and necessary to ensure that the remedy protects human health and the environment.

- The preamble to the 1990 NCP also states that best demonstrated available technology (BDAT) standards under the

RCRA land disposal restrictions (LDR) generally will not be appropriate for contaminated soil and debris at a Superfund site. This revised policy will allow Superfund sites to attain alternative levels of cleanup to those required by the BDAT standards.

COMMUNITY RELATIONS AND ADMINISTRATIVE RECORD

What community relations activities are specified in the 1990 NCP?

- In the 1985 NCP, all community relations requirements were set forth in section 300.67. In the 1990 NCP, community relations requirements are incorporated into each of the sections relating to the different phases of response, i.e., removal actions, remedial investigation and feasibility study (RI/FS) and selection of remedy, and remedial design and remedial action (RD/RA). Further, in the 1990 NCP, new community relations requirements are added to implement 1986 CERCLA requirements under sections 113 (administrative record) and 117 (public participation).

1. Removal Actions

What are the administrative record and public participation requirements for removal actions?

- These requirements depend upon the type of removal action conducted. The three categories of removal actions are:

  -- Emergency, which generally refers to a release or threat of release that requires that removal activities begin on site within hours of the lead agency's determination that a removal action is appropriate.

  -- Time-critical, where based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a period of less than six months available before removal activities must begin on site.

  -- Non-time-critical, where based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a planning period of more than six months before on-site removal activities must begin.

What are the primary public participation requirements that apply to all types of removal actions?

- The lead agency shall designate a spokesperson to provide information and to respond to inquiries regarding the action.

What are the primary administrative record and public participation requirements that apply to: (1) emergency and (2) time-critical removal actions? ("New" indicates a requirement not stated in the 1985 NCP):

- (New) The administrative record shall be made available to the public no later than 60 days after initiation of on-site removal activities. The notice of availability shall be published in a major local newspaper of general circulation. The record shall be available at the office of the lead agency or other central location and at or near the site. The record for emergency cleanups lasting less than 30 days need only be available at the central location.

- (New) The lead agency shall, as appropriate, provide a 30-day public comment period to begin at the time the administrative record is made available to the public and respond to comments received.

What are the primary administrative record and public participation requirements that apply to: (1) all non-time-critical actions and (2) time-critical actions where on-site removal activities are expected to last longer than 120 calendar days?

- (New) Conduct interviews with state and local officials, residents, public interest groups, or other interested or affected parties, as appropriate.

- Develop a community relations plan specifying the community relations activities that the lead agency expects to undertake.

- (New) Establish at least one information repository at or near the site to contain items made available for public inspection. The administrative record shall be available in at least one of the repositories.

What additional administrative record and public participation requirements apply to non-time-critical actions?

- (New) Publish a notice of availability and brief description of the decision document, i.e., the engineering evaluation/cost analysis (EE/CA).
- (New) At the same time, make the administrative record available for public inspection.
- (New) Provide a public comment period on the EE/CA and the administrative record of not less than 30 days after the EE/CA is made available. Upon timely request, the lead agency will extend the comment period by a minimum of 15 days.
- (New) Prepare a written response to significant comments.

2. Remedial Actions

What are the primary administrative record and public participation requirements for remedial actions?

- (New) Conduct interviews with state and local officials, residents, public interest groups, or other interested or affected parties, as appropriate.
- Develop a community relations plan (CRP) specifying the community relations activities that the lead agency expects to undertake.
  - -- In a revision to the proposed NCP, the 1990 NCP more clearly states that the purpose of developing the CRP is to provide the public opportunities to participate in decision-making at the site and to learn about the site.
- (New) Establish information repositories at a central location and at or near the site and inform the public of its availability.
- (New) Inform the community of the availability of technical assistance grants.
- (New) Make the administrative record available for public inspection when the remedial investigation (RI) starts (generally when the RI/FS workplan is available) and publish a notice of availability.

- (New) Prepare a proposed plan that briefly describes the remedial alternatives analyzed, proposes a preferred remedial action alternative, and summarizes the information relied upon to select the preferred alternative.

- (New) Publish a notice of availability of the proposed plan and RI/FS in a newspaper of general circulation.

- (New) Make the proposed plan and supporting analyses and information available in the administrative record.

- (New) Provide a comment period of not less than 30 days for submission of written and oral comments (comment period in the 1985 NCP is 21 days).

  -- In a change from the proposed NCP, the 1990 NCP states that, upon timely request, the comment period may be extended a minimum of 30 days.

- Provide the opportunity for a public meeting during the public comment period.

- (New) Keep a transcript of the public meeting.

- Prepare a response to comments, to be a part of the record of decision (ROD).

- (New) Include in the ROD a discussion of any significant changes from the proposed plan with respect to scope, performance, or cost.

- (New) Solicit additional public comment on a revised proposed plan if the significant changes from the proposed plan could not have been reasonably anticipated based on existing information.

- (New) Publish a notice of availability of the ROD and make the ROD available for public inspection and copying.

- (New) Prior to remedial design, review the community relations plan and, when appropriate, revise the community relations plan to describe public involvement opportunities during remedial design/remedial action.

- (New) If, after adoption of the ROD, the remedial action differs significantly from the ROD with respect to scope, performance, or cost, publish and make available an explanation of significant differences. If the changes fundamentally alter the ROD, propose an amendment to the ROD, issue a public notice, solicit public comment, and

comply with other community relations requirements, such as public meetings, transcripts, comment response summaries, etc.

- (New) Issue a final engineering design fact sheet and provide, as appropriate, a public briefing prior to the initiation of the remedial action.

How does a significant change to a remedy differ from a fundamental change?

- Significant changes are generally incremental changes to a component of a remedy that do not fundamentally alter the overall remedial approach selected in the ROD (e.g., compliance with a newly promulgated requirement so that the remedy remain protective but that does not change the selected technology). A significant change requires an explanation of significant differences. Fundamental changes alter the ROD with respect to scope, performance, or cost in such a manner that the proposed action, is no longer reflective of the selected remedy in the ROD (e.g., a change from an innovative technology to a more conventional one). Fundamental changes require ROD amendments.

What changes were made in response to public comments on the proposed NCP's community relations requirements?

- The purpose of developing the community relations plan is to provide the public opportunities to participate in decision-making at the site and to learn about the site.

- Upon timely request, the public comment period will be extended a minimum of 30 days for remedial actions. For non-time critical removal actions, the comment period will be extended a minimum of 15 days, upon timely request.

- Prior to remedial design, the lead agency is <u>required</u> to review the CRP to determine if it should be revised. The proposed NCP provided for revision of the CRP in cases where community concerns were not already addressed.

- Before initiation of remedial action, a fact sheet on the final engineering design will be distributed and an opportunity for a public briefing will be provided, as appropriate.

- The preamble to the 1990 NCP describes other public

participation activities in addition to the minimum requirements that may be implemented at a site.

What is a technical assistance grant (TAG)?

- SARA section 117(e) provides that technical assistance grants of up to $50,000 may be made available to community groups that may be affected by a release or threatened release at a site listed on the NPL. The grants must be used to obtain assistance in interpreting technical material related to site cleanups.

What changes were made in the 1990 NCP in response to public comments about TAGs?

- The 1990 NCP requires the community to be informed of the availability of TAGs and that information about the TAG application process be placed in the information repository located at or near the site.

ADMINISTRATIVE RECORD REQUIREMENTS

What is the purpose of the administrative record?

- The two primary purposes of the record are to:
  - -- Serve as the record for judicial review concerning the adequacy of a response action.
  - -- Provide interested parties, including potentially responsible parties (PRPs), an opportunity to participate in selection of the response through review of and comment on documents in the record.

What documents typically are included in the administrative record?

- All documents which form the basis for the selection of a response action. Such documents typically include: factual information/data; analysis of factual information; policy and guidance documents; public participation documents, including public comments; decision documents and responses to public comments; and some enforcement documents.

Where must the administrative record be located and how will the public be notified of its availability?

- The record must be located at or near the site (in an information repository) and at an office of the lead agency or another central location. The record need not be available at or near the site, however, for emergency removal actions that are concluded within 30 days of initiation.

- Certain information need not be located at or near the site where it would pose a substantial administrative burden, e.g., sampling and testing data, guidance documents not generated specifically for the site, publicly available technical literature. The index to the record, however, shall indicate the availability of such items.

- The availability of the record must be announced in a major local newspaper of general circulation.

What documents may be added to the administrative record after the ROD is signed?

- Documents relating to remedy selection issues that the ROD reserves or does not address, explanations of significant differences, and ROD amendments.

How does the administrative record differ from the information repository?

- Information repositories include documents that relate to a Superfund site and to the Superfund program in general, such as documents on site activities, information about the site location, and background program and policy guides. The administrative record is the body of documents that forms the basis of the Agency's selection of a particular response at a site, such as site-specific data and public comments. Documents in the administrative record may overlap with those found in the information repository.

STATE INVOLVEMENT

Which NCP requirements apply to state-lead response actions?

- The NCP applies to federal agencies and states that take response actions pursuant to the authorities under CERCLA and section 311 of the Clean Water Act.

How does the 1990 NCP implement the new CERCLA requirement to provide for substantial and meaningful state involvement in remedial planning and remedial actions?

- The 1990 NCP introduces the Superfund Memorandum of Agreement (SMOA) and the process of EPA/state concurrence in remedy selection. SMOAs are voluntary agreements that are intended to ensure equitable relationships between EPA and states and to reduce misunderstandings by clarifying the expectations of both parties. The SMOA may be used to establish the general framework for the EPA/state working relationship, to define the roles and responsibilities of the lead and support agencies, and to provide general requirements for EPA oversight.

- The NCP provides that the state may be the lead agency for a Fund-financed site. This allows the state to conduct the investigation and analysis leading up to selecting the remedy. The state may also conduct the remedial design/remedial action phases of the response.

- The process of concurrence, which reflects the evolution of the EPA/state partnership in recent years, enables a state that demonstrates certain capabilities to prepare the proposed plan and recommend the remedy for EPA adoption for Fund-financed actions. EPA retains the authority to select Fund-financed remedies and sign the record of decision (ROD), with the state's concurrence.

  -- Also under the concept of concurrence, a state will select the remedy and may request EPA concurrence for state enforcement actions <u>not</u> using the Superfund (i.e., non-Fund-financed actions).

  -- One advantage to concurrence by EPA and a state on a remedy is that it results in a unified position when EPA and the state negotiate with PRPs.

- A state may recommend a remedy for EPA concurrence even when no SMOA is established. EPA anticipates that the concurrence process will increase EPA involvement in state enforcement actions and provide for greater state involvement in the selection of remedial actions at Fund-financed sites.

What happens if a SMOA is not established?

- The 1990 NCP sets forth minimum requirements in the absence of a SMOA regarding annual EPA/state consultations, review by the support agency of lead agency documents, and identification of ARARs.

FEDERAL FACILITIES

Which NCP requirements apply to federal facility response actions?

- Requirements of the NCP apply to federal agency response actions at NPL and non-NPL sites, except where specifically noted that the requirements apply only to Fund-financed activities. The requirement for joint selection of remedy by a federal agency and EPA applies only at NPL sites.

- Subpart K of the 1990 NCP is specifically reserved for federal facilities. EPA is currently drafting Subpart K, which will provide a roadmap of the NCP requirements that apply to federal facility response actions.

SECTION V

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

CERCLA COMPLIANCE WITH OTHER LAWS MANUAL -- GUIDE TO MANUAL

United States Environmental Protection Agency

Office of Solid Waste and Emergency Response

Directive 9234.2-02FS
September 1989

EPA

CERCLA Compliance with Other Laws Manual

GUIDE TO MANUAL

The 1986 Superfund Amendments and Reauthorization Act (SARA) adopts and expands a provision in the 1985 National Contingency Plan (NCP) that remedial actions must at least attain applicable or relevant and appropriate requirements (ARARs). Section 121(d) of CERCLA, as amended by SARA, requires attainment of Federal ARARs and of State ARARs in State environmental or facility siting laws when the State requirements are promulgated, more stringent than Federal laws, and identified by the State in a timely manner. Under EPA regulation and policy, removal actions must comply with ARARs to the extent practicable.

To implement the ARARs provision, EPA has developed guidance, CERCLA Compliance with Other Laws Manual: Parts I and II (OSWER Directives 9234.1-01 and 9234.1-02, respectively). EPA is preparing a series of short fact sheets that summarize the guidance document (OSWER Directives 9234.2 series). This Fact Sheet provides a guide to the compliance manual. The compliance manual is based on policies set forth in the proposed December 21, 1988 revisions to the NCP. The final NCP may adopt policies different from those covered here and should, when promulgated, be considered the authoritative source.

I. PURPOSE OF MANUAL

The CERCLA Compliance with Other Laws Manual is intended to assist in the identification and evaluation of ARARs for removal and remedial actions. The manual provides guidance to Remedial Project Managers, On-Scene Coordinators, State personnel, and others responsible for or assisting in response actions under sections 104, 106, and 122 of CERCLA. The manual is also intended to assist in the selection of on-site remedial actions that meet the ARARs of the Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Clean Air Act (CAA), the Toxic Substances Control Act (TSCA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and other Federal and State environmental laws, as required by CERCLA section 121. In general, different ARARs for a site and its remedial action will be identified at various points in the remedy selection process.

II. DEFINITIONS OF ARARS

A requirement under other environmental laws may be either "applicable" or "relevant and appropriate," but not both. Identification of ARARs must be done on a site-specific basis and involves a two-part analysis: first, a determination of whether a given requirement is applicable; then, if it is not applicable, a determination of whether it is nevertheless both relevant and appropriate.

DEFINITIONS:

- **Applicable requirements** are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site.
- **Relevant and appropriate requirements** are those same standards mentioned above that while not "applicable" at the CERCLA site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site.

On-site actions are required to comply with ARARs, but must comply only with the substantive parts of an applicable or relevant and appropriate requirement. Off-site actions must comply only with legally applicable requirements, but must comply fully with both substantive and administrative requirements.

III. CONTENTS OF MANUAL

Part I describes general procedures for identifying ARARs and complying with ARARs in RCRA, CWA, SDWA, and ground-water policies. Part I is organized as follows:

- **Chapter 1, General Procedures for CERCLA Compliance with Other Statutes** - defines the terms "applicable" and "relevant and appropriate," describes general procedures for identifying and analyzing requirements, identifies waivers from ARARs, and provides matrices listing types of potential ARARs from RCRA, CWA, and SDWA.

- **Chapter 2, Guidance for CERCLA Compliance with RCRA** - discusses RCRA hazardous waste requirements and policies for determining when RCRA requirements are ARARs for CERCLA actions, including what actions at a CERCLA site constitute "disposal," as defined by RCRA.

- **Chapter 3, Guidance for Compliance with Clean Water Act Requirements** - provides guidance for compliance with CWA substantive requirements for direct discharges, indirect discharges, and dredge-and-fill activities.

- **Chapter 4, Guidance for Compliance with Requirements of the Safe Drinking Water Act** - provides guidance for compliance with SDWA requirements that may be ARARs, including drinking water standards and the requirements for underground injection control, sole-source aquifers, and the wellhead protection program.

- **Chapter 5, Ground Water Protection Policies** - discusses ground-water classification, provides guidance on consistency with policies for ground-water protection, and includes a hypothetical scenario for illustrating how ARARs are identified and used.

- Appendix A provides an overview of the major environmental statutes and regulations covered in Part I.

Part II of the manual describes general procedures for complying with ARARs in CAA, TSCA, FIFRA, other resource protection statutes, mining waste statutes, and State ARARS. Part II is organized as follows:

- **Chapter 1, Introduction and Overview** - provides an introduction and overview of Part II of the guidance manual and includes matrices of potential ARARs covered in Part II.

- **Chapter 2, Clean Air Act Requirements and Related RCRA and State Requirements** - provides guidance for compliance with CAA requirements (including the National Ambient Air Quality Standards, the National Emissions Standards for Hazardous Air Pollutants, and the New Source Performance Standards) and related RCRA and State requirements for air emissions.

- **Chapter 3, Standards for Toxics and Pesticides** - provides guidance for compliance with statutes (i.e., TSCA and FIFRA) that address toxic substances (particularly PCBs) and pesticides.

- **Chapter 4, Other Resource Protection Statutes** - provides guidance for compliance with other resource protection statutes, including the National Historic Preservation Act, the Archeological and Historic Preservation Act, the Endangered Species Act, the Wild and Scenic Rivers Act, the Fish and Wildlife Coordination Act, the Coastal Zone Management Act, and the Wilderness Act.

- **Chapter 5, Standards, Advisories, and Guidance for the Management of Radioactive Waste** - discusses potential ARARs and potentially useful guidance for cleaning up radioactively contaminated sites and buildings. Major acts discussed include the Uranium Mill Tailings Radiation Control Act, the Atomic Energy Act, the Nuclear Waste Policy Act, CAA, and CWA.

- **Chapter 6, Potential ARARs For CERCLA Actions at Mining, Milling, or Smelting Sites** - provides guidance for compliance with statutes incorporating standards for mining, milling, or smelting sites, including the Surface Mining Control and Reclamation Act and RCRA.

- **Chapter 7, CERCLA Compliance with State Requirements** discusses eligibility requirements for State programs, specific types of State laws (e.g., siting requirements), and procedures for communicating State ARARs.

- **Appendix A** provides guidance for compliance with CAA Part C requirements under the Prevention of Significant Deterioration program.

- **Appendix B** describes Federal/State relationships under major Federal environmental statutes, including whether the statute allows for State authorization of the program and whether the State provisions are identical or more stringent than the Federal requirements.

CERCLA COMPLIANCE WITH OTHER LAWS MANUAL
CERCLA COMPLIANCE WITH STATE REQUIREMENTS

United States Environmental Protection Agency

Office of Solid Waste and Emergency Response

Publication 9234.2-05/FS

December 1989

EPA

CERCLA Compliance With Other Laws Manual

CERCLA Compliance with State Requirements

Office of Emergency and Remedial Response
Office of Program Management OS-240

Quick Reference Fact Sheet

The 1986 Superfund Amendments and Reauthorization Act (SARA) adopts and expands a provision in the 1985 National Contingency Plan (NCP) that remedial actions must at least attain applicable or relevant and appropriate requirements (ARARs). Section 121(d) of CERCLA, as amended by SARA, requires attainment of Federal ARARs and of State ARARs in State environmental or facility siting laws when the State requirements are promulgated, more stringent than Federal laws, and identified by the State in a timely manner.

To implement the ARARs provision, EPA has developed guidance, CERCLA Compliance With Other Laws Manual: Parts I and II (Publications 9234.1-01 and 9234.1-02). EPA is preparing a series of short fact sheets that summarize these guidance documents. This fact sheet provides a guide to Chapter 6 of Part II, which addresses CERCLA compliance with State requirements. The material covered here is based on SARA and on policies in the proposed revisions to the NCP. The final NCP may adopt policies different from those covered here and should, when promulgated, be considered the authoritative source.

I. INTRODUCTION TO STATE ARARs

Prior to SARA, the NCP classified all State requirements as criteria that EPA should consider when selecting a remedy. The amendments elevated to the level of potential ARARs any "promulgated" State requirements that are "more stringent" than Federal requirements (see **Highlight 1** for specific criteria).

Highlight 1: CRITERIA FOR A STATE REQUIREMENT TO QUALIFY AS AN ARAR

In order to qualify as a State ARAR, a State requirement should be:

- A State law;
- An environmental or facility siting law;
- Promulgated;
- More stringent than the Federal requirement;
- Identified in a timely manner; and
- Consistently applied.

State requirements, like Federal requirements, must also be substantive in nature to qualify as ARARs. Administrative or procedural State requirements are not ARARs. Elements of State ARARs are discussed below.

Generally, laws and regulations adopted at the State level, as distinguished from the regional, county, or local level, are considered to be State ARARs. Local laws in themselves are not ARARs. However, requirements that are developed by a local or regional body and are both adopted and legally enforceable by the State may be potential State ARARs. Potential State ARARs may also be found where local or regional boards have established standards that become part of a legally enforceable State "plan."

II. STATE ENVIRONMENTAL OR FACILITY SITING LAWS AS ARARs

Several common types of State statutes that may provide State ARARs are described below. Guidance on compliance with these requirements is provided.

A. State Siting Requirements (Location Standards)

State siting requirements may restrict the location of existing and expanding or new hazardous waste treatment, storage, and disposal (TSD) facilities (**Highlight 2** provides the triggers for State siting

requirements). Siting restrictions have generally been left to the States to implement. However, the Resource Conservation and Recovery Act (RCRA) contains limited siting provisions that restrict locations in fault zones, 100-year floodplains, salt dome and salt bed formations, and underground caves. As of 1987, 33 States had promulgated siting requirements that were more stringent than Federal requirements.[1]

Highlight 2: TRIGGERS FOR STATE SITING REQUIREMENTS

State siting requirements may be triggered as potential ARARs when:

- An existing hazardous waste site is in a restricted location, and a corresponding action is required (such as a removal, remediation, design, or modified care);
- A new hazardous waste unit is to be created in a restricted location; or
- A non-land-based unit is brought on-site.

The application of a State siting law to a Superfund action also depends upon the State's definition of a "new" or "existing" site. Because Superfund sites generally represent pre-existing (and unplanned) situations, State restrictions for new or operating facilities may not apply to Superfund sites.

State siting requirements are commonly found in State laws that address environmentally sensitive areas such as wetlands, endangered species habitats, gamelands, parks, preserves, and underground mining/subsidence areas. States also protect ground water and surface water through a variety of location standards such as: (1) prohibitions of facilities in certain locations; (2) quantitative setback distances from water supplies or other water bodies; (3) quantitative thickness or hydraulic conductivity in soil barriers; and (4) designation of acceptable soil or rock type for facility siting. Finally, buffer zones may also contain location standards ranging from specific setback distances to general statements that preclude interference with population areas.

B. Discharge of Toxic Pollutants to Surface Waters

The Clean Water Act (CWA) requires States to identify water bodies that may be adversely affected by toxic pollutants and to develop criteria to protect these areas. State toxic pollutant regulations are generally presented in the form of narrative goals rather than numeric criteria. For example, State narrative requirements may be expressed in terms predicated upon specific toxicity testing procedures or in terms of whole effluent toxicity limits. All substantive aspects of these narrative requirements may be ARARs for CERCLA discharges. In addition, general prohibitions on toxic pollutant discharges of known carcinogens may be State ARARs for on-site CERCLA discharges. All such State requirements should be examined for any exemptions of Federal activities.

C. Antidegradation Requirements for Surface Water

The CWA requires all States to adopt statutes or regulations that prevent the degradation of high-quality waters. In addition, States may have promulgated other antidegradation requirements for surface waters (see **Highlight 3** for typical State antidegradation requirements).

Highlight 3: TYPICAL STATE ANTIDEGRADATION REQUIREMENTS

Typical State antidegradation requirements will mandate the:

- Maintenance of existing in-stream designated beneficial uses;
- Maintenance of high-quality waters unless the State decides to allow limited degradation where economically or socially justifiable;
- Maintenance of the quality of Outstanding National Resource Waters (ONRW); and
- Use of best available technology for treatment of new or increased pollution into high-quality waters.

If a CERCLA remedial action involves a point-source discharge of treated effluent to high-quality surface waters, these various State antidegradation requirements may be ARARs for the discharge.

D. Antidegradation Requirements for Ground Water

Like antidegradation requirements for surface water, antidegradation requirements for ground water are generally prospective in nature and are designed to prevent further degradation of water quality. If a State has developed antidegradation requirements for ground water, CERCLA remedial actions involving injection of partially treated water into a pristine aquifer may be affected. These State requirements would not, however, require cleanup to the aquifer's original quality prior to contamination. However, there may be a State cleanup

[1] Temple, Barker, and Sloane, Inc., Review of State Hazardous Waste Facility Criteria, Revised Draft Final Report. U.S. EPA, Washington, DC, 1987.

law that specifically requires cleanup to background, which would constitute an ARAR for the remediation.

III. "PROMULGATED" LAWS AS ARARs

A State requirement must be promulgated to qualify as an ARAR. A State requirement is promulgated if it is: (1) legally enforceable; and (2) of general applicability (see **Highlight 4**).

Highlight 4: PROMULGATED STATE LAWS

- **Legal Enforceability:** State requirements may be legally enforceable in several ways. State statutes or regulations may either: (1) have their own specific enforcement provisions written into them; or (2) be enforced through the State's general legal authority.
- **General Applicability:** State requirements must apply to a broader universe than Superfund sites. For example, a State requirement having general applicability ("of general applicability") would apply to all hazardous waste sites in the State that meet the jurisdictional prerequisites of the requirement, not just to CERCLA sites.

Promulgated requirements are found in State statutes and regulations that have been adopted by authorized State agencies. Statute numbers, enactment dates, and effective dates may indicate whether the requirements have been promulgated. Such promulgated requirements may be either numerical or narrative in form.

A. Criteria That Are "To Be Considered" (TBCs)

Although they are not ARARs, State advisories, guidance and policies, etc., may help EPA define and develop protective remedies and interpret State laws. These State policies and guidance, known as "to be considered" (TBCs), are not potential ARARs because they are neither promulgated nor enforceable. It may be necessary to consult TBCs to interpret ARARs or to determine preliminary remediation goals when ARARs do not exist for particular contaminants. States should identify or communicate to EPA TBCs that they consider to be pertinent to the remedy.

B. Narrative Standards

Occasionally, a State may submit as an ARAR a narrative State statute. While narrative State statutes may be ARARs, unpromulgated methodologies that are designed to implement narrative statutes are not. EPA has discretion to determine whether numbers obtained from unpromulgated methodology should be met, or whether they constitute TBCs. It is important to note, however, that numbers derived from State narrative statutes may be ARARs if the narrative statute is an ARAR, and has implementing regulations that are also ARARs.

IV. "MORE STRINGENT" LAWS AS ARARs

CERCLA requires remedies to comply with State requirements that are more stringent than Federal requirements (see **Highlight 5** for a definition of "more stringent").

Highlight 5: CRITERIA FOR "MORE STRINGENT"

- State requirements are more stringent than Federal requirements if the State program has Federal authorization and the State requirements are "at least" as stringent.
- State programs that do not have a Federal counterpart are generally more stringent because they add new requirements.
- Stringency comparisons may be necessary if a State program is not Federally authorized but has a Federal counterpart.

It is important to note that EPA believes that if a State is authorized to implement a program in lieu of a Federal agency, State laws arising out of that program constitute the ARARs instead of the Federal authorizing legislation. A stringency comparison is unnecessary because State regulations under Federally authorized programs are considered to be Federal requirements.

V. IDENTIFYING AND COMMUNICATING STATE ARARs IN A TIMELY MANNER

CERCLA requires States to identify ARARs in a timely manner. As a result, EPA and a State may enter into a Superfund Memorandum of Agreement (SMOA) which, among other things, establishes a schedule for communicating ARARs. In the absence of a SMOA, States must identify ARARs within certain timeframes (identified below) in order for that identification to be considered "timely". EPA is not legally required to consider potential State ARARs that are not identified within these timeframes. The responsibilities of a State to communicate ARARs will vary depending upon its role at the site (see **Highlight 6** for State roles and responsibilities).

A. Critical Points for Identifying State ARARs

There are particular points in the preremedial and remedial processes during which the lead and support agencies must communicate with each other. SMOAs may identify timeframes for communicating potential ARARs. **Highlight 7** presents the critical points in the

Highlight 6: STATE ROLES AND RESPONSIBILITIES

As the support agency, the State is responsible for:

- Receiving and reviewing information about proposed Federal ARARs and TBCs, as early as site characterization;
- Coordinating State input on ARARs from all State agencies;
- Identifying State ARARs during the RI/FS;
- Justifying proposed State ARARs; and
- Reviewing ARARs identified in the proposed plan and ROD.

As the lead agency, the State is responsible for:

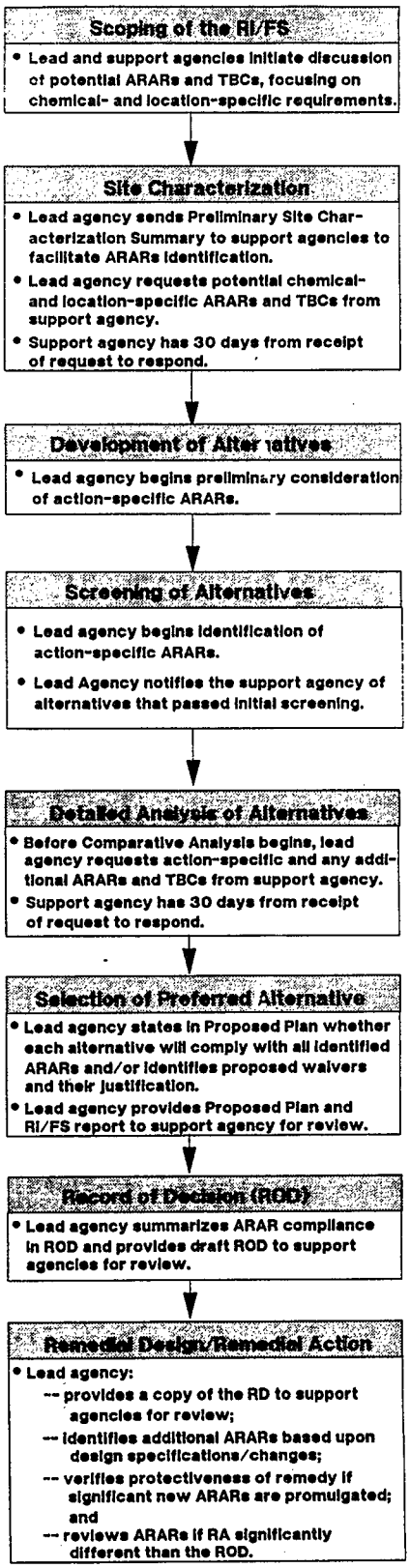
- Requesting EPA's identification of Federal ARARs;
- Identifying State ARARs during the RI/FS;
- Identifying ARARs and waivers in the proposed plan; and
- Documenting compliance with ARARs in the draft ROD.

pre-remedial and remedial processes if no SMOA exists, or if the SMOA fails to address such timeframes. It is important to note that regardless of their role, EPA and the States each have an unvarying responsibility. States are always responsible for identifying State ARARs and communicating them to EPA in a timely manner. EPA is always responsible for making the final determination on ARARs as part of remedy selection, regardless of who conducts the RI/FS (i.e., EPA, the State, or PRP), or who recommends the remedy (i.e., EPA or the State), except for State-lead non-Fund-financed sites.

B. EPA Responsibilities for Communicating Waivers

If EPA intends to waive any State-identified ARARs in its proposed plan, or does not agree with the State that a certain State standard is an ARAR, it must formally notify the State either: (1) when the Agency submits the RI/FS for State review; or (2) when the Agency responds to the State's submission of the RI/FS. In addition, EPA must respond to State comments on waivers from, or disagreements about, State ARARs after making the RI/FS and proposed plan available for public comment.

Highlight 7: CRITICAL POINTS FOR IDENTIFYING ARARS



C. State Responsibilities for Documenting State ARARs

To demonstrate that the State requirement is an ARAR, States are required by the NCP to provide citations to the statute or regulation number. In addition, States should provide the requirement's effective date and description of scope, where appropriate. Furthermore, States should provide evidence that the requirement is more stringent than the Federal requirement. Finally, States should also describe in writing the relationship between the State requirement and the site or action, to show that the State requirement is applicable or relevant and appropriate to that particular site or action.

VI. STATE STANDARD WAIVERS

A. Statutory Waivers

Of the six ARAR waivers set forth in CERCLA, one applies exclusively to State ARARs: inconsistent application of the State standard by the State. This waiver may be invoked when evidence exists that a State standard has not been or will not be consistently applied to both non-NPL and NPL sites within the State. The waiver may be used, for example, for a State standard that was promulgated but never applied, or for a standard that has been variably applied or enforced. A State standard is presumed to have been consistently applied unless there is evidence to the contrary.

B. State Waivers

In addition to the waivers provided by CERCLA, many State regulations have their own waivers or exceptions to their requirements. When a State requirement has a waiver that is applicable, the State requirement does not have to be met. EPA makes the final determination as part of the selection of remedy.

State waivers are common components of State siting requirements. Usually only temporary or emergency situations qualify for waivers of State siting requirements. Remedial actions at Superfund sites may qualify for State waivers depending upon their design and the particular waiver requirements. To determine if a remedial action qualifies for a State waiver, the State waiver provision should be examined for its duration, circumstances that justify its use, and any renewal provisions.

C. State-Wide Bans

Under CERCLA section 121(d), a State-wide ban prohibiting land disposal of hazardous substances is not an ARAR unless the following three criteria are met:

- The State requirement is of general applicability and was adopted by formal means;
- The State requirement was adopted on the basis of hydrologic, geologic, or other relevant considerations and was not adopted for the purpose of precluding on-site remedial actions or other land disposal for reasons unrelated to protection of human health and the environment; and
- The State arranges for, and assures payment of the incremental costs of, utilizing a facility for hazardous waste disposal.

CERCLA COMPLIANCE WITH OTHER LAWS MANUAL
OVERVIEW OF ARARs -- Focus on ARAR Waivers

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Publication 9234.2-03/FS
December 1989

EPA

CERCLA Compliance With Other Laws Manual

Overview of ARARs

Focus on ARAR Waivers

Office of Emergency and Remedial Response
Office of Program Management OS-240
Quick Reference Fact Sheet

The Superfund Amendments and Reauthorization Act of 1986 (SARA) adopts and expands a provision in the 1985 National Contingency Plan (NCP) that remedial actions must at least attain applicable or relevant and appropriate requirements (ARARs). Section 121(d) of CERCLA, as amended by SARA, requires attainment of Federal ARARs and of State ARARs in State environmental or facility siting laws when such requirements are promulgated, are more stringent than Federal laws, and are identified by the State in a timely manner.

To implement the ARARs provision, EPA has developed guidance, CERCLA Compliance With Other Laws Manual: Parts I and II (OSWER Directives 9234.1-01 and 9234.1-02). EPA is preparing a series of short fact sheets that summarize these guidance documents. This fact sheet summarizes Chapter 1 of Part I, which provides an overview of ARARs. The material covered here is based on policies in the proposed revisions to the NCP. The final NCP may adopt policies different from those covered here and should, when promulgated, be considered the authoritative source.

I. OVERVIEW OF ARARS

A. Statutory Provisions

CERCLA section 121(d)(2) states that for wastes left on-site, remedial actions must comply with Federal and State environmental laws that are legally applicable or are relevant and appropriate under the circumstances of the release. This section, in effect, codified and expanded on the 1985 NCP, which required compliance with Federal applicable or relevant and appropriate requirements (ARARs), a provision adopted to make use of other programs' or agencies' standards.

In addition, CERCLA requires Superfund remedial actions to comply with State environmental or facility siting laws provided that the State requirements: (1) are promulgated; (2) are more stringent than Federal laws; and (3) are identified by the State in a timely manner. CERCLA section 121(d) also mentions two criteria specifically -- Maximum Contaminant Level Goals (MCLGs) developed under the Safe Drinking Water Act (SDWA), and Water Quality Criteria (WQC) developed under the Clean Water Act (CWA) -- and requires that they be attained when they are relevant and appropriate (compliance with these criteria is discussed in a separate fact sheet). CERCLA also specifies six circumstances in which ARARs can be waived. The ARAR waivers are discussed in Part II of this fact sheet.

B. Compliance with ARARs for Removal Actions

Although CERCLA requires compliance with ARARs for remedial actions only, the current NCP requires that removal actions also comply with Federal ARARs, to the extent practicable. Furthermore, EPA policy under the proposed NCP requires that removal actions comply with both State and Federal ARARs to the extent practicable. Until this policy is promulgated by regulation, however, compliance with State ARARs during removal actions must be justified based upon protectiveness.

Factors used in determining whether removal compliance with ARARs is practicable include: (1) the urgency of the situation; and (2) the scope of the removal action to be conducted, which includes consideration of the statutory limits for removal actions. An example of a situation where compliance with ARARs is not practicable for a removal action would be a site where emergency conditions call for a rapid response, thereby preventing the on-scene coordinator from identifying and attaining ARARs. An ARAR that is beyond the scope of a removal to remediate top-level soil contamination due to leaking drums might be one that applies to lower-level soil remediation. Of course, such a standard may still be an ARAR for any remedial action that is subsequently taken at the site.

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C. Definitions of ARARs and TBCs

In the proposed revisions to the NCP (53 FR 51394), EPA clarified the definitions of "applicable" and "relevant and appropriate" requirements (see Highlight 1).

> **Highlight 1: DEFINITION OF "APPLICABLE" AND "RELEVANT AND APPROPRIATE" REQUIREMENTS**
>
> Applicable requirements are defined as "cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site."
>
> Relevant and appropriate requirements are defined as "substantive environmental protection requirements ... promulgated under Federal or State law that, while not "applicable", ... address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site."

1. Applicable Requirements

An applicable requirement directly and fully addresses the situation at the site. In other words, an applicable requirement is a substantive requirement that a private party would be subject to if it were undertaking the action independently from any CERCLA authority. For a requirement to be applicable, all jurisdictional prerequisites of the requirement must be met, including: (1) the party subject to the law; (2) the substances or activities that fall under the authority of the law; (3) the time period during which the law is in effect; and (4) the types of activities the statute or regulation requires, limits, or prohibits.

2. Relevant and Appropriate Requirements

While a determination of applicability is primarily a legal one, a determination of whether a requirement is relevant and appropriate is site-specific and is based on best professional judgment, taking into account the circumstances of the release or threatened release. This determination should be made in conjunction with pertinent national policies.

There is more flexibility and discretion in making relevant and appropriate determinations than in determining the applicability of a requirement. Only those requirements that are both relevant and appropriate are ARARs. A requirement may be relevant, but not appropriate, because of the site circumstances. Such a requirement would not be an ARAR for the site. Moreover, it is possible for only a portion of a requirement to be considered relevant and appropriate, while other parts may not. However, once a requirement (or part of a requirement) is found to be relevant and appropriate, it must be complied with to the same degree as if it were applicable.

In determining whether a requirement is both relevant and appropriate to the circumstances of the release, the following comparisons should be made:

- The purpose of the requirement and the purpose of the CERCLA action;
- The medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site;
- The substances regulated by the requirement and the substances found at the CERCLA site;
- The actions or activities regulated by the requirement and the remedial action contemplated at the CERCLA site;
- Any variances, waivers, or exemptions of the requirement and their availability for use given the circumstances at the CERCLA site;
- The type of place regulated and the type of place affected by the CERCLA site or CERCLA action;
- The type and size of the structure or facility regulated and the type and size of the structure or facility affected by the release or contemplated by the CERCLA action; and
- Any consideration of the use or potential use of affected resources in the requirement and the use or potential use of the affected resource at the CERCLA site.

A similarity to any one factor is not necessarily sufficient to determine that a requirement is relevant and appropriate. Nor does a requirement have to be similar to the site situation with respect to each factor in order for it to be relevant and appropriate.

3. TBCs

By definition, ARARs are promulgated, or legally enforceable Federal and State requirements. (Because CERCLA identifies them as potentially relevant and appropriate, MCLGs and WQC are considered potential ARARs, even though they are not otherwise enforceable standards.) EPA has also developed another category of requirements, known as "to be considered" (TBCs), that includes nonpromulgated criteria, advisories, guidance,

and proposed standards issued by Federal or State governments. TBCs are not potential ARARs because they are neither promulgated nor enforceable. It may be necessary to consult TBCs to interpret ARARs, or to determine preliminary remediation goals when ARARs do not exist for particular contaminants. However, identification and compliance with TBCs is not mandatory in the same way that it is for ARARs.

D. Types of ARARs

EPA has divided ARARs into three categories to facilitate their identification:

- **Chemical-specific ARARs** are usually health- or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in or discharged to the environment, e.g., MCLs that establish safe levels in drinking water.

- **Location-specific ARARs** restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of areas regulated under various Federal laws include floodplains, wetlands, and locations where endangered species or historically significant cultural resources are present.

- **Action-specific ARARs** are usually technology- or activity-based requirements or limitations on actions or conditions involving specific substances.

Chemical- and location-specific ARARs are identified early in the process, generally during the site investigation, while action-specific ARARs are usually identified during the Feasibility Study (FS) in the detailed analysis of alternatives.

E. Compliance with ARARs for On-site and Off-site Actions

The ARARs provision in CERCLA addresses only on-site actions (see **Highlight 2** for definition of on-site). In addition, section 121(e) exempts on-site actions from having to obtain Federal, State, and local permits. Consequently, the requirements under CERCLA for compliance with other laws differ for on-site and off-site actions, as follows:

- On-site actions must comply with applicable and relevant and appropriate requirements, but need comply only with the substantive parts of those requirements.

- Off-site actions must comply only with requirements that are legally applicable, but must comply with both substantive and administrative parts of those requirements.

(See **Highlight 3** for definitions of "substantive" and "administrative".) Compliance with "relevant and appropriate" requirements is not required for off-site actions.

Highlight 2: DEFINITION OF "ON-SITE"

"On-site" is defined in the proposed revisions to the NCP as the "areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." See 53 FR 51477 (December 21, 1988). "Areal extent of contamination" refers to both surface area, ground water beneath the site, and air above the site. Examples of on-site contamination and treatment units or staging areas separate from (but in "very close proximity to") the contamination include:

- A disposal site for treated wastes in a new landfill outside, but in close proximity to, a contaminated wetland;

- A point-source discharge into a river running through a site. The discharge point would be considered on-site, even if the discharge effluent ultimately runs off-site. The action would have to meet discharge limitations and monitoring requirements, but would not require an NPDES permit; and

- A pump-and-treat system located in the contamination plume several miles downgradient of the source. The ground-water treatment system is considered on-site.

Highlight 3: DEFINITIONS OF SUBSTANTIVE AND ADMINISTRATIVE REQUIREMENTS

- **Substantive requirements** are those requirements that pertain directly to actions or conditions in the environment. Examples include quantitative health or risk-based standards for certain hazardous substances (e.g., MCLs for drinking water), and technology-based standards (e.g., RCRA minimum technology requirements for double liners and leachate collection systems).

- **Administrative requirements** are those mechanisms that facilitate the implementation of the substantive requirements of a statute or regulation (e.g., requirements related to the approval of or consultation with administrative bodies, documentation, permit issuances, reporting, recordkeeping, and enforcement).

F. ARARs Documentation

ARARs considered for each alternative in the detailed analysis of alternatives should be documented in detail in the Remedial Investigation/Feasibility Study (RI/FS). The Proposed Plan and the ROD should summarize how the components of an alternative will comply with major ARARs, and should describe why the requirement is applicable or relevant and appropriate. The ROD should document ARARs as follows: (1) major ARARs should be discussed in the Description of Alternatives; (2) ARAR compliance should be summarized in the Summary of the Comparative Analysis; and (3) all ARARs selected for the remedy should be listed and briefly described in the Statutory Determinations section.

When an alternative is chosen that does not attain an ARAR, the basis for waiving the requirement must be fully documented and explained. TBCs referred to in the ROD should be listed and described briefly, as well as the reasons for their use. Generally, there is no need to document why a requirement is not an ARAR, although documentation should be provided for both ARARs and TBCs when the determination has been difficult or controversial. (See Guidance on Preparing Superfund Documents, [ROD Guidance] EPA-540/G-89/007, July 1989, and Guidance for Conducting RI/FSs Under CERCLA, EPA 540/G-89/004, October 1988, for further information.)

G. Policy on Newly Promulgated Requirements "Freezing" ARARs at the ROD

If a requirement that would be applicable or relevant and appropriate to the remedial action is promulgated after the Record of Decision (ROD) is signed and the ARARs for the selected remedy have already been established, the remedy will be evaluated in light of the new requirement to ensure that the remedy is still protective.

To the extent that the remedy remains protective in light of any new information reflected in the requirement, the original ARARs remain "frozen" at the ROD and nothing more needs to be done. However, if it is determined that the new requirement must be met in order for the remedy to be protective, the remedy must be modified to attain the requirement through an Explanation of Significant Differences (ESD) or ROD amendment. For example, a new requirement for a chemical at a site may indicate, through new scientific information on which it was based, that the cleanup level selected for the chemical corresponds to a cancer risk of 10^{-2} rather than 10^{-5}, as originally thought. The original remedy would have to be reevaluated in terms of the new requirement because it may no longer be protective.

II. FOCUS ON ARAR WAIVERS

CERCLA section 121(d) provides that, under certain circumstances, an ARAR may be waived. The six statutory waivers are provided in **Highlight Box 4** and are discussed more fully below. These waivers may not be used for off-site actions.

Highlight 4: STATUTORY ARAR WAIVERS

The six ARAR waivers provided by CERCLA are:

1. Interim Measures Waiver;
2. Equivalent Standard of Performance Waiver;
3. Greater Risk to Health and the Environment Waiver;
4. Technical Impracticability Waiver;
5. Inconsistent Application of State Standard Waiver; and
6. Fund-Balancing Waiver.

The Interim Measure waiver may be used when an interim measure that does not attain all ARARs is expected to be followed by a complete measure that will attain all ARARs (see **Highlight Box 5** for an example). The interim measure should not cause additional migration of contaminants, complicate the site response, or present an immediate threat to public health or the environment, and must not interfere with or delay the

Highlight 5: EXAMPLE OF INTERIM MEASURES WAIVER

At a mining site, interim measures were used to address drainage of contaminated water from a mine. The action involved passive treatment of mine tunnel discharges through construction of an artificial wetland, which would reduce contamination from the mine tunnel to the level of contamination present upstream. Since the discharge exceeded State ambient water quality standards for the stream, the standards were waived until the final remedy was implemented, which would address in-stream contamination.

final remedy. It should be noted, however, that if a requirement relates to some portion of the long-range site cleanup that is outside the scope of the immediate remedial action, it is not an ARAR for this action and a waiver is unnecessary.

The Equivalent Standard of Performance waiver may be used in situations where an ARAR stipulates use of a particular design or operating standard, but equivalent or better remedial results could be achieved using an alternative design or method of operation. In invoking this waiver, the alternative should be equal to or greater than the ARAR in terms of: (1) the degree of protection afforded; (2) the level of performance achieved; and (3) the potential to be protective in the future. The time required to achieve beneficial results using the alternative should be considered; however, the duration of the alternative should be balanced against other beneficial factors that may ensue from using the alternative. A technology-based requirement must be evaluated from a technology performance perspective, not from a risk perspective.

The Greater Risk to Health and the Environment waiver is available for situations where compliance with an ARAR will cause greater risk to human health and the environment than noncompliance. The more significant the risks, the longer they are in duration, and the more irreversible the harm from compliance with an ARAR, the more appropriate the use of this waiver (see **Highlight 6** for an example).

Highlight 6: EXAMPLE OF GREATER RISK TO HEALTH AND THE ENVIRONMENT WAIVER

A pump-and-treat system may be selected to remove ground water contamination from landfill releases. Analysis found that natural flushing through the landfill, after excavation of the highly contaminated waste, would facilitate cleanup of the ground water and remove residual contamination from the landfill. The waiver for greater risk was used to waive the applicable RCRA closure requirement for an impermeable cap, because such a cap would prevent natural flushing and would significantly delay and reduce the effectiveness of the ground water cleanup, and therefore the remedial action's effectiveness in reducing risk.

The Technical Impracticability waiver may be used when compliance with an ARAR is technically impracticable from an engineering perspective. The waiver can be used if either of two criteria are met: (1) engineering feasibility, in which current engineering methods necessary to construct and maintain an alternative that will meet the ARAR cannot reasonably be implemented; and (2) reliability, in which the potential for the alternative to continue to be protective into the future is low, either because the continued reliability of technical and institutional controls is doubtful, or because of inordinate maintenance costs. Use of the waiver may consider cost, although cost should not be the major factor (see **Highlight 7** for an example).

Highlight 7: EXAMPLE OF TECHNICAL IMPRACTICABILITY WAIVER

Ground water located in bedrock fractures and deep bedrock contained highly contaminated pockets of liquid waste along the fractures. MCLs were waived because their attainment was technically impracticable for several reasons, including: (1) difficulty in predicting the extent and location of fractures; (2) the inability to locate and extract all pockets of liquid waste; (3) excessive time frames for cleanup; and (4) the irregular nature of the fractures that made effective placement of extraction wells difficult.

The Inconsistent Application of State Standard waiver may be invoked when evidence exists that demonstrates that a State standard has not been or will not be consistently applied to other remedial sites within the State, including both NPL and non-NPL sites. A waiver may be used, for example, for a State standard that was promulgated but never applied, or for a standard that has been variably applied or enforced. A State standard is presumed to have been consistently applied unless there is evidence to the contrary.

The Fund-Balancing waiver may be invoked when meeting an ARAR would entail such cost in relation to the added degree of protection or reduction of risk afforded by that standard that remedial actions at other sites would be jeopardized. This waiver should be considered when the cost of attaining an ARAR is 20% of the annual remedial action budget or $100 million, whichever is greater (see **Highlight 8** for an example).

Highlight 8: EXAMPLE OF FUND-BALANCING WAIVER

The Fund-balancing waiver was invoked to waive compliance with State water quality standards because attaining these standards would have required removal and off-site disposal of more than 4 million cubic yards of contaminated ore, tailings, and bottom sediments in the streams and reservoir, at an estimated cost of $1.4 billion. At the time of ROD signature, the Fund had been nearly depleted, with remaining monies reserved for ongoing projects. The waiver allowed selection of a protective alternative of partial capping and surface water diversion, costing $72.2 million.

ARARs SHORT GUIDANCE QUARTERLY REPORT

United States
Environmental Protection
Agency

Office of
Solid Waste and
Emergency Response

Publication 9234.3-00I
December 1989

EPA

ARARs Short Guidance Quarterly Report

Office of Emergency and Remedial Response
Office of Program Management OS-240

Intermittent Bulletin
Volume 1 Number 1

The ARARs Short Guidance Quarterly Report provides an annotated description of all published short guidance on ARARs. Short guidance documents on ARARs include Fact Sheets, Q's & A's, Memoranda resolving ARARs issues, and the Guide to the CERCLA Compliance with Other Laws Manual. Each Quarterly Report is comprehensive to date, and each item below is final unless otherwise noted. The ARARs short guidance documents are designed to supplement, not supplant, the CERCLA Compliance with Other Laws Manual. This report will expressly note any ARARs short guidance that supercedes information provided in the CERCLA Compliance with Other Laws Manual. Single copies of all of these short guidance documents may be obtained by calling or writing the Superfund Docket and Information Center, U.S. EPA, OS-245, 401 M St. SW, Washington, DC 20460; (202) or FTS 382-6940. Copies of the CERCLA Compliance with Other Laws Manual (Part I -- EPA/540/G-89/006, Part II -- EPA/540/G-89/009) may be obtained from CERI, U.S. EPA, 26 West Martin Luther King Drive, Cincinnati, OH 45268; (513) 569-7562.

ARARs Q's and A's

Publication 9234.2-01/FS

May 1989 **4 pages**

The ARARs Q's & A's Fact Sheet (first in an expected series of Q's & A's) addresses seven general ARARs policy questions, such as: (1) the distinction between "applicable" and "relevant and appropriate" requirements; (2) whether ARARs that are not required for protectiveness have to be met; and (3) whether environmental resource laws such as the Endangered Species Act are potential ARARs. The Q's & A's also discusses three RCRA ARARs issues: (1) RCRA delisting when wastes remain on-site; (2) RCRA financial responsibility requirements as potential ARARs; and (3) the applicability of minimum technology requirements for existing hazardous waste pits closed before 1980. Finally, the Q's & A's addresses four ARARs questions arising from the Clean Water Act and the Safe Drinking Water Act; one question addresses ground-water antidegradation laws and three focus on MCLs and MCLGs.

Guide to Manual

Publication 9234.2-02/FS

September 1989 **2 pages**

The Guide to Manual Fact Sheet describes the overall purpose of the CERCLA Compliance with Other Laws Manual: Parts I and II. It also serves as a table of contents to the manual by describing the contents of each chapter of both parts of the manual.

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ARARs SHORT GUIDANCE QUARTERLY REPORT (cont'd)

RCRA ARARs: Focus on Closure Requirements

Publication 9234.2-04/FS

October 1989

5 pages

The RCRA ARARs Fact Sheet provides an overview of RCRA Subtitle C ARARs and describes when RCRA requirements are ARARs. The Fact Sheet also focuses on RCRA closure requirements, discussing when RCRA closure requirements are ARARs, and what the RCRA minimum technology requirements encompass. The elements and consequences of State authorization under RCRA are also summarized.

Superfund LDR Guide #1, Overview of RCRA LDRs

Publication 9347.3-01/FS

July 1989

4 pages

The LDR Overview Fact Sheet defines land disposal, describes the RCRA LDR statutory deadlines, and summarizes statutory waste categories. Other topics discussed include: types of LDR restrictions, LDR compliance options, and soil and debris wastes. Finally, it addresses other LDR requirements, including storage prohibitions, exemptions for treatment in surface impoundments, dilution prohibitions, and LDR testing, notification, and compliance certification requirements.

Superfund LDR Guide #2, Complying with the California List Restrictions under LDR

Publication 9347.3-02/FS

July 1989

2 pages

The LDR California List Restrictions Fact Sheet defines California List Wastes, describes the California List LDR restrictions, and summarizes the overlap between California List LDR restrictions and other treatment standards. The Fact Sheet also provides a chart that sets forth prohibition levels and treatment standards for California List Wastes.

ARARs SHORT GUIDANCE QUARTERLY REPORT (cont'd)

Superfund LDR Guide #3, Treatment Standards and Minimum Technology Requirements under LDR

Publication 9347.3-03/FS

July 1989 **4 pages**

The LDR Treatment Standards and Minimum Technology Requirements Fact Sheet describes the three types of treatment standards (concentration levels, specified technologies, and no land disposal) and discusses the two types of tests for evaluating compliance with LDR treatment standards (the Total Waste Analysis and the Toxicity Characteristic Leaching Procedure). The Fact Sheet also reviews treatment standards in effect for RCRA hazardous wastes, and explains minimum technology requirements that apply during a national capacity extension. Charts illustrate effective dates and LDR restrictions for Solvents and Dioxins, California List Wastes, and certain First Third Wastes.

Superfund LDR Guide #4, Complying with Hammer Restrictions under LDR

Publication 9347.3-04/FS

July 1989 **4 pages**

The LDR Hammer Restrictions Fact Sheet discusses soft hammer wastes, restrictions, and requirements for notifications, certifications, and demonstrations. Other topics include the overlap between California List Wastes, soft hammer wastes, and hard hammer wastes. The Fact Sheet also highlights soft hammer notification, certification, and demonstration requirements, hard hammer deadlines, and the process for identifying soft hammer waste restrictions.

Superfund LDR Guide #5, Determining when LDRs are Applicable

Publication 9347.3-05/FS

July 1989 **4 pages**

The LDR Applicability Fact Sheet addresses three questions: (1) Does the response constitute placement? (2) Is the CERCLA substance a RCRA hazardous waste? <u>and</u> (3) Is the RCRA waste restricted under the LDRs? In addition, the Fact Sheet provides examples of areas of contamination (AOCs), highlights LDR statutory deadlines, and illustrates the process of determining when LDRs are applicable requirements.

ARARs SHORT GUIDANCE QUARTERLY REPORT (cont'd)

Superfund LDR Guide #6A, Obtaining a Soil and Debris Treatability Variance for Remedial Actions

Publication 9347.3-06/FS

July 1989 — **6 pages**

The LDR Soil and Debris Treatability Variance Fact Sheet discusses the basis for a treatability variance, describes how to obtain a treatability variance for soil and debris wastes, and summarizes compliance with a treatability variance for soil and debris wastes. The Fact Sheet also highlights information to be included when documenting a soil and debris treatability variance in an RI/FS report for on-site and off-site CERCLA response actions. Sample language concerning treatability variances is provided for the Proposed Plan and Record of Decision (ROD). A chart illustrates alternate treatability variance levels and technologies established by EPA for structural/functional groups. The Fact Sheet also highlights stages in the RI/FS process when LDRs are evaluated, and the identification of treatment levels for a treatability variance.

Memorandum of Applicability of LDRs to RCRA and CERCLA GW Treatment Reinjection

Publication 9234.1-06

December 1989 — **5 pages**

This Memorandum establishes that LDR is not applicable to underground disposal of hazardous waste into Class IV injection wells during CERCLA response actions or RCRA corrective actions. The Memorandum explains that because LDR is not applicable, BDAT does not have to be met prior to each reinjection or at the completion of the action in a pump-and-treat reinjection remediation system. The Memorandum additionally explains why LDRs generally will not be relevant and appropriate requirements for CERCLA response actions that involve ground-water reinjection.

Overview of ARARs – Focus on ARAR Waivers

Publication 9234.2-03/FS

December 1989 — **5 pages**

The Overview ARARs Fact Sheet defines ARARs and To Be Considered (TBCs). It additionally focuses on ARARs waivers by describing each waiver and providing waiver examples. Other topics discussed include: (1) factors for identifying relevant and appropriate requirements; (2) "freezing" ARARs at the ROD; (3) compliance with ARARs for on-site versus off-site actions; (4) types of ARARs; and (5) ARARs documentation.

ARARs SHORT GUIDANCE QUARTERLY REPORT (cont'd)

CERCLA Compliance with State Requirements

Publication 9234.2-05/FS

December 1989

5 pages

The CERCLA Compliance with State Requirements Fact Sheet describes the statutory requirements for State ARARs and defines such terms as "promulgated" and "more stringent." The Fact Sheet additionally discusses policies with respect to the applicability of some typical State environmental or facility siting laws. It also discusses roles of lead and support agencies with respect to the identification of ARARs, and procedures to be followed when communicating ARARs.

United States
Environmental Protection
Agency

Office of
Solid Waste and
Emergency Response

Publication 9234.3-001
March 1990

EPA

ARARs Short Guidance Quarterly Report

Office of Emergency and Remedial Response
Office of Program Management OS-240

Intermittent Bulletin
Volume 1 Number 2

The ARARs Short Guidance Quarterly Reports provide an annotated description of all published short guidance on ARARs. Short guidance documents on ARARs include Fact Sheets, Q's & A's, Memoranda resolving ARARs issues, and the Guide to the CERCLA Compliance with Other Laws Manual. Each Quarterly Report is comprehensive within that quarter, and each item below is final unless otherwise noted. The ARARs short guidance documents are designed to supplement, not supplant, the CERCLA Compliance with Other Laws Manual. This report will expressly note any ARARs short guidance that supercedes information provided in the CERCLA Compliance with Other Laws Manual. Single copies of the previous Quarterly Report and these short guidance documents may be obtained by calling or writing the Superfund Docket and Information Center, U.S. EPA, OS-245, 401 M St. SW, Washington, DC 20460; (202) or FTS 382-6940. Copies of the CERCLA Compliance with Other Laws Manual (Part I – EPA/540/G-89/006, Part II – EPA/540/G-89/009) may be obtained from CERI, U.S. EPA, 26 West Martin Luther King Drive, Cincinnati, OH 45268; (513) 569-7562.

Superfund LDR Guide #7, Determining When LDRs are Relevant and Appropriate to CERCLA Response Actions

Publication 9347.3-08/FS

December 1989 **2 pages**

The LDR Relevant and Appropriate Fact Sheet discusses the four pertinent factors to compare when determining the relevance and appropriateness of LDRs: (1) the action or activities regulated by the requirement and the remedial action contemplated; (2) the purpose of the requirement and the purpose of the CERCLA response action; (3) the substances regulated by the requirement and the substances found at a CERCLA site; and (4) the medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site.

CERCLA Compliance With the CWA and SDWA

Publication 9234.2-06/FS

February 1989 **7 pages**

The CWA and SDWA Fact Sheet provides an overview of potential ARARs from the Clean Water Act for direct and indirect discharges to surface water, as well as dredge-and-fill requirements. This fact sheet also describes potential ARARs from the Safe Drinking Water Act such as MCLs, MCLGs, SMCLs, as well as substantive provisions from the Underground Injection Control program. In the final section, potentially conflicting ARARs concerning surface water from the CWA and SDWA are listed and resolutions are provided.

ARARs Q's & A's

United States
Environmental Protection Agency

Office of Solid Waste and
Emergency Response

OERR 9234.2-01FS
May 1989

Superfund Fact Sheet

EPA

ARARs Q's & A's

General Policy
RCRA
CWA
SDWA

#1

The 1986 Superfund Amendments and Reauthorization Act (SARA) adopts and expands a provision in the 1985 National Contingency Plan (NCP) that remedial actions must at least attain applicable or relevant and appropriate requirements (ARARs). In section 121(d), SARA requires attainment of Federal ARARs, and of State ARARs in State environmental or facility siting laws when the requirements are promulgated, more stringent than Federal laws, and identified by the State in a timely manner. Under EPA regulation and policy, removal actions must comply with ARARs to the extent practicable.

To implement the ARARs provision, EPA has developed guidance, the CERCLA Compliance With Other Laws Manual (OSWER Directive 9234.1-01), and has provided training to Regions and States on identification of and compliance with ARARs. These "ARARs Q's and A's" are part of a series that provide answers to a number of questions that arose in developing ARARs policies, in ARARs training sessions, and in identifying and complying with ARARs at specific sites. Responses covered here reflect current program practice and include policies and language from the proposed NCP. Changes resulting from finalizing the NCP following public comment may alter some policies or language quoted from the proposed NCP.

General Policy

DEFINITIONS OF "APPLICABLE" AND "RELEVANT AND APPROPRIATE"

"Applicable requirements mean those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site." [Proposed NCP, 53 FR 51435, December 21, 1988] In other words, an applicable requirement is one that a private party would have to comply with by law if the same action was being taken apart from CERCLA authority. All jurisdictional prerequisites of the requirement must be met in order for the requirement to be applicable.

If a requirement is not applicable, it still may be relevant and appropriate. **"Relevant and appropriate requirements mean those cleanup standards [that]... address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site."** [Proposed NCP, 53 FR 51436, December 21, 1988] A requirement that is relevant and appropriate may "miss" on one or more prerequisite but still make sense at the site, given the circumstances of the site and release.

Q1. What difference does it make if a requirement is "applicable" or "relevant and appropriate"? Why make that distinction?

A. While it is true that once a requirement is determined to be relevant and appropriate, it must be complied with as if it were applicable, there are significant differences in the identification and analysis of the two types of requirements. The "applicability" determination is a legal one, while the determination of "relevant and appropriate" relies on professional judgment, considering environmental and technical factors at the site. There is more flexibility in the relevance and appropriateness determination: a requirement may be "relevant," in that it covers situations similar to that at the site, but may not be "appropriate" to apply for various reasons, and therefore not well suited to the site. In some situations, only portions of a requirement or regulation may be judged relevant and appropriate; if a requirement is applicable, all substantive parts must be followed.

For example, if closure requirements under Subtitle C of RCRA are applicable (e.g., a landfill that received RCRA hazardous waste after 1980 or where the Superfund action constitutes disposal of hazardous waste), the landfill must be closed in compliance with one of the closure options available in Subtitle C regulations. These options are closure by removal (clean closure), which requires decontamination to health-based levels, or closure with waste in place (landfill closure), which requires impermeable caps and long-term maintenance.

However, if Subtitle C closure requirements are not applicable, then a "hybrid closure," which includes other types of closure designs, could also be used. The hybrid closure option arises from a determination that only certain closure requirements in the two Subtitle C closure alternatives are relevant and appropriate. (See proposed NCP, 53 FR

51446, for further discussion of RCRA closure requirements and the concept of hybrid closure.)

Q2. Does an applicable requirement take precedence over one that is relevant and appropriate? In other words, if an applicable requirement is available, will that be the ARAR, rather than one that might otherwise be relevant and appropriate?

A. No, a requirement may be relevant and appropriate even if another requirement legally applies to that situation, particularly when the applicable requirement is not really designed to address the type or magnitude of problems encountered at Superfund sites. For example, RCRA Subtitle D requirements for covers for solid waste facilities may be applicable when RCRA hazardous waste is not present at the site. However, the soil cover required under Subtitle D may not always be sufficient to limit leachate at a Superfund site with substantial amounts of waste similar to RCRA hazardous waste. In such a situation, some Subtitle C closure requirements may be relevant and appropriate to some parts of the site, even though Subtitle D requirements legally apply.

However, one factor that affects whether a requirement is relevant and appropriate is whether another requirement exists that more fully matches the circumstances at the site. In some cases, this might be a requirement that was directly intended for, and is applicable to, the particular situation. For example, Federal Water Quality Criteria will generally not be relevant and appropriate when there is an applicable State Water Quality Standard promulgated specifically for the pollutant and water body, which therefore "more fully matches" the situation.

Q3. Is compliance with ARARs required for a "no action" decision?

A. No. Section 121 cleanup standards, including compliance with ARARs, apply only to remedial actions the Agency determines should be taken under CERCLA Section 104 and 106 authority. A "no action" decision can only be made when no remedial action is necessary to reduce, control, or mitigate exposure because the site or portion of the site is already protective of human health and the environment. See Guidance on Preparing Superfund Decision Documents (OSWER Directive 9355.3-02) for further discussion of "no action" decisions.

Q4. Does an ARAR always have to be met, even if it is not necessary to ensure protectiveness?

A. Yes. Attainment of ARARs is a "threshold requirement" in SARA, as is the requirement that the remedies be protective of human health and the environment. If a requirement is applicable or relevant and appropriate, it must be met, unless one of the six waivers is used. ARARs represent the minimum that a remedy must attain; it may sometimes be necessary to go beyond what ARARs require to ensure that a remedy is protective.

ON-SITE VS. OFF-SITE ACTIONS

The requirements under CERCLA for compliance with other laws differ in two significant ways for on-site and off-site actions. **First, the ARARs provision only applies to on-site actions; off-site actions must comply fully only with any laws that legally apply to that action.** Therefore, off-site actions need only comply with "applicable" requirements, not with "relevant and appropriate" requirements; ARAR waivers are not available for requirements that apply to off-site actions.

Second, on-site actions must comply only with the substantive portions of a given requirement, or those that pertain directly to actions or conditions in the environment; on-site activities need not comply with administrative requirements, such as obtaining a permit or recordkeeping and reporting. **Off-site actions must comply with both substantive and administrative requirements.**

Q5. If wastes from non-contiguous sites are combined on one site for treatment, is the treatment viewed as off-site activity, and the unit therefore subject to permitting?

A. Sites may be combined for remedial action if it is cost-effective to do so and the following statutory criteria [CERCLA Section 104(d)(4)] are met: the sites must be geographically close or pose similar threats to public health and the environment. Combined remedies must also be cost-effective and should not result in any significant additional short-term impacts on public health and the environment. The combined remedial action constitutes on-site action, and compliance with permitting or other administrative requirements would not be required. (See OSWER Directive 9347.0-1 and 40 FR 37076, September 21, 1984)

Q6. Are environmental resource laws, such as the Endangered Species Act, the National Historic Preservation Act (NHPA), and the Wild and Scenic Rivers Act, potential ARARs for CERCLA actions?

A. Yes, requirements in these laws are potential ARARs. However, these laws frequently require consultation with and, under some laws, concurrence of other Agencies or groups, such as the Fish and Wildlife Service or the Advisory Council on Historic Preservation. Administrative requirements such as consultation or obtaining approval are not required for on-site actions. However, it is strongly recommended that the lead agency nevertheless consult with the administering agencies to ensure compliance with substantive requirements, e.g., the NHPA requirement that actions must avoid or minimize impacts on cultural resources.

Q7. Are environmental standards and requirements of Indian tribes potential ARARs?

A. Yes. Indian tribal requirements as potential ARARs for CERCLA actions taken on tribal lands are treated consistently with State requirements. Tribal requirements that meet the eligibility criteria for State ARARs, i.e., they are promulgated (legally enforceable and of general applicability) and more stringent than Federal requirements, are potential ARARs.

Resource Conservation and Recovery Act (RCRA)

Q8. How can RCRA listed waste be "delisted" when wastes will remain on-site?

A. If a listed waste is "delisted," it is no longer considered a "hazardous waste" and is subject to Subtitle D requirements for solid waste, rather than the more stringent Subtitle C requirements.

Only the substantive requirements for delisting a RCRA hazardous waste must be met for wastes that will remain on-site and will not be handled as hazardous. These are the standards in 40 CFR 260.22(a)(1) and (2), which state that a waste that "does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste" and for which there is no "reasonable basis to believe that factors (including other constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste" is 'delistable.' Administrative requirements, which include requirements to undergo a petition and rulemaking process and to develop and supply specific information, need not be met on-site.

Wastes containing constituents at health-based levels, assuming direct exposure, will meet the standards for delisting. Wastes with constituents at higher levels may also be delistable, since the RCRA delisting process allows fate and transport modeling, generally based on the waste being managed in a solid waste facility. The models used by the RCRA program for delisting should be used in determining whether constituent concentrations above health-based levels are delistable, e.g., for wastes that will be land disposed (See 50 FR 4886, November 27, 1985 and 51 FR 41082, November 13, 1986). The Assistance Branch in the Office of Solid Waste can also provide assistance and advice in delisting a waste.

The expectation that the waste will meet delisting levels should be documented in the RI/FS and the ROD and supported by information comparable to that required for delisting, as appropriate for the waste and site (see the guidance "Petitions to Delist Hazardous Waste," EPA 530-SW-85-003, April 1985). Generally, the constituent levels that must be achieved in order for the waste to be considered non-hazardous should be identified in the ROD. Unless treatability studies done during the RI/FS make delisting reasonably certain, the ROD should also address how the waste will be handled if it does not achieve delistable levels, based on full-scale treatability studies or actual performance of the remedy during RD/RA. If the waste cannot be delisted, an explanation of significant differences should be issued to notify the public that the contingency remedy will be implemented.

Q9. Are RCRA financial responsibility requirements potential ARARs for Superfund?

A. No, because they do not pertain directly to actions or conditions in the environment. Rather, the requirements support implementation of RCRA technical standards by ensuring that RCRA facility owners or operators have the financial resources available to address releases and comply with closure and post-closure requirements. CERCLA agreements with PRPs, and ultimately the Fund itself, achieve essentially the same purpose.

Q10. RCRA hazardous waste is placed into an existing pit that had received hazardous waste in the past, but is not subject to RCRA Subtitle C regulations because the pit closed before 1980. Would the minimum technology requirements (MTR) be applicable for the pit because it is a "new unit"?

A. No, the pit is not considered a "new unit." MTR will not apply when disposing of waste in an existing unit or area of contamination, although a lateral expansion of the unit would have to meet MTR. (Note: both new and existing surface impoundments are subject to MTR if they receive waste after November 1988. In addition, the land disposal restrictions (LDR) can trigger MTR indirectly. LDR restricts placement of a "soft hammer" waste and a restricted waste under a capacity variance to units in compliance with MTR. If such a waste is placed in the existing waste pit, the pit would have to comply with MTR, even though it is not a "new unit.")

Clean Water Act (CWA) Safe Drinking Water Act (SDWA)

Q11. Do antidegradation laws for ground water, increasingly common in State laws, mean that the aquifer must be restored to its original quality before contamination from the site occurred?

A. Generally, antidegradation laws are prospective and are intended to prevent further degradation of water quality. At a CERCLA site, therefore, a State ground water antidegradation law might preclude the injection of partially treated

water into a pristine aquifer. It would not, however, require cleanup to the aquifer's original quality prior to contamination, nor would it preclude reinjection of partially treated water back into the already contaminated portion of the aquifer, as long as the reinjection does not increase the existing level of contamination.

ARARS FOR GROUND WATER CLEANUP

MCLs promulgated under SDWA generally will be the relevant and appropriate standard for ground water that is or may be used for drinking, considering its use, value, and vulnerability as described in the EPA's Ground-water Protection Strategy (August 1984), e.g., for Class I and II aquifers.

Q12. There are some situations where an aquifer that is a current or potential drinking water source, treatable to MCLs at the tap, cannot be remediated to MCLs in the aquifer, e.g., where background levels of contaminants are above MCLs. Would MCLs still be relevant and appropriate?

A. The MCLs are generally relevant and appropriate for any aquifer that is a potential drinking water source. If the MCLs cannot be attained (e.g., because of complex hydrogeology due to fractured bedrock), an ARAR waiver for technical impracticability should be used. The same approach should be followed if attainment of MCLs is impracticable because background levels of chemicals subject to CERCLA authority (e.g., man-made chemicals) are higher than MCLs, and no area-wide remediation of the aquifer is feasible.

Q13. Many new MCLs will be promulgated or existing ones revised in upcoming years. Will new or revised MCLs, when promulgated, need to be incorporated into the remedy, possibly altering it? Should a proposed MCL be used as the remediation goal in the ROD?

A. Under EPA policy, if a new ARAR is promulgated after the ROD is signed, the remedy should be examined in light of the new requirement to ensure that the remedy is still protective. If the remedy is still protective, it would not have to be modified, even though it does not meet the new requirement.

Since MCLs often are a key component in defining protective remediation levels, new or revised MCLs may reveal that the remedy chosen is not protective. In such cases, the remedy would have to be modified accordingly. This could occur at any time after the ROD is signed — during remedial design, remedial action, or at the five-year review.

However, a new MCL will not always mean the remedy must be changed. If the existing remedy is still within the risk range, even considering the new MCL, the remedy would not have to be modified because the remedy is still protective. For example, if the new MCL represents a risk of 10^{-6}, while the selected remediation level results in a 10^{-5} risk, the remedy is still protective.

At some sites, however, a new MCL will require significant changes to the remedy, changes that can be very costly after implementation of the remedy has begun. Therefore, if a proposed MCL is available before the ROD is signed, the preferred remedy should be evaluated to determine how the MCL, if promulgated as proposed, would affect the remedy. Will the preferred remedy achieve the proposed MCL? Could the remedy achieve the proposed MCL with minor design modifications? Would the proposed MCL require significant changes, such as requiring remediation in ground water that is currently deemed fully protective because it meets all MCLs?

As a general rule, the proposed MCL should be used as a TBC to establish the remediation level in the ROD when the proposed MCL is more stringent than the existing one or regulates a new chemical (unless the MCL is controversial and therefore likely to change). This reflects the importance of MCLs in Superfund's determination of protectiveness and as a cleanup standard for the community. It also minimizes the need for later changes to the remedy when changes may be more difficult and costly to make.

Q14. If there are MCLs for some, but not all, of the significant contaminants at a site, should the 10^{-6} point of departure be used for all the contaminants, or should the MCLs be used where available and the remediation levels for the other contaminants adjusted accordingly?

A. Generally, the MCLs should be used to set the remediation levels when available, provided the MCLs cumulatively are within the risk range. The levels for other chemicals should be set to ensure that they do not significantly increase the total risk associated with the chemicals with MCLs and that the cumulative risk from all chemicals is within the risk range. The 10^{-6} point of departure is used when there are no MCLs or, when risks are summed, when the MCLs for the chemicals in the medium are not sufficiently protective under the circumstances.

For example, if the risk from chemicals with MCLs totals 1×10^{-5}, the remediation levels for the other chemicals should generally be set so that the total cumulative risk does not exceed that risk level. Final levels for the chemicals without MCLs may also be driven by the treatment necessary to attain the MCLs.

For some mixtures of chemicals, it may be necessary or more technically practicable to adjust the remediation levels even of those chemicals with MCLs to more stringent levels. Even in such cases, the final remediation levels cannot exceed the respective MCLs, since the MCLs are ARARs, and the total risk of all contaminants should be within the risk range to ensure the remedy is protective.

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Publication 9234.2-08/FS
May 1990

EPA

ARARs Q's & A's

Compliance With the Toxicity Characteristics Rule: Part I

Office of Emergency and Remedial Response
Office of Program Management OS-240
Quick Reference Fact Sheet

Section 121(d) of CERCLA, as amended by the 1986 Superfund Amendments and Reauthorization Act (SARA), requires that on-site remedial actions must at least attain (or justify a waiver of) Federal and more stringent State applicable and relevant and appropriate requirements (ARARs) upon completion of the remedial action. The 1990 National Contingency Plan (NCP) requires compliance with ARARs during remedial actions as well as at completion, and compels attainment of ARARs during removal actions, whenever practicable. See NCP, 55 FR 8666, 8843 (March 8, 1990) (to be codified at 40 CFR section 300.415(i)(1990)), and 55 FR 8666, 8852 (March 8, 1990) (to be codified at 40 CFR section 300.435(b)(2)(1990)).

To implement the ARARs provision, EPA has developed guidance, CERCLA Compliance With Other Laws Manual: Parts I and II (Publications 9234.1-01 and 9234.1-02), and has provided training to Regions and States on the identification of and compliance with ARARs. This "ARARs Q's and A's" is part of a series that provide guidance on a number of questions that arose in developing ARAR policies, in ARAR training sessions, and in identifying and complying with ARARs at specific sites. This particular Q's and A's Fact Sheet addresses compliance with the recently promulgated Toxicity Characteristics Rule (55 FR 11798 (March 29, 1990)).

Q1. How are wastes characterized as hazardous under RCRA?

A. RCRA Subtitle C requirements are applicable to CERCLA response actions if the waste is a RCRA hazardous waste, and either the waste was initially treated, stored, or disposed of after the effective date of the particular RCRA requirement, or the activity at the CERCLA site constitutes treatment, storage, or disposal, as defined by RCRA. RCRA uses the following two procedures to define wastes as hazardous: (1) the listing procedure, which involves identifying specific industrial or process wastes that pose hazards to human health and the environment; and (2) the hazardous characteristics procedure, which involves identifying properties or "characteristics" that, if exhibited by any waste, indicate a potential hazard if the waste is not properly controlled. See 40 CFR section 261.3(a)(2). The new Toxicity Characteristics (TC) rule concerns one of four characteristics that indicate a potential hazard (the others are ignitability, reactivity, and corrosivity). A waste is a TC waste if any of the chemicals listed in **Highlights 1 or 2** are found in the leachate at concentrations equal to or greater than their regulatory levels.

Highlight 1: NEW CHEMICALS REGULATED UNDER THE TC RULE AND THEIR LEACHATE REGULATORY LEVELS

Benzene	0.50	mg/l
Carbon tetrachloride	0.50	mg/l
Chlordane	0.03	mg/l
Chlorobenzene	100.0	mg/l
Chloroform	6.0	mg/l
m-Cresol	200.0	mg/l
o-Cresol	200.0	mg/l
p-Cresol	200.0	mg/l
1,4-Dichlorobenzene	7.5	mg/l
1,2-Dichloroethane	0.50	mg/l
1,1-Dichloroethylene	0.70	mg/l
2,4-Dinitrotoluene	0.13	mg/l
Heptachlor (and its hydroxide)	0.008	mg/l
Hexachlor-1,3-butadiene	0.5	mg/l
Hexachlorobenzene	0.13	mg/l
Hexachloroethane	3.0	mg/l
Methyl ethyl ketone	200.0	mg/l
Nitrobenzene	2.0	mg/l
Pentachlorophenol	100.0	mg/l*
Pyridine	5.0	mg/l
Tetrachloroethylene	0.7	mg/l
Trichloroethylene	0.5	mg/l
2,4,5-Trichlorophenol	400.0	mg/l
2,4,6-Trichlorophenol	2.0	mg/l
Vinyl chloride	0.20	mg/l

* interim regulatory level

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Q2. What are the major provisions of the new TC rule?

A. The final TC rule adds 25 organic chemicals to the list of waste constituents which, if present in waste at or above the regulatory levels set in the rule (see **Highlight 1**), make the waste a hazardous waste. These 25 chemicals have been added to the 8 metals and 6 pesticides on the existing list of TC waste constituents (see **Highlight 2**). The TC rule also announced that 13 additional chemicals may be added to the TC list after EPA establishes their regulatory levels. Finally, the new TC rule replaces the Extraction Procedures (EP) with another test for determining toxicity (for both the new and existing chemicals regulated for the characteristic of toxicity). The new test is called the Toxicity Characteristics Leaching Procedure (TCLP). The impetus behind the development of the TCLP was the need to identify those wastes that are likely to leach hazardous concentrations of organic compounds.

Note: To determine compliance with RCRA land disposal regulations, the EP is still available for wastes that are not considered wastewater (i.e., for soils and sludges that contain more than 1% total suspended solids) and that contain either any amount of lead, or arsenic when it is the primary hazardous constituent, i.e., the highest consituent concentration in the waste (see section 3(e)(8) of the final RCRA Third Third Rule, unpublished at the time of this printing).

Highlight 2: CHEMICALS ALREADY REGULATED FOR TOXICITY CHARACTERISTICS AND THEIR LEACHATE REGULATORY LEVELS

Arsenic	5.0	mg/l
Barium	100.0	mg/l
Cadmium	1.0	mg/l
Chromium	5.0	mg/l
Endrin	0.02	mg/l
Lead	5.0	mg/l
Lindane	0.4	mg/l
Mercury	0.2	mg/l
Methoxychlor	10.0	mg/l
Selenium	1.0	mg/l
Silver	5.0	mg/l
Toxaphene	0.5	mg/l
2,4-Dichloro-phenoxycetic acid	10.0	mg/l
2,4,5-Trichlorophenoxypropionic acid	1.0	mg/l

Q3. How does the new TC rule affect the regulatory levels of the potential TC wastes already regulated?

A. The regulatory levels of the eight metals and six pesticides remain the same (see **Highlight 2** for their levels). These constituents must now be tested using the TCLP to determine whether they exceed their regulatory levels. It is important to note that the EP and the TCLP may produce different results; wastes not hazardous under the EP may be hazardous under the TCLP.

Q4. How does the TCLP differ in approach from the EP in identifying the toxicity characteristic?

A. The primary differences between the TCLP and the EP are: (1) the TCLP uses two leaching media where the medium is determined by the pH of the waste (there is no continual pH adjustment); (2) the TCLP requires the waste to be ground or milled (there is no structural integrity procedure); (3) the TCLP requires a shorter extraction time (18 hours for the TCLP versus 24 hours for the EP); and (4) the TCLP is easier to run and the test results are more easily reproduced.

Q5. What is the current status of the TC rule as a potential ARAR for the Superfund program?

A. The TC rule was promulgated on March 29, 1990. It became a potential ARAR for all decision documents (i.e., RODs and action memoranda) signed after that date. For actions carried out during the interim period prior to the effective date (i.e., between March 29, 1990 and September 25, 1990), the TC rule would not be applicable, but may be relevant and appropriate.

Q6. How will the TC rule affect Superfund Records of Decision (RODs) that have already been signed?

A. The NCP states that ARARs "freeze" at the time of ROD signature. See 55 FR 8666, 8757, March 8, 1990, (to be codified at 40 CFR 300.430(f)(1)(ii)(B)). TC requirements were promulgated on March 29, 1990, and thus would not be ARARs for RODs signed before that date. For such RODs, the TC requirements are newly promulgated requirements, and thus should be attained only when EPA determines that these requirements must be met for the remedy to be protective. Newly promulgated or modified requirements like the TC rule will be considered during the 5-year review of the remedy, or sooner, if appropriate, to determine whether the remedy is still protective. Regions should review pre-TC rule RODs to ensure that any on-site disposition of wastes still meets the standard of protectiveness. (This issue will be discussed further in the forth-

coming TC implementation Fact Sheet.) If EPA determines during the remedy review that the TC requirements must be attained, a ROD amendment or Explanation of Significant Differences (ESD) should be issued. See 55 FR 8666, 8757 (March 8, 1990) (to be codified at 40 CFR 300.430(f)(1)(ii)(B)).

Q7. **What are some potential overall effects of the TC rule on the Superfund program?**

A. Wastes containing any of the newly-regulated chemical constituents in the TC rule may be subject to RCRA regulations based on the toxicity characteristic, regardless of the source of a particular waste or whether the waste is a RCRA listed waste. In addition, because the TC rule expands the list of potential TC wastes, the amount of wastes considered to be RCRA hazardous wastes at a CERCLA site will potentially expand. Once a waste is considered to be a RCRA *hazardous waste, other* RCRA requirements may be applicable or relevant and appropriate, such as closure, minimum technology, and the land disposal restrictions. In addition, remedial alternatives involving off-site shipment of TC wastes must involve Subtitle C facilities, rather than Subtitle D facilities.

NOTICE: The policies set out in this memorandum are intended solely as guidance. They are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this memorandum, or to act at variance with the guidance, based on an analysis of specific site circumstances. The Agency also reserves the right to change this guidance at any time without public notice.

In the near future, OERR will issue another Fact Sheet that discusses technical issues that may arise during the implementation of the TC rule at Superfund sites. The TC implementation Fact Sheet will be Part II to this ARARs Q's & A's Fact Sheet on the TC rule.

SECTION VI

REMOVAL ACTIONS UNDER SUPERFUND

CHAPTER II OF OWPE'S "ENFORCEMENT PROJECT MANAGEMENT HANDBOOK" -- REMOVAL ACTIONS

REMOVALS

I. DESCRIPTION OF ACTIVITY 1

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REMOVALS

I DESCRIPTION OF ACTIVITY

Introduction

This chapter discusses enforcement activities associated with removal actions. This chapter applies to conventional removals rather than actions funded as removals (i.e., RI/FS and RD). Generally, removal activity, including activity to secure and oversee potentially responsible party removal actions, is managed by On-Scene Coordinators (OSCs). This chapter was written primarily to assist OSCs in planning and conducting enforcement activities.. However, depending on the particular circumstances at a site, other program personnel may assume lead roles in removal enforcement activities. At sites where remedial activity is ongoing, the RPM may play a key role in securing and overseeing PRP removal response. For convenience, only the term "OSC" is used throughout this chapter, although the information is the same for RPMs when appropriate. Exhibit II-1 provides a broad overview of the removal enforcement process.

Specific procedures and guidance for the Removal program are set forth in OSWER Directive 9360.0-03B, the Superfund Removal Procedures Manual (February, 1988). Chapter V of the Superfund Removal Procedures Manual sets forth specific procedures for pursuing enforcement actions at a removal site.

Definition

Removal actions are defined in section 101(23) of CERCLA as "the cleanup or removal of released hazardous substances from the environment, (and) such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment..." This definition also includes actions necessary to:

- Monitor, assess and evaluate the actual or threatened release
- Dispose of removed material
- Protect public health or welfare or the environment from an actual or threatened release
- Investigate and gather information (as authorized by section 104(b) of CERCLA).

Sections 104(a) and (b) also authorize responses and studies regarding releases and threatened releases of pollutants or contaminants which may endanger human health, welfare or the environment.

Authority

Section 104(a) of CERCLA authorizes the President to act, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 CFR 300), to remove or arrange for the removal of any hazardous substance, pollutant or contaminant if the President deems it necessary to protect the public health or welfare or the environment. Section 104(b) of CERCLA authorizes studies and investigations

and section 106 of CERCLA authorizes the President to order measures necessary to abate imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance. Section 106 also sets forth fines for any person who, without sufficient cause, willfully violates or fails or refuses to comply with a section 106 order. Specific standards and procedures for implementing CERCLA and for conforming with other statutes are set forth in the NCP.

Types of Removals

EPA has classified removals into the following three categories based upon the site evaluation and the urgency of the situation:

- Emergencies--removals where the release, or threat of release, requires that on-site cleanup activities begin within hours of the lead agency's determination that a removal action is appropriate

- Time-Critical--removals where, based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a period of less than six months available before cleanup activities must begin on site

- Non-Time-Critical--removals where, based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a planning period of more than six months available before on-site activities must begin. The lead agency must undertake an Engineering Evaluation/Cost Analysis (EE/CA), or its equivalent, for non-time-critical removals.

The urgency determination is a deciding factor in determining the amount of time that can be devoted to a PRP search prior to on-site action, negotiation length, the type and timing of public participation, whether an EE/CA must be conducted, and the extent of compliance with other environmental statutes.

Removal Activities

According to section 101(23) of CERCLA and section 300.65 of the NCP[1] , the response activities listed below may be appropriate removal actions in certain situations. This list is neither intended to limit response officials from taking other actions deemed necessary under the circumstances, nor is it intended to preclude the lead agency from referring response actions to other appropriate Federal or State enforcement authorities.

- Fences, warning signs, or other security or site control precautions--where humans or animals have access to the release;

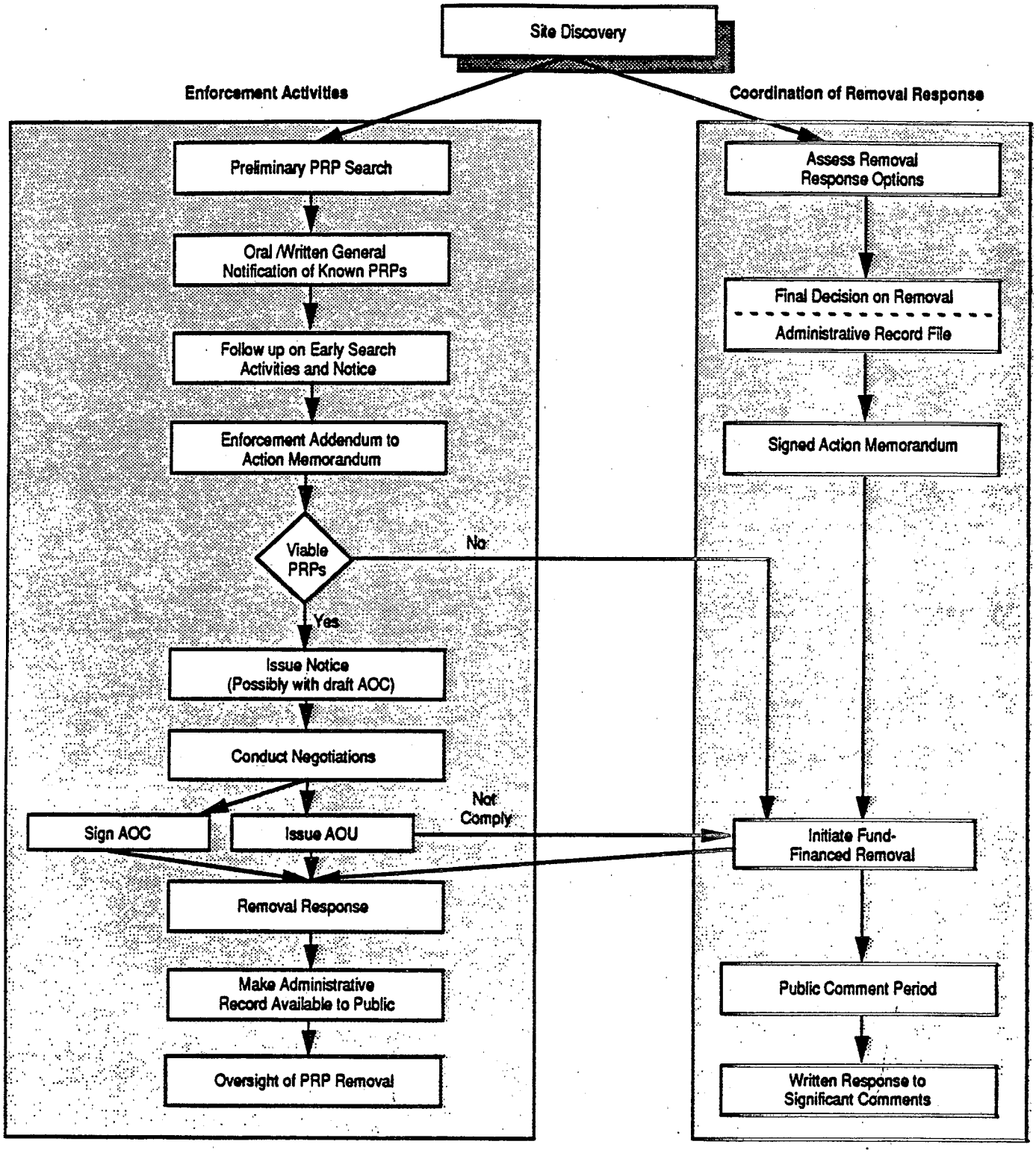
- Drainage controls (e.g., run-off or run-on diversion)--where precipitation or run-off from other sources (e.g., flooding) may enter the release area from other areas;

---

1 The 1985 NCP is effective, until amended, except as modified by SARA. The proposed revisions, 53 FR 51394 (December 21, 1988) are not yet effective. However, they may serve as guidance where SARA required changes to the program.

Exhibit II-1

Overview Of Removal Enforcement Activities Relationship to Response Activities



* This general overview of removal enforcement may not apply in all situations, especially emergencies

- Stabilization of berms, dikes, or impoundments--where needed to maintain the integrity of the structures;

- Capping of contaminated soils or sludges--where needed to reduce migration of hazardous substances or pollutants or contaminants into soil, ground water, or air;

- Using chemicals and other materials to retard the spread of the release or to mitigate its effects--where the use of such chemicals will reduce the spread of the release;

- Removal of highly contaminated soils from drainage or other areas--where removal will reduce the spread of contamination;

- Removal of drums, barrels, tanks, or other bulk containers that contain or may contain hazardous substances or pollutants or contaminants--where it will reduce the likelihood of spillage; leakage; exposure to humans, animals or food chain; or fire or explosion;

- Provision of alternative water supply--where it will reduce the likelihood of exposure of humans or animals to contaminated water.

Statutory Limitations and Exemptions

Section 104(c) of CERCLA specifies that Fund-lead removals may not exceed either $2 million in cost or 12 months in duration. The criteria for exceeding the statutory limits (which do not apply to PRP-lead removal actions) include:

- An immediate risk to public health, welfare or the environment exists; continued response actions are immediately required to prevent, limit or mitigate an emergency; and such assistance otherwise will not be provided on a timely basis.

- Continued response action is otherwise appropriate and consistent with the remedial action to be taken.

OSCs who request an exemption to the statutory limits on cost or duration for a Fund-lead removal action should first ensure that all potential avenues of securing PRP cleanup or funding for cleanup have been pursued. Headquarters carefully reviews all cost exemption requests for Fund-lead removal actions for evidence of activity to secure PRP participation in the cleanup. The following enforcement-related information should be included in the exemption request Action Memorandum:

- Extent of the PRP search

- Whether PRPs have been identified

- Financial status of PRPs, if PRPs have been identified

- Whether notice letters (special or general) were issued
- Whether previous negotiations have been held with the PRPs and the results of those negotiations
- Whether an AO has been issued to the PRPs or previous demands for reimbursement have been made
- Status of the Administrative Record
- Enforcement history of the site
- Enforcement options, discussion and recommendations.

Specific procedures for obtaining exemptions to the statutory limits on Fund-lead removals are set forth in the Superfund Removal Procedures Manual.

Administrative Record and Public Participation

Section 113(k) of CERCLA requires that the Agency establish an Administrative Record for selection of CERCLA response actions. The Administrative Record is the body of documents upon which the Agency bases its selection of a response action. Section 113(k)(2) of CERCLA requires that EPA develop procedures for appropriate participation of interested parties in the development of an Administrative Record for a removal action. The Administrative Record should consist of documents that the Agency considered or relied on to select the response action and when appropriate, include documents demonstrating the public's opportunity to participate in the selection of the response action. More information on the Administrative Record is contained in Chapter XV, Records Management.

Among the key components of the Administrative Record are the Action Memorandum and underlying inspection reports and data.

The proposed revisions to the NCP and associated preamble constitute guidance on development and maintenance of the Administrative Record and public participation requirements. In addition, guidance on Administrative Records is provided in OSWER Directive 9833.3A, "Interim Guidance on Administrative Records for Selection of CERCLA Response Actions" (March 1, 1989). Exhibit II-2 depicts the various proposed activities EPA is considering as requirements when establishing an Administrative Record for each of the removal categories defined earlier in this chapter. The requirements for each removal category differ to ensure that the Administrative Record does not unduly create delays in emergency and time-critical removal actions. OSCs and RPMs should refer to OSWER Directive 9833.3A cited above, for information on the specific documents that should be included in Administrative Records for removal actions.

Written Response

A written response to significant comments received during the public comment period should be included in the Administrative Record file along with the comments. It serves to document how public comments have been considered during the decision-making process and to provide answers to significant comments raised.

Exhibit II-2

Proposed Community Relations And Administrative Record Requirements For Removals

Activity	Time-critical[1] Where on-site activity lasts less than 120 days (includes emergencies)	Time-critical[1] Where on-site activity lasts more than 120 days	Non-time-critical[2]
Designate spokesperson	X	X	X
Notify affected citizens	X	X	X
Establish Administrative Record (AR) file	X	X	X
Make AR available when EE/CA approval memorandum is signed			X
Make AR available within 60 days of initiation of site activity	X	X	
Place AR in central location	X	X	X
Place AR at or near facility	X*	X	X
Notify public of AR	X	X	X
Provide a 30 day comment period from date AR is available	X**	X	X
Prepare written response to significant comments	X	X	X
Conduct community interviews		X	X
Prepare Community Relations Plan		X	X

1 Removals where, based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a period of less than six months available before on-site activities must be initiated.

2 Removals where, based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a planning period of more than six months available before on-site activities must begin.

* The AR file for emergency removal actions where on-site activities cease within 30 days of initiation need only be available for public inspection at the central location.

** Where appropriate.

I. PROCEDURES AND INTERACTIONS

A. *PRP Search*

PRP searches are discussed in detail in Chapter IV, PRP Search, Notification, and Information Exchange. The urgent nature of emergency removal actions may require response initiation prior to an extensive PRP search that goes beyond identifying the owner/operator. This section discusses PRP searches related to removal actions.

PRP Response Policy

Where PRPs are known and able to perform the removal, EPA prefers that they undertake the response action pursuant to an administrative order. A PRP investigation should be a part of the preliminary assessment that an OSC conducts under section 300.64 of the NCP. To the extent appropriate under the circumstances, the OSC is to search further for responsible parties and attempt to have them perform the necessary removal action. In addition, supplemental searches may be warranted during a stabilization action for PRP takeover of the disposal and for cost recovery if the removal is conducted with use of the Fund.

PRP Search Strategy

A PRP search strategy is important. As background to conducting removal PRP searches, the general steps in the PRP search process are described in Chapter IV. The level of effort of the PRP search and period of performance of search tasks in removals depend on the amount of time between discovery and the execution of the Action Memorandum, the urgency of the release situation, the likely expenditures on the removal, and available resources. For descriptive purposes, Exhibit II-3 shows how the level of effort tends to vary with urgency. While the amount of removal expenditures affects the expenditures for a PRP search, this concept is not depicted by the chart. Information gathered during the PRP search, such as that indicated by the activities in Exhibit II-3, is essential to support an enforcement strategy at Superfund sites.

In many removal situations, effective PRP searches depend partially on the presence in the field of the personnel conducting the search. To realize the advantage of having PRP research conducted partially in the field, and as a matter of standard procedure, the enforcement project manager, if different from the OSC, should consult with the OSC on the PRP search as well as other aspects of the case. It is important that search activities be well-documented even if the result is that no viable PRPs are identified.

Emergency Situation

In emergency situations where the PRP is not immediately known, the OSC usually conducts the PRP search in two phases. Initially, streamlined procedures, consisting of oral inquiries of municipal officials and reasonably available on-site sources, as well as reviews of readily available site records are implemented. Oral inquiries should be documented as soon as practicable. Obvious visual information of possible PRP links to the site should be recorded if time permits. TAT or TES support under an expedited work assignment may be employed. The OSC should, to the extent possible, prioritize and expedite certain search activities to support the notice, negotiation and administrative order process before the removal begins. Once the site is stabilized, the second phase of PRP identification efforts should continue. This phase of the PRP search may support cost recovery efforts and partial-work orders. Depending on response expenditures, available resources and the site strategy, the civil investigator and contractor (e.g., TES) may provide assistance on the follow up search.

Time-Critical Situation

In time-critical situations, the OSC should follow procedures that expand upon the PRP search activities discussed for emergency situations. Title searches and on-site interviews also should be undertaken (OSCs should coordinate with civil investigators to determine what information needs to be obtained). OSCs also may use 104(e) information requests that include questions pertaining to financial viability to obtain additional evidence during the PRP search.

Non-Time-Critical Situation

At a minimum, the OSC should conduct the same preliminary PRP search measures discussed above. In addition, depending on the level of expenditures and the amount of time available, the OSC may take additional steps, such as further questioning of persons on or near the site and on-site investigation for names of PRPs (e.g., records review). After the OSC has made a preliminary effort to identify PRPs, he or she may request Regional enforcement personnel to conduct a potentially responsible party search to identify generators and transporters. A baseline report as described in Chapter IV should be prepared and decisions should be made on specialized tasks. Where PRPs do not conduct the work, an interim final report will be necessary.

Technical Enforcement Support (TES) contracts, Technical Assistance Team (TAT) contract support, or civil investigators may be used to support PRP searches in non-time critical situations. Other support may be available through the use of 8(a) (i.e., minority or disadvantaged contractor set-aside) contractors. OSCs also may request the assistance of the National Enforcement Investigation Center (NEIC) in conducting a PRP search.

All Removals

OSCs should be prepared to obtain the necessary approval to conduct a Fund-lead response if no PRPs can be identified. However, the initiation of a Fund-lead response does not mean that the search for PRPs is discontinued. During a Fund-financed removal, OSCs should fully document possible evidence of liability at the site in anticipation of cost recovery litigation. Documentation activities include photographing the site to verify site conditions and obtaining evidence of PRP links to the site such as site records identifying owners/operators. OSCs may utilize TAT contractors in gathering information that may help establish a party's status as a PRP. Efforts to locate PRPs should continue throughout the removal action to support cost recovery efforts and possible PRP involvement in any future response actions.

PRP Search Completion

As noted in Chapter IV, PRP search reports usually should not be viewed as complete PRP searches. In most multi-party cases where substantial funds are spent, specialized tasks also will be utilized to provide adequate information beyond the baseline report. Exhibit II-3 shows the information that the PRP search effort should include or yield to meet the target of a completed PRP search.

B. *Enforcement and Negotiations Planning*

After initiating the search for PRPs, but prior to issuing notice, decisions must be made regarding the site lead and enforcement strategy. Careful planning during this phase of the removal helps ensure that negotiations and other enforcement activities will be conducted with greater success.

Exhibit II-3

PRP Search Activities

Level of Effort	Emergency	Time-Critical	Non-Time-Critical
	Follow up search conducted later.	• Use TAT for preliminary activities • Issue 104(e) information requests • Document additional evidence linking PRP to site (e.g., photos) • Conduct a title search (coordinate with civil investigator) • Conduct off-site interviews • Review relevant site records • Gather visual evidence from site • Conduct on-site interviews • Consult municipal officials • Review readily available site records	• Prepare interim final PRP search report • Issue 104(e) information requests regarding generators and transporters • Prepare baseline PRP search report • Document additional evidence linking PRP to site (e.g., photos) • Conduct a title search (coordinate with civil investigator) • Conduct off-site interviews • Review relevant site records • Gather visual evidence from site • Conduct on-site interviews • Consult municipal officials • Review readily available site records
	Preliminary search • Gather visual evidence from site • Conduct on-site interviews • Consult municipal officials • Review readily available site records		

Urgency of the Situation

Site Lead

When viable PRPs have been identified, every attempt should be made to secure PRP conduct of the removal activities. However, site lead decisions must be based on the exigencies of the particular situation. Primary factors to be considered in making a site lead decision include:

- Immediacy of the need to respond
- Strength of the case on PRPs' liability
- Financial viability of the PRPs.

Other criteria to be considered include:

- Ability and need to precisely define the removal
- Unique technical problems, including oversight
- Technical capability of the PRP to conduct the removal
- Willingness of PRPs to conduct the removal (lack of willingness does not preclude an AOU)
- Availability of the Fund
- Cost of the removal (very low-cost removals have low priority for enforcement).

In addition, consideration should be given to the workload of the Regional staff and the extent of oversight activities.

Enforcement Strategy -- Addendum to Action Memo

Except in true emergencies, prior to initiating the PRP notification process, the OSC should prepare a brief strategy that details the information and activities needed to successfully plan a removal action. An "Enforcement Sensitive" attachment that includes information on the enforcement strategy, PRP response, and previous actions should accompany the Action Memorandum for the site. If time permits, the enforcement staff should undertake the following activities when preparing for negotiations with PRPs:

- Review results of preliminary PRP search efforts for adequacy and accuracy and supplement as necessary
- Determine notification strategy
- Review problems posed by site
- Develop clear statement of work to be done consisent with draft Action Memorandum

- Prepare draft Administrative Order (AO)

- Develop negotiations strategy.

Preparing a brief negotiations strategy prior to the initiation of negotiations helps ensure that the OSC has considered various aspects of the situation which could affect removal activities. For example, at a drum site the OSC should attempt to establish the number of drums, how many are leaking, how many are overpacked, and any other information that would affect plans for removal activities. Obtaining this information also prepares the OSC for the first round of negotiations with the PRP, which can be jeopardized by inadequate preparation and unclear cleanup goals. The statement of work should be attached to the notice letter that advises PRPs of their potential liability and possibly initiates negotiations with EPA for conducting the removal.

C. PRP Notice

Where PRPs have been identified, EPA's general policy is to notify PRPs of their potential liability and to advise them of the intended response action. Where the circumstances allow, there often will be two notice letters: (1) notice of liability and (2) notice of an opportunity to negotiate to conduct the removal (negotiations are discussed in Section D of this chapter). In emergencies and some time-critical removals, these notice letters and the negotiations processes may be combined. Moreover, in emergencies, the notification process may involve oral notification of identified PRPs, which should be confirmed with a written notice letter.

The content of notices vary depending on whether:

- The notice will be used simply to notify PRPs of their potential liability; it may further advise the PRP of an action EPA has already taken or is about to take;

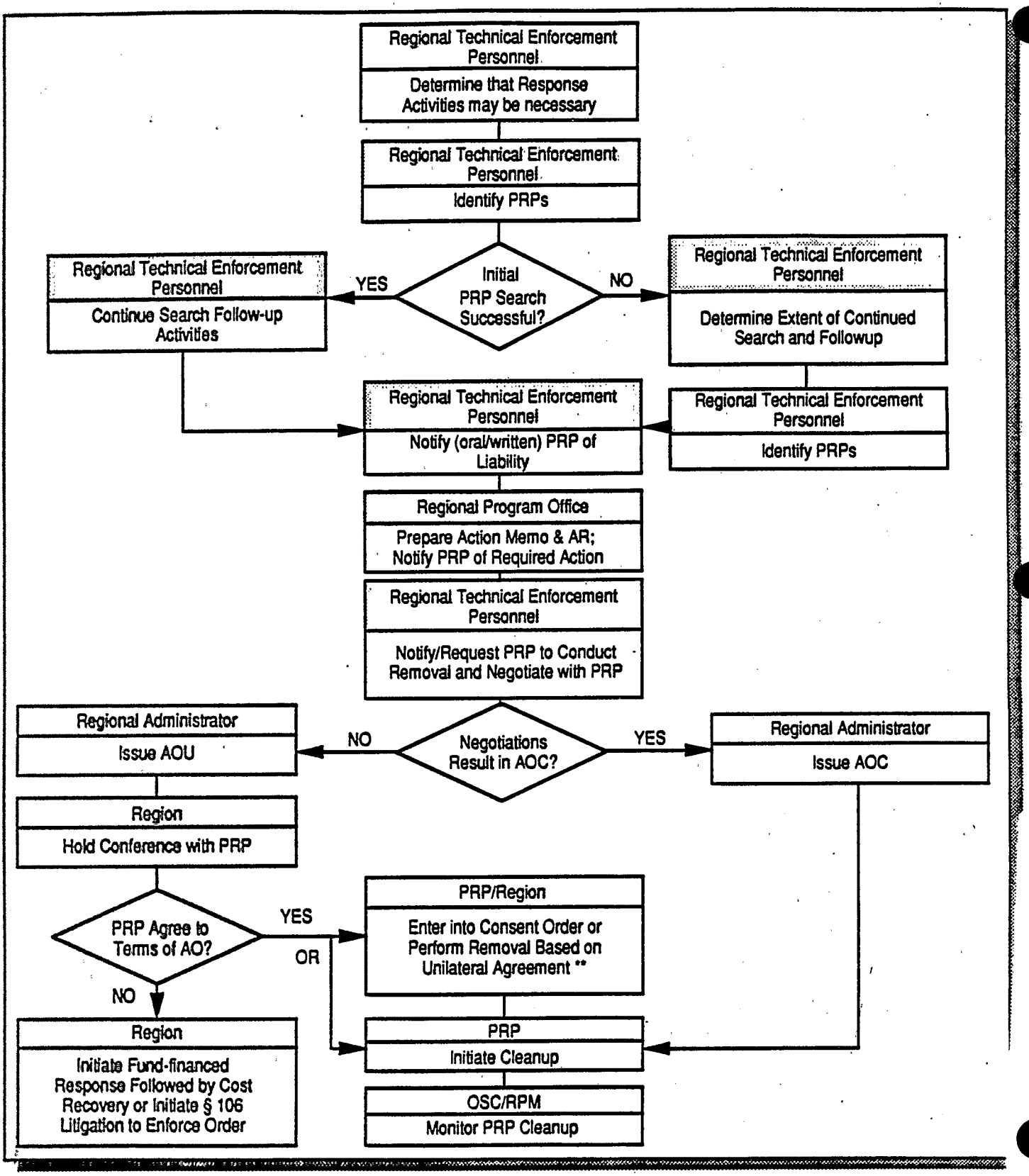
- The notice will be used to encourage a private party response through negotiations;

- The notice will be used as a mechanism for invoking the section 122(e) special notice procedures which provide for negotiations with a formal moratorium on response. Emergency and time-critical removals do not follow special notice procedures due to the urgency of these situations.

Where possible, the Regional program office should send notice letters to all known PRPs prior to the initiation of the removal action. The OSC must consult and coordinate with Regional enforcement staff in notifying PRPs of their potential liability and requesting removal action by the PRP. Execpt in limited emergency situations, it is inappropriate to provide initial notice by a unilateral administrative order. Exhibit II-4 identifies the steps involved in securing potentially responsible party action. OSCs should refer to Chapter V of the Superfund Removal Procedures Manual and OSWER Directive 9834.10, "Interim Guidance on Notice Letters, Negotiations, and Information Exchange" (October 19, 1987) for policies and procedures concerning the notification process. Also, OSWER has distributed model notice letters (OSWER Directive 9834.10, "Model Notice Letters," February 7, 1989) and most Regions have their own models.

Exhibit II-4

Securing PRP Action for Removals



** AOU does not have to be converted to AOC for PRP to initiate response actions.

Notification in Emergency Situations

In emergencies, the OSC may notify known PRPs orally. The Regional program office then should prepare and send a general notice letter to the PRP confirming the oral notification of liability and any request for response. The Regional program office should send the notice letter as soon as possible following the oral notification. While a written notice letter typically precedes the initiation of an administrative order (discussed in section D of this chapter), this is not necessary in emergencies, given the limited time available.

Notification in Time-Critical Situations

In time-critical situations, the OSC may initially notify PRPs orally and follow the same procedures as in an emergency. Whenever possible, it is preferable that notice letters be issued before the removal action. Moreover, the OSC should conduct a review of and follow up on preliminary PRP search activities to ensure all reasonably known PRPs have been identified. The extent to which PRP search activities may be reviewed and upgraded is dependent on the urgency of site conditions.

Notification in Non-Time-Critical Situations

In non-time-critical situations, procedures for obtaining PRP response are more likely to involve formal negotiations which may be invoked by issuance of a special notice or section 122(e) letter. First, the PRP search should be reviewed and any outstanding leads pursued during the drafting of the proposed EE/CA. The PRP search review and follow-up activities should include the use of section 104(e) information requests (see section IV of this chapter). Notice letters should be issued to PRPs and, depending on the response, an Agency team of Regional technical and legal personnel should quickly schedule negotiations aimed at securing PRP cleanup within an established period of time.

The use of the special notice procedure should only be considered for non-time-critical removal actions because the issuance of a special notice triggers a 60-120 day moratorium on EPA action and a specific time frame for negotiations. Therefore, CERCLA section 122(e) special notice procedures should be used only for those removals where site activity need not commence for 60-120 days following issuance of the notice letter.

D. *AOC Negotiations and AOU Assistance*

The site lead determination and enforcement strategy (see section B of this chapter) will determine the general approach to negotiating activity at the site. Where negotiations are part of the strategy and time allows, the preferred approach to negotiations is to send the PRP a notice letter specifying the work to be done and establishing a time frame for negotiation of an Administrative Order on Consent (AOC). Where possible, it is advantageous to send the PRPs a model AOC, with the letter or as soon thereafter as possible. While it is appropriate to advise PRPs that EPA may issue a Unilateral Administrative Order (AOU) if they do not consent to an AOC, unilateral orders are not preferred where an AOC is possible. In addition, informal agreements are not credited by Headquarters. For leverage in negotiating an AOC, it often is helpful to have a signed Action Memorandum. The preferred outcome of the negotiations is an AOC.

The time period for negotiations should reflect the exigencies of site conditions; the nature of the work being discussed; and the response of the PRPs to prior communications. In non-time-critical situations where EPA has issued a special notice and the PRP has

responded with a good faith offer, an automatic 60-120 day moratorium on EPA activity at the site establishes a fixed period during which negotiations may occur.

It is very important to have a detailed technical scope of work when entering into negotiations.

Enforcement staff may take the following steps when conducting negotiations with PRPs:

- Meet with PRPs
- Negotiate language in the administrative order
- Negotiate technical points and schedules in the workplan
- Enter into an AOC, to which PRPs agree and sign, or issue an AOU, in which PRPs do not execute their consent by signing.

Due to the time-sensitive nature of removal incidents, the negotiation process is often accelerated and certain steps described above may be eliminated. The negotiations schedule should be specified to PRPs in writing.

In some instances, it may take as little as two weeks to conduct negotiations and sign an administrative order on consent; however, it can take several months depending on the progress of negotiations. For simple removals, the order may detail work to be done. For more complex removals, the order often provides the scope of work for later response activities and requires the PRP to draft the detailed work plan as a deliverable if the OSC has not already written the work plan. This enables the AOC to be signed and the PRP to initiate stabilization measures at the site before a completed work plan has been agreed upon.

In some cases, Regional personnel may find that PRPs wish to negotiate to conduct a portion of the removal action. The PRP may be financially or technically unable to completely address some of the contamination at the site. It may be appropriate to have the PRP undertake simple tasks (e.g., security) as well as others that he can accomplish. Where the PRP appears to be incompetent or lacks substantial resources, it often is preferable to initiate a Fund-lead response. At some non-emergency removals, there may be viable PRPs that are willing to settle by conducting only a portion of the work so that EPA will pursue other PRPs for the remainder by unilateral order and/or cost recovery action. If the nature of the removal and the universes of PRPs who would settle and would not settle warrant such an order, this is known as a "carve out" order.

Administrative Orders on Consent (AOC)

As noted earlier, the preferred product of negotiations is a CERCLA section 106(a) Administrative Order on Consent (AOC), also known as a consent order. Removal AOC provisions may include the following:

- **Introduction:** Establishes that the AOC is a voluntary agreement.

- **Jurisdiction:** Describes the authority under which EPA has issued the order.
- **Parties Bound:** Lists to whom the order applies and directs them to provide copies of the order to any successors, subsequent owners, or contractors.
- **Statement of Purpose:** States the objectives of the order.
- **Findings of Fact:** Provides enough factual information to establish the Conclusions of Law and provide a predicate for the work to be performed.
- **Conclusions of Law:** States that the respondent(s) has been identified as a responsible party and why the Agency has determined it to be appropriate to conduct a removal action.
- **Notice to the State:** States that notice of issuance of this order has been provided to the appropriate State.
- **Work to be Performed:** Specifically describes the work to be conducted as divided into tasks. A standard first task that should be added for unilateral orders is a requirement that respondents provide verbal and written notice of their intent to comply within days of issuance of the order.
- **Quality Assurance:** Specifies QA/QC requirements.
- **Modifications to the Work to be Performed:** Describes how modifications may be achieved.
- **Administrative Record File:** States that EPA determines the content of the Administrative Record.
- **Designated Project Coordinators:** Requires designation of project coordinators.
- **Site Access, Record Availability, and Record Preservation:** Requires respondent(s) to provide or secure acces to the site, to provide access for EPA to review any records, and to preserve site files for a minimum of nine years.
- **Dispute Resolution:** States agreed upon dispute resolution procedures.
- **Delay in Performance/Stipulated Penalties:** Establishes a violation list and stipulated penalties for each such violation.
- **Force Majeure:** States force majeure provisions.
- **Oversight Reimbursement:** Requires oversight reimbursement.
- **Payment of Past Costs**

- **Reservation of Rights and Reimbursement of Other Costs:** Reserves EPA's right to bring action against respondent(s) to complete this work, or for other work and for costs. Also states that nothing in the order releases the respondent(s) from other claims filed by other parties.

- **Disclaimer:** Releases respondent(s) from admission of guilt by signing the order.

- **Effective Date:** Establishes the order's effective date.

- **Termination and Satisfaction:** States that EPA will give the respondent(s) written notification when it has determined the order to be completed.

Unilateral Administrative Orders (AOU)

In emergency and some time-critical situations, Regional staff may find it necessary to bypass negotiations and immediately issue a Unilateral Administrative Order (AOU). In addition, if viable PRPs fail to respond appropriately to the oral/written notification and negotiation process described above, Regions should pursue issuing a CERCLA section 106 AOU unless there is good reason not to issue an order. The following criteria must be satisfied to issue an order:

- Liable parties have been identified

- There is evidence of a release or threat of a release of a hazardous substance

- There is evidence that the release is from a facility

- Site conditions may present an imminent and substantial endangerment (Note: the courts have interpreted this standard very broadly and have not required a finding of immediate threat)

- The affected State has been notified

- The removal is not inconsistent with applicable law (see CERCLA and the NCP).

Unilateral orders are an effective way to achieve PRP response in situations where there is insufficient time to pursue thorough negotiations, or the PRP is unwilling to conduct the cleanup pursuant to an AOC. The provisions of an AOU are similar to an AOC, except that more detailed findings of fact are stated. Also, AOUs usually contain a provision requiring noticed intent to comply within a specified period and the AOU usually does not contain past costs, stipulated penalties, dispute resolution, or force majeure clauses.

Issuance of AOUs

Regional enforcement staff should issue an AOU before Fund activation whenever a PRP has been identified (unless the PRP is non-viable), provided the criteria for site lead discussed earlier in section B are met and the order is within Regional resources. The

OSC and other Regional personnel should continue the process of obtaining approval for a Fund-financed action, providing the PRP does not comply.

Activation of Fund During AO Issuance

If site conditions warrant, the OSC should immediately initiate on-site response activities while the AO process continues. PRP takeovers of removals are limited. Where appropriate, at a convenient break in the response activities, EPA may demobilize its contractor and the PRP may assume responsibility for the remaining activities required. In such cases, the AO should be revised to reflect the PRP takeover.

Replacement of AOU with AOC

The recipient of the AOU may agree to comply with the terms of the order. In some cases, EPA may withdraw the unilateral order when it is replaced by an administrative order on consent. EPA generally does not devote a significant amount of time to a second round of negotiations.

Enforcement of AO

Non-compliance with AOs is determined through the oversight process. There are two kinds of noncompliance:

- No major response to the order, and
- A response that does not satisfy the order.

If the recipient does not comply with the terms of the order, EPA usually will proceed with a Fund-financed response and subsequent suit for cost recovery under CERCLA section 107 (including punitive treble damages if the PRP did not have sufficient cause for non-compliance with an AO).

In certain situations EPA, with DOJ assistance, will enforce the terms of the order and compel PRP response through judicial enforcement actions under section 106 of CERCLA. Although the Agency has the authority to refer a section 106 action (e.g., filing a section 106 complaint), it is often preferable not to do so when Fund monies are available and the delays of litigation are inconsistent with program direction. Violation of an AOU will set up a treble damage and penalties action under section 107 of CERCLA.

Guidance on the issuance of administrative orders for removals is currently being revised by the Office of Waste Programs Enforcement (OWPE) and the Office of Enforcement and Compliance Monitoring (OECM) in Headquarters.

E. *Oversight Of PRP Response*

An AO prescribes the activities the PRP must undertake. It also prescribes the completion date for the entire response as well as the discrete parts of the response (including oversight provisions and associated costs).

Regional personnel responsible for monitoring PRP compliance should either remain on site or visit the site periodically, whichever is appropriate given the circumstances of the release and the nature of cleanup activities. Oversight activities by Agency personnel may be supplemented through the use of contract resources such as TAT or TES. Contractors may assist Agency personnel in overseeing field activities and conducting technical review of work plans, protocols, site data, and reports.

When the PRP agrees to undertake response action, but monitoring by the OSC or CERCLA enforcement personnel shows that the actions are not timely or appropriate, EPA may either take action to enforce the AO by CERCLA section 106 judicial action or take over the response and pursue cost recovery.

Oversight Costs

Costs associated with oversight of PRP response actions, including removal actions, are fully recoverable under section 107 of CERCLA. To facilitate the preparation of potential future cost recovery actions against either PRPs conducting the removal or other non-participating PRPs, OSCs and RPMs should comply with the cost documentation procedures described in Chapter XII, Cost Recovery.

Recoverable costs include both intramural (e.g., EPA payroll and travel and indirect costs) and extramural (Agency contractors' costs) oversight costs. The Superfund Indirect Cost Manual for Cost Recovery Purposes FY 83 through FY 86 (March 1986) developed by the Superfund Accounting Branch, Financial Management Division provides an explanation of how EPA's extramural cost rates are developed and how those rates should be used to calculate extramural oversight costs for individual Superfund sites. Detailed information on cost recovery is located in Chapter XII, Cost Recovery. Information on cost management and recordkeeping is also in the Removal Cost Management Manual (April 1988).

F. *Criminal Investigation*

If at any time during removal actions criminal activity is suspected, the Special-Agent-In-Charge should be notified immediately to begin criminal investigative activities. In situations where a criminal investigation has been initiated by the NEIC, the OSC or RPM, Regional Counsel should exercise caution on becoming involved in a criminal investigation while conducting a PRP search, administrative or civil investigation. Additional information on criminal investigations and the role of the NEIC and Regional personnel is provided in the memorandum "Functions and General Operating Procedures for the Criminal Enforcement Program" (Courtney M. Price, January 7, 1985).

G. *Community Relations*

Community relations activities are ongoing throughout removal actions, varying in extent with the urgency of the situation. The objectives of community relations during removal actions include:

- To identify citizen leaders, public concerns, and a site's social and political history and encourage citizens to express concerns and provide information
- To take into account community, including PRP, views and concerns into the decision-making process
- To provide information to the community on the health and environmental effects of releases and proposed response action.

By providing information as directly and quickly as possible, the OSC will ensure that the community receives the information it needs about the response action and the effects of the release on the community's health and safety. OSWER Directive 9230.0-3B, the

Community Relations Handbook (June 1988) and Chapter 6 of the Community Relations Handbook, which was issued under separate cover as OSWER Directive 9836.0-1A, "Community Relations During Enforcement Activities" (November 6, 1988), should be consulted for current policy on community relations during removal actions. Regions are encouraged to consider use of the Regional Response Team (RRT) to assist in community relations activities.

Community Relations Plan

Under current requirements, a Community Relations Plan (CRP) should be prepared for all response actions lasting longer than 45 days. Before preparing a CRP, program and community relations staff must meet with local officials and interested citizens to obtain information about the site and to identify public concerns. The plan should provide:

- Site background
- The nature of the community concern
- The key site issues
- The objectives of the community relations activities
- Specific activities to be undertaken at the site.

Responsible parties may participate in implementing elements of the CRP at the direction of, and with oversight by, Regional staff. The lead agency develops the community relations plan.

Community Relations Activities

Specific types of community relations activities during removals are likely to include meeting with citizens in the community, responding to inquiries from the media, and providing local officials with site status information.

II. PLANNING AND REPORTING REQUIREMENTS

A. *Contractor Support*

Resources available to Regional personnel to conduct PRP searches include OSCs, the Technical Assistance Team (TAT) contract, the Technical Enforcement Support (TES) contract, civil investigators, enforcement project managers, and the NEIC. Regional personnel should evaluate the contracting support options for conducting effective and efficient PRP searches for removals, and incorporate contractor support into quarterly and annual budget planning procedures. When planning for this contracting support, keep in mind that resources may be constrained by contract capacity or other factors.

Regional experience has shown that the TAT is an efficient resource for gathering information regarding property owners and site operators because the TAT is already in the field responding to the removal situation. Some Regions have open-ended TES work assignments that allow for limited PRP research to be conducted while the official paperwork for the work assignment is being processed. This approach has proven effective for limited research but does not allow and should not be used for the identification of a large number of generators/transporters. Regional personnel should note that the capacity of the TES contract may not allow its use for all removal PRP searches because of PRP search activities for the remedial program. Generally, a standard work assignment is used for PRP search work beyond the initial TAT work.

B. *Information Management Systems*

EPA has established several distinct but interrelated systems for documenting and tracking removal activities from the initial notification of the release through the completion of the response. This section identifies the various planning and tracking systems and discusses their relevance to enforcement removals.

SCAP/ SPMS

Removals are tracked by SCAP/SPMS through the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). Exhibit II-5 summarizes SCAP/SPMS measures relevant to removals. OSCs should coordinate with their information managers to ensure that they are entering information into CERCLIS correctly. Exhibit II-6 is an example of a completed CERCLIS site information form (SIF) for a removal. OSCs should complete the SIF using the example outline of fields and values:

A. Operable Unit (Removals always have an operable unit of 00. All post-SARA removals must be coded 'RV' as an event.)
B. Event (RV = Removal)
C. Lead (RP = Responsible Party, F = Fund)
D. Plan start/complete date (FYQ)
E Actual start/complete date (MM/DD/YY)
F. SPMS Target (P = Primary, A = Alternate, once a removal has started, it cannot be coded as an 'A')
G. SCAP Note (Information about the removal)
H. Takeover Flag (See below)
I First Start/Complete Indicator
J. Event Start NPL Status (Y/N)

Exhibit II-5

SCAP/SPMS Targets and Measures for Removals

Targets

ACTIVITIES	SPMS TARGET	SCAP TARGET	QUARTERLY TARGET	ANNUAL TARGET
Removal				
NPL Removal Start		X		X
Non-NPL Removal Start		X		X
NPL Site Completions through Removal Actions		X	X	
Remedial/Removal				
NPL Sites Addressed through removal action or RI/FS start (S/C-2)	X		X	X
NPL Sites where all remedial/removal implementation has been completed (S/C-6)	X		X	X

Measures

ACTIVITIES	SPMS REPORTING	SCAP PLAN/REPORT	QTRLY	ANNUAL
Removal Completions				
Removal Investigations Completed at NPL Sites		X		X
Removal Completions		X		X
Remedial/Removal				
Percent of NPL Sites Addressed to date (S/C 2a)	X		X	X

Exhibit II-6

Sample SIF for Removals

EVENT/SUBEVENT/FINANCIAL INFORMATION (EVT/SVT/FIN)
07/10/89

U.S. E.P.A. SUPERFUND PROGRAM
CERCLIS SITE INFORMATION FORM (SIF)

ENFORCEMENT SENSITIVE INFORMATION
FOR INTERNAL USE ONLY

*SITE NAME: XYZ
*EPA ID NO: [illegible] FMS SITE/SPILL ID: [illegible]

S/I RPM-OSC NAME/PHONE: _____/(__)__-____
EVENT REGIONAL CONTACT NAME/PHONE: _____/(__)__-____
OTHER REG CONTACT NAME/PHONE: _____/(__)__-____

*OP UNIT *EVENT SUBEVENT TYPE	*OP UNIT NAME *EVENT NAME *SUBEVENT NAME	LEAD	START PLAN (MM/DD/YY)	START *PLAN (FY/Q)	START *ACTUAL (MM/DD/YY)	COMPLETE PLAN (MM/DD/YY)	COMPLETE *PLAN (FY/Q)	COMPLETE *ACTUAL (MM/DD/YY)	SPMS TARGET	SCAP NOTE
(A) OO		(C)		(D)	(E)		(D)	(E)	(F)	(G)
(B) RV	Removal	PP	__/__/__	88/4	9/16/88	__/__/__	90/4	__/__/__	P	Drum Removal
			__/__/__	__/__	__/__/__	__/__/__	__/__	__/__/__		

(H) *TAKEOVER FLAG: __ (I) *FIRST START: A (I) *FIRST COMPLETE: A

*EVENT QUALIFIER: _ (J) *EVENT NPL INDICATOR: Y APPROVAL AUTHORITY: __

*RCRA OFF-SITE ID: _____; _____; _____; _____; _____; _____

COOPERATIVE AGREEMENT NUMBER: _____ COOPERATIVE AGREE. AMEND NO.: __, __, __, __, __ STATE %: __

---------- CERCLIS FINANCIAL DATA ----------

(K) *FIN SEQ NO	*FMS FLG	*FIN BDGT TYPE	*FIN BDGT SRCE	*ACN	*DCN	*FIN AMT.	*PLAN FY/Q	*FIN DATE	*FIN VEHICLE	*CONTRACTOR	*FUND PRTY STAT	*FIN NOTE	NA NO	AMND NO
		(1) P	(2) S			(3) 10,000	(4) 89/1		(5) 7056		(6) APC	(7) Oversight		

----------SUMMARY FMS FINANCIAL DATA ----------

FIN BDGT SRCE	ACN	DCN	NET COMMIT AMOUNT	ORIG COMMIT DATE	FMS OPEN COMMIT	NET OBLIG AMOUNT	ORIG OBLIG DATE	NET OUTLAY AMOUNT	LAST OUTLAY DATE	FIN VEH	CONTRACTOR NAME/ OBLIGATING DOC NO
				__/__/__			__/__/__		__/__/__		

*CORE DATA ELEMENT OR CODE ANY QUESTIONS? CALL CSC CERCLIS STAFF ACTION:_____(CSC ONLY)

* NOTE: This exhibit presents page one of the SIF. The actual SIF includes a second page for additional comments.

Exhibit II-5

SCAP/SPMS Targets and Measures for Removals

Targets

ACTIVITIES	SPMS TARGET	SCAP TARGET	QUARTERLY TARGET	ANNUAL TARGET
Removal				
NPL Removal Start		X		X
Non-NPL Removal Start		X		X
NPL Site Completions through Removal Actions		X	X	
Remedial/Removal				
NPL Sites Addressed through removal action or RI/FS start (S/C-2)	X		X	X
NPL Sites where all remedial/removal implementation has been completed (S/C-6)	X		X	X

Measures

ACTIVITIES	SPMS REPORTING	SCAP PLAN/REPORT	QTRLY	ANNUAL
Removal Completions				
Removal Investigations Completed at NPL Sites		X		X
Removal Completions		X		X
Remedial/Removal				
Percent of NPL Sites Addressed to date (S/C 2a)	X		X	X

Exhibit II-6

Sample SIF for Removals

EVENT/SUBEVENT/FINANCIAL INFORMATION (EVT/SVT/FIN)
07/10/89

U.S. E.P.A. SUPERFUND PROGRAM
CERCLIS SITE INFORMATION FORM (SIF)

ENFORCEMENT SENSITIVE INFORMATION
FOR INTERNAL USE ONLY

*SITE NAME: XYZ
*EPA ID NO: [illegible] FMS SITE/SPILL ID: [illegible]

S/I RPM-OSC NAME/PHONE: _____/(__)__-____
EVENT REGIONAL CONTACT NAME/PHONE: _____/(__)__-____
OTHER REG CONTACT NAME/PHONE: _____/(__)__-____

*OP UNIT *EVENT SUBEVENT TYPE	*OP UNIT NAME *EVENT NAME *SUBEVENT NAME	LEAD	START PLAN (MM/DD/YY)	START *PLAN (FY/Q)	START *ACTUAL (MM/DD/YY)	COMPLETE PLAN (MM/DD/YY)	COMPLETE *PLAN (FY/Q)	COMPLETE *ACTUAL (MM/DD/YY)	SPMS TARGET	SCAP NOTE
(A) OO		(C)		(D)	(E)		(D)	(E)	(F)	(G)
(B) RV	Removal	PP	__/__/__	88/4	9/16/88	__/__/__	90/4	__/__/__	P	Drum Removal
			__/__/__	__/__	__/__/__	__/__/__	__/__	__/__/__		

(H) *TAKEOVER FLAG: __ (I) *FIRST START: A (I) *FIRST COMPLETE: A

*EVENT QUALIFIER: _ (J) *EVENT NPL INDICATOR: Y APPROVAL AUTHORITY: __

*RCRA OFF-SITE ID: _____ ; _____ ; _____ ; _____ ; _____ ; _____

COOPERATIVE AGREEMENT NUMBER: _____ COOPERATIVE AGREE. AMEND NO.: __, __, __, __, __ STATE %: __

---------- CERCLIS FINANCIAL DATA ----------

(K) *FIN SEQ NO	*FMS FLG	*FIN TYPE	BDGT SRCE	*ACN	*DCN	*FIN AMT.	*PLAN FY/Q	*FIN DATE	*FIN VEHICLE	*CONTRACTOR	*FUND PRTY STAT	*FIN NOTE	WA NO	AMND NO
		(1) P	(2) S			(3) 10,000	(4) 89/1		(5) TOSA		(6) APC	(7) Oversight		

---------- SUMMARY FMS FINANCIAL DATA ----------

FIN BDGT SRCE	ACN	DCN	NET COMMIT AMOUNT	ORIG COMMIT DATE	FMS OPEN COMMIT	NET OBLIG AMOUNT	ORIG OBLIG DATE	NET OUTLAY AMOUNT	LAST OUTLAY DATE	FIN VEH	CONTRACTOR NAME/ OBLIGATING DOC NO
				__/__/__			__/__/__		__/__/__		

*CORE DATA ELEMENT OR CODE ANY QUESTIONS? CALL CSC CERCLIS STAFF ACTION:_____(CSC ONLY)

* NOTE: This exhibit presents page one of the SIF. The actual SIF includes a second page for additional comments.

Exhibit II-5

SCAP/SPMS Targets and Measures for Removals

Targets

ACTIVITIES	SPMS TARGET	SCAP TARGET	QUARTERLY TARGET	ANNUAL TARGET
Removal				
NPL Removal Start		X		X
Non-NPL Removal Start		X		X
NPL Site Completions through Removal Actions		X	X	
Remedial/Removal				
NPL Sites Addressed through removal action or RI/FS start (S/C-2)	X		X	X
NPL Sites where all remedial/removal implementation has been completed (S/C-6)	X		X	X

Measures

ACTIVITIES	SPMS REPORTING	SCAP PLAN/REPORT	QTRLY	ANNUAL
Removal Completions				
Removal Investigations Completed at NPL Sites		X		X
Removal Completions		X		X
Remedial/Removal				
Percent of NPL Sites Addressed to date (S/C 2a)	X		X	X

Exhibit II-6

Sample SIF for Removals

EVENT/SUBEVENT/FINANCIAL INFORMATION (EVT/SVT/FIN)
07/10/89

U.S. E.P.A. SUPERFUND PROGRAM
CERCLIS SITE INFORMATION FORM (SIF)

ENFORCEMENT SENSITIVE INFORMATION
FOR INTERNAL USE ONLY

*SITE NAME: XYZ
*EPA ID NO: [illegible] FMS SITE/SPILL ID: [illegible]

S/I RPM-OSC NAME/PHONE: _____/(__)__-____
EVENT REGIONAL CONTACT NAME/PHONE: _____/(__)__-____
OTHER REG CONTACT NAME/PHONE: _____/(__)__-____

*OP UNIT *EVENT SUBEVENT TYPE	*OP UNIT NAME *EVENT NAME *SUBEVENT NAME	LEAD	START PLAN (MM/DD/YY)	START *PLAN (FY/Q)	START *ACTUAL (MM/DD/YY)	COMPLETE PLAN (MM/DD/YY)	COMPLETE *PLAN (FY/Q)	COMPLETE *ACTUAL (MM/DD/YY)	SPMS TARGET	SCAP NOTE
(A) OO		(C)		(D)	(E)		(D)	(E)	(F)	(G)
(B) RV	Removal	RP	__/__/__	88/4	9/16/88	__/__/__	90/4	__/__/__	P	Drum Removal
			__/__/__	__/__	__/__/__	__/__/__	__/__	__/__/__		

(H) *TAKEOVER FLAG: __ (I) *FIRST START: A (I) *FIRST COMPLETE: A

*EVENT QUALIFIER: _ (J) *EVENT NPL INDICATOR: Y APPROVAL AUTHORITY: __

*RCRA OFF-SITE ID: _____ ; _____ ; _____ ; _____ ; _____ ; _____

COOPERATIVE AGREEMENT NUMBER: _____ COOPERATIVE AGREE. AMEND NO.: __, __, __, __, __ STATE %: __

---------- CERCLIS FINANCIAL DATA ----------

(K) *FIN SEQ NO	*FMS ELG	*FIN TYPE	BDGT SRCE	*ACN	*DCN	*FIN AMT.	*PLAN FY/Q	*FIN DATE	*FIN VEHICLE	*CONTRACTOR	*FUND PRTY STAT	*FIN NOTE	WA NO	AMND NO
		(1) P	(2) S			(3) 10,000	(4) 89/1		(5) [illegible]		(6) APC	(7) Oversight		

---------- SUMMARY FMS FINANCIAL DATA ----------

FIN BDGT SRCE	ACN	DCN	NET COMMIT AMOUNT	ORIG COMMIT DATE	FMS OPEN COMMIT	NET OBLIG AMOUNT	ORIG OBLIG DATE	NET OUTLAY AMOUNT	LAST OUTLAY DATE	FIN VEH	CONTRACTOR NAME/ OBLIGATING DOC NO
				__/__/__			__/__/__		__/__/__		

*CORE DATA ELEMENT OR CODE ANY QUESTIONS? CALL CSC CERCLIS STAFF ACTION:_____(CSC ONLY)

* NOTE: This exhibit presents page one of the SIF. The actual SIF includes a second page for additional comments.

K. Financial Requirements:

1. Financial Type (P = Planned Obligation)
2. Budget Source (E = Enforcement)
3. Financial Amount (Required for oversight)
4. Plan/Actual Financial Date (FYQ, MM/DD/YY)
5. Financial Vehicle (TES = Technical Enforcement Support)
6. Fund Priority Status (APR = Approved, ALT = Alternate).
7. Financial Note

A removal start date is the date the PRP/contractor/OSC begin actual on-site work (as entered in CERCLIS).

For Fund-financed removals, completions are counted on the day the contractor/OSC have demobilized and left the site. For PRP-financed removals, completions count when the Region has certified (via CERCLIS) that the PRPs or their contractors have completed a removal action and fully met the terms of the AO, CD or judgment.

The takeover flag is an indicator that identifies events that have had a change in lead. The valid codes are: T = Takeover, TT = Takeover of a takeover, or EV# = An event code (C2111) followed by a sequence number to indicate which event was taken over that created the new event record.

ERNS

The Emergency Response Notification System (ERNS) is a nationwide, centralized database supported by EPA, the U.S. Coast Guard (USCG) and the Department of Transportation (DOT) and maintained by the Transportation Systems Center (TSC). This information-sharing network documents every release notification received by the National Response Center (NRC), EPA Headquarters and Regional offices, and USCG.

ERNS is a documenting system, not a tracking system. Only the initial notification of release is documented, not the actions performed on the site. ERNS contains information on every reported release (including releases of non-hazardous substances and releases below RQ levels), not only those that result in removal action. ERNS also provides assistance to Regional enforcement personnel in supporting day-to-day response operations and enforcing release reporting requirements.

Notification System Process

Exhibit II-7 provides a diagrammatic representation of the ERNS release notification process. Responsible parties, private citizens, or State or local officials may report a release to the NRC. The NRC documents the notification and relays the data to the appropriate OSC for review and response determination. In the event that EPA or USCG is the first to be notified, the notified agency will document the release incident data and relay the information to the appropriate OSC for response determination. When the EPA Region is the notified agency, the release data must be transferred within two weeks of receipt to the TSC for compilation and input into the NRC database.

EPA Regional ERNS Responsibilities

EPA Regions and USCG field offices are responsible for:

- Taking calls from parties or NRC reporting oil spills or chemical releases
- Documenting the notification using standard data collection form
- Making response determination
- Relaying the release notification report within two weeks of receipt to the TSC.

These responsibilities ensure the efficient functioning of ERNS.

EPA Headquarters Responsibilities

EPA Headquarters, in conjunction with USCG and DOT, are responsible for providing overall direction and guidance for the development and operation of ERNS.

ERNS Phase II

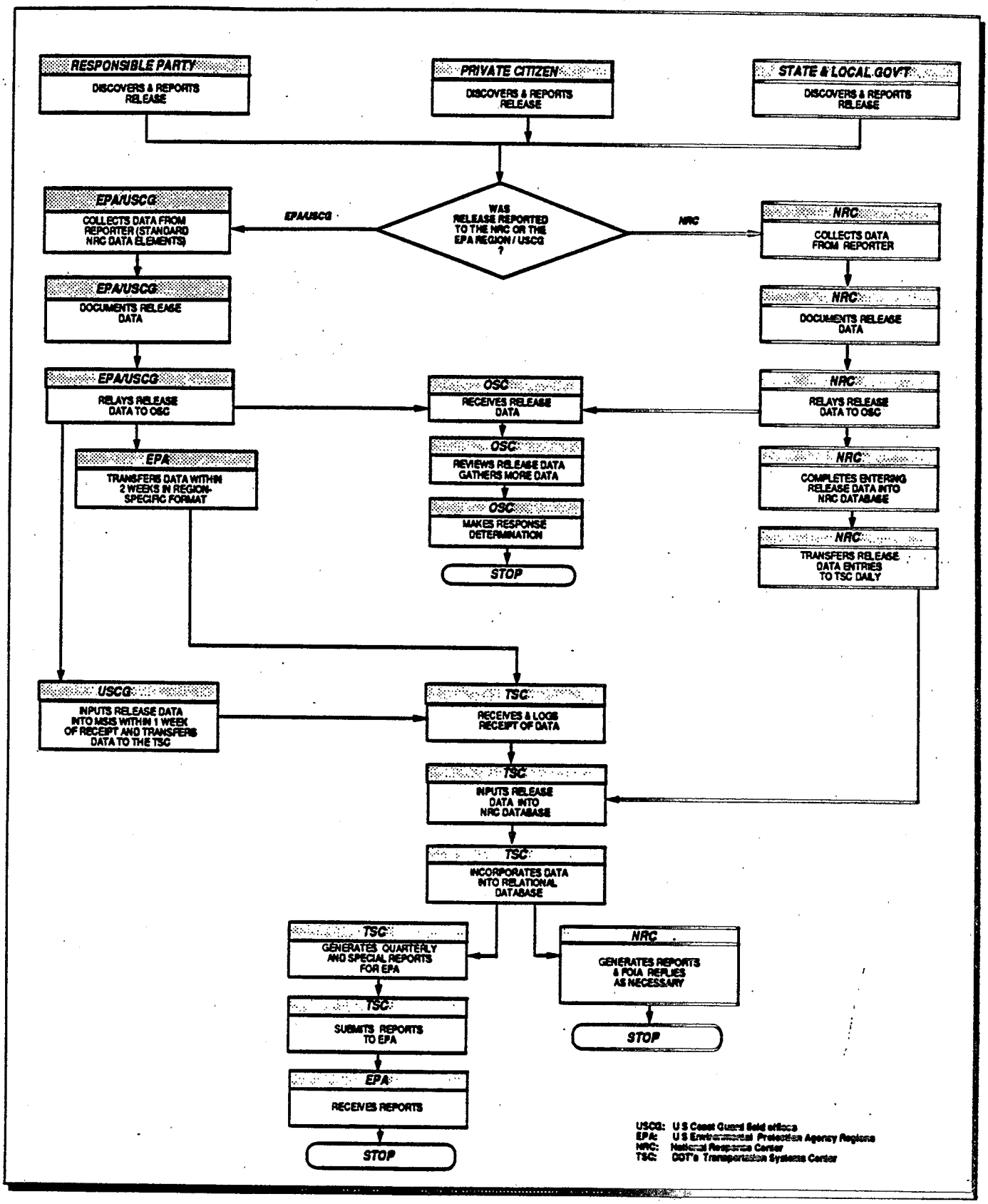
ERNS has been fully operational since October 1987. As of January 1989, a second phase of ERNS became operational. Phase II verifies notification data and provides a direct link to CERCLIS.

IFMS

The Integrated Financial Management System (IFMS) is a computerized database which tracks costs associated with removal actions. Costs are categorized by site and type of activity (e.g., oversight costs). OSCs and RPMs should use the IFMS to help monitor costs at their site, especially if accumulated costs approach the $2 million limit on removal expenditures set by CERCLA.

EXHIBIT II-7

ERNS Notification Process



IV. POTENTIAL PROBLEMS/RESOLUTIONS

A. *Civil Investigator Support*

Many Regions have identified civil investigators as a timely mechanism for gathering PRP liability and financial information for removal cases, and noted that civil investigators are effective in a quality assurance capacity to oversee research being conducted by enforcement project managers.

Region III has recognized the need for a civil investigator to work exclusively on removal cases, and has a full time civil investigator position to work in the field in the early stages of a case. Regions with removal programs large enough to sustain one civil investigator full time should investigate the possibility of creating such a position. This position allows the investigator to become familiar with the types of investigative situations that removals present, and prevents conflicts in which priority is required by remedial cases. Additionally, assigning a civil investigator exclusively to removal cases ensures the investigator's availability to conduct PRP research when required immediately for a time-critical removal.

B. *Determining PRP Financial Viability*

Effective PRP searches should yield financial information on PRPs so that the determination can be made whether to pursue the CERCLA section 106 administrative order option. To ensure PRP searches yield the necessary financial information, Region IX includes a financial disclosure form with information request letters issued under section 104 (e) of CERCLA. Standard PRP search procedures in many Regions include a Dun and Bradstreet system financial report, and review of records for bankruptcy, property ownership, and financial status information.

C. *Use of Information Request Letters*

The 104(e) information request letter provides a means of gathering PRP liability and financial evidence, including information on site history, the identity of additional PRPs, and financial information. Financial information is necessary in determining whether to issue an administrative order. Therefore, enforcement personnel should be involved in removal cases at the outset to facilitate gathering as much information as possible before issuance of an administrative order. Section 104 (e) letters also may be used in conjunction with demand letters, issued approximately 12 months after removal completion during the cost recovery stage, to gather additional evidence and identify additional PRPs.

V. REFERENCES

Guidance

OSWER Directive No. 9836.0-1A, "Community Relations During Enforcement Activities" (November 6, 1988).

Courtney Price, "Functions and General Operating Procedures for the Criminal Enforcement Program" (January 7, 1985).

OSWER Directive No. 9833.3A, "Interim Guidance on Administrative Records for Selection of CERCLA Response Actions" (March 1, 1989).

OSWER Directive No. 9834.10, "Interim Guidance on Notice Letters, Negotiations, and Information Exchange" (October 19, 1987).

OSWER Directive No. 9834.10A, "Model Notice Letters" (February 7, 1989).

Lee Thomas, "Issuance of Administrative Orders for Immediate Removal Actions" (February 21, 1984).

Courtney Price, Lee Thomas, "Use and Issuance of Administrative Orders Under Section 106(a) of CERCLA" (September 8, 1983).

OECM/OWPE, "Guidance on CERCLA Section 106(a) Administrative Orders" (To Be Issued).

Manuals

OSWER Directive 9230.0-3B, Community Relations Handbook (November 1988).

OSWER Directive 9834.6, Potentially Responsible Party Search Manual (August 27, 1987).

OSWER Directive 9360.0-02B, Removal Cost Management Manual (April 1988).

Office of the Comptroller, Superfund Indirect Cost Manual for Cost Recovery Purposes FY 83 Through FY 86 (March 1986).

OSWER Directive 9360.0-033, Superfund Removal Procedures, Revision Number Three (February 1988).

OSWER Directive 9200.3-01A, SCAP Manual (updated annually).

THE EMERGENCY RESPONSE NOTIFICATION SYSTEM

NOTICE

Emergency Response Notification - Please note that this document is being updated. For further information on the status of the project or for copies of the updated document, please call the RCRA/Superfund hotline at 1-800-424-9346.

United States
Environmental Protection
Agency

EPA 9360 0-21
August 1989

Emergency and Remedial Response (OS-210)

EPA

The Emergency Response Notification System

ERNS

To report releases of oil and hazardous substances call the National Response Center: 1-800-424-8802.
IT'S THE LAW!

U.S. Environmental Protection Agency
Emergency Response Division
OS-210
401 M Street, S.W.
Washington, D.C. 20460

WHAT IS ERNS?

The Emergency Response Notification System (ERNS) is a national computer database and retrieval system that is used to store information on releases of oil and hazardous substances. ERNS provides a mechanism for documenting and verifying incident notification information as initially reported. ERNS is operational in all ten U.S. Environmental Protection Agency (EPA) Regions and is supported by the U.S. Coast Guard (USCG). It provides a direct source of easily-accessible data that can be used to analyze spills and to support emergency planning efforts by Federal, State, and local governments.

WHY IS ERNS NEEDED?

ERNS provides a comprehensive, national picture of oil and hazardous substance releases. Information on releases is readily available to anyone involved in the response network to assess potential hazards associated with a release, and to plan release notification and response programs. Before ERNS was established, there was no centralized source of information on all oil and hazardous substance releases reported to the Federal government. With ERNS, data from across the nation can be gathered and analyzed by using one system. Not only does this speed the process of data gathering, but it provides a more solid foundation for analysis and planning purposes because ERNS contains the most comprehensive source of data ever compiled on releases of oil and hazardous substances. ERNS also supports the release notification requirements of the following legislative and regulatory requirements:

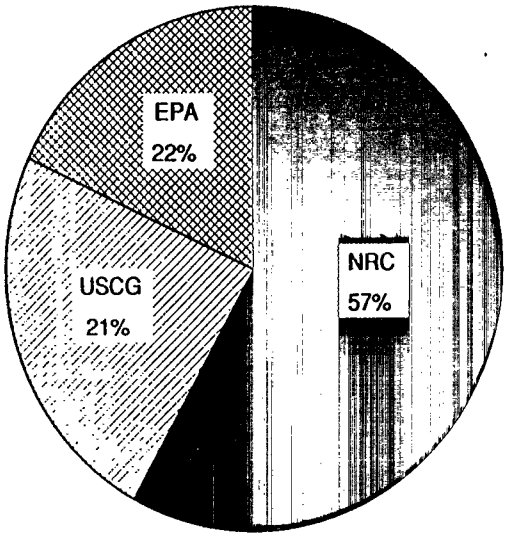
- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended -- Section 103
- Title III of The Superfund Amendments and Reauthorization Act of 1986 (SARA) -- Section 304

- The Federal Water Pollution Control Act (also known as the Clean Water Act) -- Section 311
- The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) -- Sections 300.51 and 300.65

HOW DOES INFORMATION ENTER ERNS?

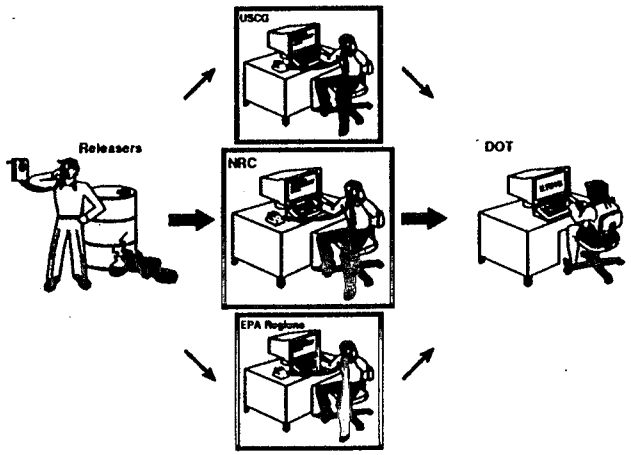
Information is entered into ERNS when a person calls the Federal government to report the release of oil or a hazardous substance. The National Response Center (NRC), the USCG, and EPA are the Federal authorities who generally receive the initial release notifications. The following chart illustrates the percentage of notifications received by the NRC, EPA, and USCG.

Percentage of Notifications Received by Each Organization in 1988 (Total Notifications: 28,937)



The person reporting the release is asked a series of questions about the release. If the NRC, for example, receives the initial report, the information is immediately transmitted to the appropriate EPA Regional Office or Coast Guard District Office. The EPA or Coast Guard On-Scene Coordinator (OSC) then transmits the information to the appropriate State and local response authorities and other parties, as necessary. Information on all releases originally reported to the NRC and EPA Regional Offices is electronically transmitted from the NRC or EPA Regional Office to the Transportation Systems Center at the U.S. Department of Transportation (DOT) in Cambridge, Massachusetts, where it becomes part of the ERNS database. Information on releases reported to the Coast Guard is provided to ERNS via the Marine Safety Information System (MSIS). The NRC, along with EPA and the USCG, provides a standardized inter-agency system nationwide for handling incident data, from discovery to evaluation and response.

RELEASE NOTIFICATION INFORMATION FLOW



WHAT NOTIFICATION IS REQUIRED FOR RELEASES?

CERCLA section 103 requires the release of a reportable quantity (RQ) or more of a CERCLA hazardous substance to be reported immediately to the NRC. Under the NCP, regulations implementing CERCLA, and U.S. Coast Guard reporting regulations, the report may be made to the predesignated Federal OSC for the area where the release occurs if notifying the NRC is not practicable, or to the nearest Coast Guard unit if notifying either the NRC or Federal OSC is not possible; in either event, the NRC must be notified as soon as possible.

Under SARA section 304, the release of an RQ or more of a CERCLA hazardous substance or a SARA extremely hazardous substance (EHS) must be reported to the State Emergency Response Commission (SERC) of any State likely to be affected by the release and to the Community Emergency Coordinator for the Local Emergency Planning Committee (LEPC) of any area likely to be affected by the release. Transportation-related releases may be reported to the 911 emergency number or, in the absence of a 911 emergency number, to the operator. Notification must be followed by a written report as soon as practicable.

Under section 311 of the Clean Water Act, certain oil discharges must be reported. In the oil discharge regulations (40 CFR Part 110), EPA establishes three categories of reportable discharges of oil. A discharge must be reported immediately to the NRC if it:

- Causes a sheen to appear on the surface of the water;
- Violates applicable water quality standards; or
- Causes a sludge or emulsion to be deposited beneath the surface of the water or upon the adjoining shorelines.

When in doubt -----> Call the NRC!

WHAT INFORMATION IS IN ERNS?

ERNS contains a wealth of information on specific releases of oil and hazardous substances. Examples of notification information in ERNS include:

- Discharger identification
- Date of release
- Material released
- Cause of release
- Damage/injuries/deaths
- Amount released
- Source of release
- Incident location
- Response actions taken
- Authorities notified
- Environmental medium into which the release occurred

Information is recorded in ERNS when a release is initially reported to the Federal government. Initial notifications, which comprise most of the information in ERNS, reflect preliminary information on a release, and are cited as unverified data. Depending on the severity of the release and any response actions taken, the EPA or Coast Guard OSC may obtain further information through assisting at the site of the release or discussing the situation with State and local officials. In instances where notification information is verified, additional and more detailed data on the release, including information related to response actions can be added to ERNS.

For further descriptive information on the data available in ERNS, please contact EPA's Emergency Response Division (see address on inside front cover.)

WHAT ARE SOME SPECIFIC USES OF INFORMATION CONTAINED IN ERNS?

Information in ERNS can be used by emergency response personnel, enforcement personnel, and others who want to analyze any aspect of the release notification and response system. ERNS has been used in the following specific applications:

- Guidance and regulatory development
- Congressional inquiries
- Response preparedness
- Compliance and enforcement support
- Statistical and trend analyses
- Program planning and management
- Information requests from the public and Federal, State, and local governments

WHO MANAGES ERNS?

ERNS is managed and supported by the EPA, USCG, NRC, and DOT's Transportation Systems Center. A systems development workgroup comprising EPA Headquarters representatives, EPA Regional Managers and On-Scene Coordinators, the NRC, and DOT's Research and Special Programs Administration and Transportation Systems Center meets regularly to manage the development, maintenance, enhancement, and operations of ERNS at the Regional and National levels. The workgroup provides a comprehensive forum for programmers, users of the system, and members of the emergency response community to exchange ideas and to identify potential uses of the system and the information ERNS can provide.

HOW CAN YOU OBTAIN THE INFORMATION IN ERNS?

Information from ERNS is made available to the public in periodic reports published by EPA's Emergency Response Division. These reports contain summaries of release notifications and can be obtained from the address below or by calling the RCRA/Superfund Hotline at 1-800-424-9346 (in the Washington, D.C. metropolitan area, call 1-202-382-3000). Examples of these summaries are provided on the following page.

For information concerning EPA Regional ERNS databases, contact the Freedom of Information Act Office of the specific EPA Region in which you are interested. Addresses and telephone numbers of the EPA Regional Offices are located at the end of this brochure.

Information stored in the National ERNS database may be obtained from EPA's Emergency Response Division through the Agency's Freedom of Information Act Office. Address your request to:

U.S. Environmental Protection Agency
Freedom of Information Act Office
A-101
401 M Street, S.W.
Washington, D.C. 20460

EXAMPLES OF INFORMATION AVAILABLE FROM ERNS

1988 CALENDAR YEAR INFORMATION

Releases by Mode

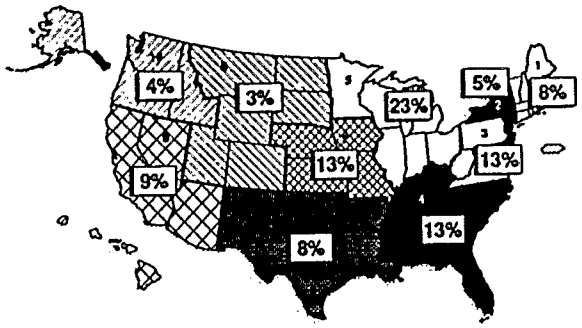
	Number	Percent
Fixed facility	18,824	51
Marine	3,796	13
Highway	2,353	8
Offshore	1,713	6
Pipeline	1,633	6
Railway	711	2
Underground Storage Tanks	363	1
Air Transport	125	0.4
Other	3,419	12

Most Commonly Reported Materials

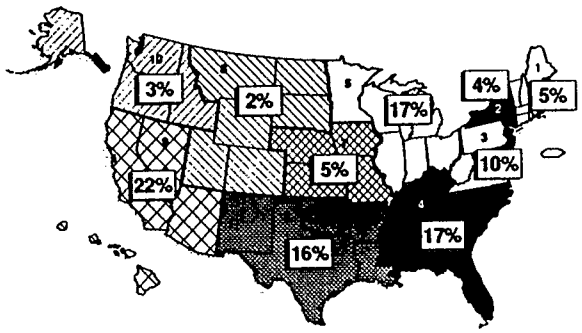
	Number	Percent
CERCLA		
PCB's	736	15
Ammonia	612	12
Sulfuric Acid	370	8
Chlorine	303	6
Hydrochloric Acid	221	5
Non-CERCLA		
Diesel Fuel	3,682	16
Crude Oil	2,914	12
Gasoline	1,834	8
Unknown Oil	1,232	5
Waste Oil	1,166	5

EXAMPLES OF INFORMATION AVAILABLE FROM ERNS

Reports of PCB Releases by Region (1988)



Reports of Sulfuric Acid Releases by Region (1988)



EPA REGIONAL CONTACTS FOR ERNS INFORMATION

Region 1
U.S. EPA Region 1
Freedom of Information Act Office
JFK Federal Building
(RPA-2203)
Boston, MA 02203
(617) 565-3187
Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont

Region 2
U.S. EPA Region 2
Freedom of Information Act Office
Office of External Programs
26 Federal Plaza
Room 905
New York, NY 10278
(212) 264-2515
New Jersey, New York, Puerto Rico, U.S. Virgin Islands

Region 3
U.S. EPA Region 3
Freedom of Information Act Office
(3PA00)
841 Chestnut Street
Philadelphia, PA 19107
(215) 597-2321
Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia

Region 4
U.S. EPA Region 4
Freedom of Information Act Office
345 Courtland Street, N.E.
Atlanta, GA 30365
(404) 347-3004
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

Region 5
U.S. EPA Region 5
Freedom of Information Act Office
(5PA)
14th Floor
230 South Dearborn Street
Chicago, IL 60604
(312) 886-6686
Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

Region 6
U.S. EPA Region 6
Freedom of Information Act Office
(6M-II)
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-6558
Arkansas, Louisiana, New Mexico, Oklahoma, Texas

Region 7
U.S. EPA Region 7
Freedom of Information Act Office
726 Minnesota Avenue
Kansas City, KS 66101
(913) 236-2803
Iowa, Kansas, Missouri, Nebraska

Region 8
U.S. EPA Region 8
Freedom of Information Act Office
(80EA)
Suite 500
999 18th Street
Denver, CO 80202-2405
(303) 294-7599
Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

United States Environmental Protection Agency

Office of Solid Waste and Emergency Response

Directive 9225.3-01FS
November 1989

EPA

REIMBURSEMENT TO LOCAL GOVERNMENTS FOR EMERGENCY RESPONSE TO HAZARDOUS SUBSTANCE RELEASES

Office of Emergency and Remedial Response
Emergency Response Division OS-210

Quick Reference Fact Sheet

The Comprehensive Environmental Response, Compensation, and Liabilty Act (CERCLA), originally enacted in 1980, provides broad Federal authority and resources to respond directly to releases or threatened releases of hazardous substances that may endanger human health or the environment. The original $1.6 billion Hazardous Substance Response Trust Fund (the Superfund) was designed to pay for the cleanup of releases of hazardous substances and uncontrolled hazardous waste sites. EPA is primarily responsible for implementing the Superfund program.

On October 17, 1986, the President signed into law the Superfund Amendments and Reauthorization Act of 1986 (SARA). These amendments authorize an $8.5 billion Superfund and broaden the Federal Government's response authority. Section 123 of the new law authorizes EPA to reimburse local governments for expenses incurred in carrying out temporary emergency measures in response to hazardous substance threats. These measures must be necessary to prevent or mitigate injury to human health or the environment. EPA published an interim final regulation for reimbursing local governments in the Federal Register on October 21, 1987. This fact sheet provides a summary of the requirements and procedures set forth in this regulation, and supersedes the October 1987 Fact Sheet.

WHAT IS THE INTENT OF THE REIMBURSEMENT PROGRAM?

The intent of the reimbursement program is to alleviate significant financial burden on a local government resulting from temporary emergency measures taken in response to hazardous substance threats. Temporary emergency measures may include such activities as erecting security fencing to limit access, responding to fires and explosions, and other actions that require immediate response at the local level. EPA will distribute the reimbursement money to those applicants who demonstrate the greatest financial burden. The law specifies that not more than 0.1 percent of the total amount appropriated to the Fund be used for local government reimbursement. This represents a maximum of $8.5 million over a four-year period, or approximately $2 million per year for all requests received nationwide.

WHO CAN REQUEST REIMBURSEMENT?

Any general purpose unit of local government that incurs costs in response to a release or threatened release of hazardous substances after the effective date of the regulation may apply for reimbursement. Reimbursement is available only to local

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governments (e.g., a county, parish, city, municipality, township, or federally-recognized Indian Tribe). States are not eligible for reimbursement for temporary emergency measures and no State may request reimbursement on its own behalf or on the behalf of political subdivisions within the State. Only one request for reimbursement will be accepted for each hazardous substance emergency requiring immediate response at the local level. When more than one local agency has participated in such a response, those agencies must determine which single agency or jurisdiction will submit the request on behalf of them all. Since funds for this program are limited, EPA may not be able to reimburse local governments for all responses that may qualify.

WHERE CAN APPLICATIONS BE OBTAINED?

An application package can be obtained by contacting the RCRA/Superfund Hotline at EPA Headquarters. The toll-free telephone number for the Hotline is 1-800-424-9346. The application package contains detailed, line-by-line instructions for completing the application.

WHEN SHOULD REIMBURSEMENT REQUESTS BE FILED?

Reimbursement requests must be received by EPA within six months of the date of completion of the response for which reimbursement is being requested. If, however, a cost recovery action is pending, EPA may waive this deadline. EPA recommends that applications be submitted as soon as possible after completion of the response, since response information and reconstruction of records becomes more difficult as time progresses.

WHAT COSTS ARE REIMBURSABLE?

All costs for which a local government is seeking reimbursement must be consistent with CERCLA and Federal cost principles outlined by the Office of Management and Budget. In general, EPA will consider reimbursement for costs of such items as disposable materials and supplies used during a specific response; rental or leasing of equipment used for specific response; special technical services and laboratory costs; and services and supplies purchased for a specific evacuation. Reimbursement, however, must

APPLICATION AREAS REQURING SPECIAL ATTENTION

To facilitate application evaluation, please pay special attention to the following:

- Reimbursement requests must be received by EPA within 6 months of the "date of completion" of the response, unless cost recovery efforts are underway. For this program, the "date of completion" is when all field work has been completed and all project deliverables have been received by the local government.
- The application should include the background and current status of cost recovery efforts. It must be clear that all available sources of cost recovery (PRPs, Insurance, State, etc.) have been or are being pursued. A copy of all related correspondence should also be included. Potential cost recovery sources should have a minimum of 60 days to respond before an LGR application is filed.
- The application must include a Detailed Cost Breakdown Table with supporting documentation (invoice, sales receipts, rental agreements, etc.).
- The application must be signed by the local government's highest official (the chief executive or his or her delegate) unless signature authority is delegated and an official letter of delegation accompanies the application.

not supplant local government funds normally provided for emergency response. All reimbursement applications must be accompanied by cost documentation such as invoices, sales receipts or leasing agreements. Section 310.40 of the interim final regulation contains more information on allowable costs for reimbursement.

HOW WILL REIMBURSEMENT REQUESTS BE EVALUATED?

EPA has developed a formula for determining financial burden that is based upon the ratio of eligible response costs to an applicant's per capita income adjusted for population. EPA also may consider other relevant financial information provided by a local government.

After receiving completed applications from local governments, EPA will screen each application for compliance with basic reimbursement criteria and filing procedures. Requests for reimbursement must demonstrate that responses comply with CERCLA, the NCP and where applicable, the local comprehensive emergency response plan completed under the Emergency Planning and Community Right-to-Know Act of 1986. Each application will be evaluated on its own merit, and with respect to the financial burden demonstrated by other requests. EPA will ensure that costs for which reimbursement is being sought are allowable and do not supplant local funds normally provided for emergency response. Further guidance on evaluation of reimbursement requests can be found in section 310.60 of the interim final regulation.

Based upon the financial burden ranking for each request and the funds available for reimbursement, a request may be reimbursed, denied or held over for reconsideration. A request may be reconsidered during a subsequent review period if it represents a significant financial burden but scores lower than other requests during a particular review period.

HOW MUCH CAN BE REIMBURSED?

CERCLA specifically limits reimbursement to $25,000 per single response. This $25,000 cap plus the limited availability of funds for the program may not allow EPA to reimburse local governments for all response costs that may qualify.

FOR FURTHER INFORMATION

For general information on CERCLA and reimbursement application packages contact:

RCRA/Superfund Hotline

1-800-424-9346 (toll free)
1-202-382-3000 (in the Washington, DC area)

For specific information on the Local Government Reimbursement Program contact:

LGR Project Officer
Emergency Response Division (OS-210)
U.S. EPA
401 M Street, S.W.
Washington, D.C. 20460

SECTION VII

DEVELOPING RECORDS OF DECISION

United States
Environmental Protection
Agency

Solid Waste And
Emergency Response
(OS-220)

Directive 9355.3-01FS3
November 1989

EPA

The Feasibility Study

Development And Screening Of Remedial Action Alternatives

This fact sheet is the third in a series of four that summarizes the remedial investigation/feasibility study (RI/FS) process. The previous two fact sheets in this series discuss scoping the RI/FS (OSWER Directive No. 9355.3-01FS1) and site characterization and treatability studies (OSWER Directive No. 9355.3-01FS2). This fact sheet provides a summary of Chapter 4 of the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (October 1988, OSWER Directive 9355.3-01), which discusses the development and screening of alternatives for remedial action. In addition, this fact sheet provides information intended to assist the Remedial Project Manager (RPM) in managing this portion of the feasibility study (FS) efficiently and effectively.

The FS process consists of the development and screening of remedial action alternatives and a detailed analysis of a limited number of the most promising options to establish the basis for a remedy selection decision.

A range of viable alternatives should be developed that meet the remedial response objectives developed during scoping and refined as the study progresses. This range should reflect the program expectations to address the principal threats posed by the site (i.e., liquids and highly toxic and/or highly mobile waste) through treatment, and consider engineering controls (e.g., containment) to address low-level contaminated materials and wastes for which treatment is impracticable. Institutional controls should be considered primarily as supplements to engineering controls.

In addition to the program expectations, RPMs should consider the types of response actions selected for other sites with similar problems or contaminants to identify only those remedial alternatives that carry high potential of being an effective solution for site problems. As appropriate, the range of source control alternatives should include options employing treatment as a principal element, one or more containment alternatives, and the no-action alternative. The major components that comprise the development and screening process are presented in Figure 1.

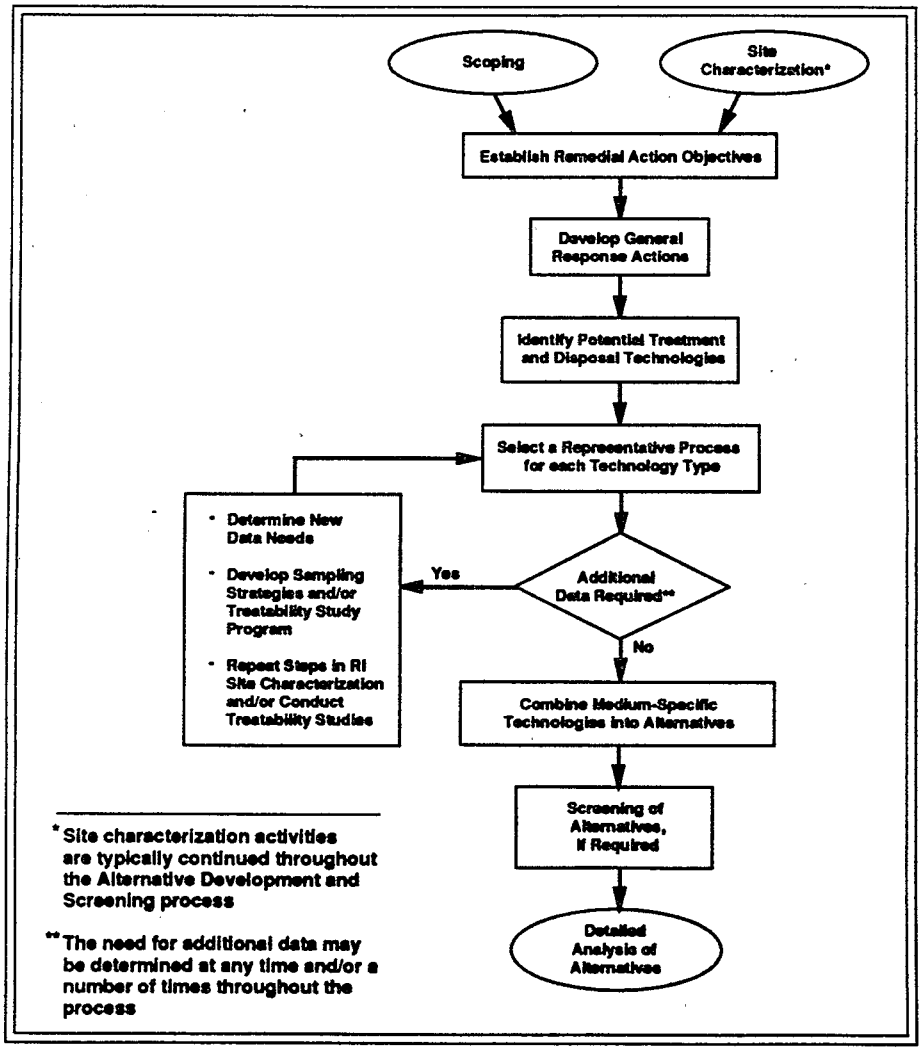


Figure 1. Alternative Development and Screening Process

Note: The no-action alternative is used as a baseline to compare other alternatives. Measures, such as actions taken to reduce the potential for exposure (e.g., site fencing) should not be included as components of no-action alternatives. Such minimal actions should be studied as a separate, limited-action alternative. Environmental monitoring may be included as part of a no-action alternative.

Development and Screening Activities

Establish Remedial Action Objectives

The preliminary remedial action objectives identified during scoping are refined as necessary during this phase of the RI/FS to develop medium-specific goals for protecting human health and the environment. Remedial action objectives specify:

- The contaminant(s) and media of concern
- The exposure route(s) and receptor(s)
- The remediation goal(s) for each exposure route

An example of a remedial action objective is reducing concentrations of TCE in potable ground water to 5 ppb.

The contaminants, media of concern, and exposure routes are the most important preliminary sources of information necessary for the development of alternatives. That is, the identification of appropriate remedial technologies can be initiated without identifying the final remediation goal or the exact cleanup requirement. These requirements will need to be identified prior to the detailed analysis of alternatives.

During the development of alternatives, preliminary remediation goals are established based on readily available information such as applicable or relevant and appropriate requirements (ARARs). Whereas, final remediation goals take into consideration the results of site characterization and the baseline risk assessment. The baseline risk assessment defines the risks posed by a site and establishes the need (or lack thereof) for remedial action.

Note: Identification of location- and chemical-specific ARARs, begun during scoping, should be completed during alternatives development. Examples of such requirements include:

- **Maximum contaminant levels (MCLs)**
- **Water quality criteria**
- **State-action levels for drinking water**
- **State air emission standards**

Develop General Response Actions

General response actions are selected to satisfy the remedial action objectives for each medium of concern. These actions, initially defined during scoping, are refined during this phase and relate to basic methods of protection such as treatment or containment. General response actions may be combined to form alternatives such as treatment of highly toxic material with containment of the treatment residuals.

The volume or area to which general response actions might be applied should be identified at this time and based on: the exposure routes, the known nature and extent of contamination, and preliminary remediation goals and a preliminary list of action-specific ARARs. Action-specific ARARs set restrictions on particular remedial activities as related to the management of hazardous wastes.

Identify and Screen Appropriate Technologies

Throughout the *RI/FS Guidance* and this fact sheet, the term "technology" refers to general categories of technologies, such as chemical treatment or capping. The term "technology process option" refers to specific alternative processes within each technology family, such as ion exchange or use of a soil-clay cap.

Note: Typical sources of information that can be used to identify technology needs and to determine capabilities of technology process options include:

- **ORD technology experts**
- **SITE program staff**
- ***Technology Screening Guide for Treatment of CERCLA Sludges and Soils* (EPA/540/2-88/004, September 1988)**
- **Appendix D of the *RI/FS Guidance***
- **Contractor process engineers**
- **Equipment vendors**

A list of potentially applicable technologies and technology process options, corresponding to the identified general response actions, is compiled and then reduced by evaluating the process options with respect to technical implementability. That is, existing information on technologies and site characterization data are used to screen out process options that cannot be effectively implemented at the site. Figure 4-4 of the *RI/FS Guidance* illustrates the necessary documentation for this evaluation of process implementability and can be included in the FS report.

To the extent possible, design parameters for the technologies being considered should be identified to focus sampling efforts during the site characterization phase. Field investigation activities will be ongoing during the development and screening of alternatives due to the interactive nature of the RI and FS, which are conducted concurrently.

Select Representative Process Options

To simplify the development and evaluation of alternatives, one representative process option should be selected, if possible, for each technology type remaining after the technical implementability screening procedure. Effectiveness, implementability, and cost are the criteria used to evaluate and select representative process options (see page 3 for a description of these criteria). The sources of information used to identify the best representative process option are the same as those used to identify technology types. During remedial design, other process options may be selected if they are found to be more advantageous.

Note: Given the performance uncertainty often associated with innovative technologies, it may not be possible to evaluate innovative process options on the same basis as conventional processes. If available information indicates that innovative technologies will provide comparable or superior treatment performance, fewer or lesser adverse impacts, or lower cost for a similar level of performance, they should be retained for further evaluation.

Reevaluate Data Needs

The need for additional data may become apparent after representative process options have been selected. Process engineers, equipment vendors, and PRP in-house engineers and chemists can help in determining which data are re-

quired to assess potential process limitations and which data are required to establish design criteria.

Treatability studies are typically needed whenever treatment has been identified as a viable alternative. These studies provide data on technologies and their effectiveness on a specific waste found at a site. Treatability studies may not be necessary in those instances where information already exists about a treatment process and its performance on the same type of waste found at the site.

Assemble Technologies Into Alternatives

To assemble alternatives, general response actions should be combined, using different process options applicable to different volumes of media or areas of the site, to meet all remedial action objectives. For example, an alternative might call for incinerating the most highly contaminated soil from a portion of the site, while capping other less contaminated areas. When combining alternatives, it is necessary to consider interactions between media, such as the interaction between ground water and soils through dissolution, precipitation, and adsorption processes. Consideration should also be given to how general response actions can be integrated in the most efficient ways. For example, residual streams that could be addressed by two different response actions may be best handled together, such as sludge from a metals precipitation process and ash from onsite incineration. A description of each alternative should be included in the FS report, including the logic behind the assembly of the specific remedial action alternatives.

Screen Alternatives, If Required

The alternative development process should focus only on the most viable options for site remediation. In the event that a large number of viable alternatives remains at the conclusion of the assembly of alternatives, an additional screening process should be used to limit the number of alternatives that must undergo the detailed analysis.

Source control alternatives retained through the screening process should include those options that have a significant potential for being implemented at the site. The range of options that may be retained could include:

- Treatment options that minimize long-term management requirements and address principal threats
- Containment options, used either in conjunction with treatment or alone, that reduce exposure to waste
- A no-action alternative (which should be maintained throughout the analysis)

Note: Generally no more than five source control alternatives should be carried through to detailed analysis. Fewer alternatives may be appropriate in the case of an early action, where options are limited or obvious, or when program guidance or ARARs establish appropriate alternatives.

For ground-water response actions, alternatives should not only address remediation or clean-up levels but also the estimated time frame within which these clean-up levels might be achieved. Although the goal of ground-water response actions is to return the ground water to its beneficial uses (i.e., health-based levels should be achieved for potentially drinkable water), it should be recognized that it may not always be practicable to attain this goal. Contingencies may need to be planned for and discussed in the Record of Decision (see *Considerations in Ground Water Remediation at Superfund Sites*, October 1989, OSWER Directive No. 9355.4-03). Information on the range of alternatives for groundwater remedial response actions may be found in the *Guidance on Remedial Actions for Contaminated Groundwater at Superfund Sites* (December 1988, OSWER Directive No. 9283.1-2).

During screening, each alternative should be evaluated with regard to:

- Short- and long-term effectiveness and reductions achieved in toxicity, mobility, or volume
- Implementability including technical and administrative feasibility
- Grossly disproportionate cost

The "short-term" is considered to be the remedial construction and implementation period, while "long-term" begins once the remedial action is complete and remedial action objectives have been met.

Technical feasibility includes the ability to construct, reliably operate, and meet regulations, as well as the ability to meet the operations and maintenance, replacement, and monitoring requirements after completion of the remedial action. Administrative feasibility includes the ability to obtain approvals from other agencies; the availability of treatment, storage, and disposal services; and the availability of equipment and technical expertise.

The objective of the cost evaluation is to eliminate from further consideration those alternatives whose costs are grossly excessive for the effectiveness they provide. Cost estimates for alternatives should be sufficiently accurate to continue to support resulting decisions when their accuracy improves beyond the screening level. Capital, O&M, and present worth costs should be determined. Documentation of the screening process, if conducted, is required. Figure 4-5 of the *RI/FS Guidance* provides an example of adequate documentation.

Note: Potential action-specific ARARs, identified earlier in the process, are evaluated further with respect to the remaining remedial action alternatives. This process continues until the comparative analysis of the detailed analysis. By this time, all action-specific ARARs must be identified.

Development and Screening Deliverables

Although generally no formal report is required during this phase of the FS, it is important that the lead and the support agencies agree in writing on the set of alternatives selected for detailed analysis. Based on agreement between the lead and support agencies, the following information should be documented in the FS report, which is submitted following the detailed analysis of alternatives:

- Chemical- and/or risk-based remedial objectives
- Technologies evaluated and reasons for exclusion or inclusion
- Process option representation rationale
- Rationale for screening out alternatives, if applicable
- Clear, concise description of each alternative, including its respective chemical-, location-, and action-specific ARARs

The *Detailed Analysis Fact Sheet* contains a further description of the con-

tents of the FS report (OSWER Directive No. 9355.3-01FS4.)

RPM Responsibilities

The RPM is responsible for managing this phase of the FS and specifically to ensure that adequate technical support is provided and that control of the project's schedule and cost is maintained.

Technical Supervision

Activities needed to ensure that adequate technical supervision is provided during the development and screening of alternatives include:

- Communication with the support agency, the contractor, and other technical experts (i.e., members of the Technical Advisory Committee [TAC]) to obtain early agreement on the technologies/alternatives to be considered and on ARARs.

  It may be appropriate for ORD's START team to be included on the TAC when treatment will be considered for complex or difficult to treat waste. See the *Scoping Fact Sheet* (OSWER Directive No. 9355.3-01FS1) for additional information on the START team and other technical experts.
- Emphasize, and provide direction to the contractor or potentially responsible parties (PRPs) (if it is a PRP-lead RI/FS), on the need to focus the effort to identify and screen technologies so that only a reasonable range of viable alternatives is developed.

Schedule and Cost Control

Recommendations that should aid in schedule and cost control of this phase of the RI/FS include the following:

- Hold frequent meetings or conference calls to monitor progress. These meetings can be informal, with discussion focusing on work plan activities that need to be accomplished in the immediate future and the status of in-progress tasks that should be completed. Avoid creating delays associated with the preparation of lengthy deliverables to monitor progress.
- Review contractor monthly financial statements and make sure all costs are reasonable and justifiable. If appropriate, monthly financial statements should be supplemented by talking with the contractor's project manager about the schedule and budget.
- Control the schedule for inter- and intra-agency reviews, and schedule review meetings in advance to emphasize the deadlines for completion of reviews.
- Understand the significance of the labor hour cost to determine if the most efficient staffing levels are being used.
- Anticipate cost and schedule problems based on the contractor's previous month's performance and take actions to minimize cost overruns and schedule delays.

Enforcement Considerations

The development and screening of remedial alternatives is conducted much the same whether it is being financed by the Fund or by PRPs. If this phase of the RI/FS is being conducted by the PRPs, they will review, and if necessary, propose refinement of the remedial action objectives proposed by EPA during the project planning phase. Revision of the objectives is subject to EPA approval. After refinement of the remedial action objectives, the PRPs will typically conduct, under the oversight of EPA, all aspects of this phase of the FS. It is suggested that EPA reviews be scheduled after: screening technologies and process options, assembling alternatives, screening alternatives, and identifying action-specific ARARs. Additional information describing PRP participation in the RI/FS and EPA's oversight role can be found in Appendix A of the *RI/FS Guidance* and in OWPE's *Model Statement of Work for PRP-Conducted Remedial Investigations and Feasibility Studies* (June 2, 1989).

Points to Remember

- Apply the framework provided by the *RI/FS Guidance* appropriately, and avoid trying to satisfy each step unnecessarily.
- Begin the development of alternatives as soon as preliminary information on site characteristics is available.
- Draw on the experience of contractor process engineers, vendors, ORD, and other RPMs to help identify appropriate technologies and process options.
- Focus alternative development only on the most viable options for site remediation. Generally, no more then five sitewide source control options should be analyzed in detail.
- Conduct alternatives screening when more alternatives have been developed than can reasonably be evaluated.
- To the extent possible, identify design parameters for the technologies being considered so that relevant data can be collected during site characterization.
- Develop alternatives involving innovative technologies and retain for detailed analysis if they have the potential for comparable or superior treatment performance, fewer or lesser adverse impacts, or lower costs for a similar level of performance than a conventional technology.
- Communicate with key personnel, including the TAC, throughout this portion of the FS.
- Establish project management controls such as status meetings.
- Closely monitor PRP activities.

GETTING READY -- SCOPING THE RI/FS

Program Goal

The goal of the remedy selection process is to select remedial actions that are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste.

Program Expectations

- Treatment of principal threats will be used, wherever practicable; principal threats may include liquids and highly mobile or highly toxic materials.
- Engineering controls may be used for waste that poses a low long-term threat or where treatment is impracticable.
- Institutional controls will be used to mitigate short-term impacts or to supplement engineering controls; they will not serve as a sole remedy unless active response measures are impracticable.
- Remedies will often combine treatment of principal threats with engineering and institutional controls for treatment residuals and untreated waste.
- Innovative technologies should be considered if they offer the potential for comparable or superior treatment performance, fewer/lesser adverse impacts, or lower costs for a similar level of performance than demonstrated technologies.
- Ground water will be returned to its beneficial uses within a timeframe that is reasonable, where practicable.

Scoping Activities

Conduct Site Kickoff Meetings

To initiate the scoping process and to begin site management planning, a kick-off meeting (or series of meetings) is organized by the RPM. Personnel attending these meetings should include: representatives from lead and support agencies including other program staff (as needed), contractor personnel who will be performing each portion of the RI/FS or the oversight, technical experts (see Technical Support section), Environmental Services Division representatives, Natural Resource Trustee representatives (when applicable), enforcement staff, and individuals with prior experience at the site or at similar sites. During these meetings, the responsibilities for RI/FS activities will be reviewed and/or assigned. In addition, lines of communication should be established among key personnel.

Note: Two or more scoping meetings may be warranted to reduce project start-up time and cost. The first meeting(s) may include Federal and State technical personnel to identify the type and optimal sequence of site activities and to better focus the contractor's scope of work. Subsequent meetings may be held after the work assignment has been issued and the contractor has had time to review available site background data.

Evaluate Existing Data

As a first step to scoping, existing data will be compiled and evaluated. A key step in the evaluation of existing data is the determination of its quality and usability. Existing data does not have to be of sufficient quality to make final decisions but may be helpful in developing a conceptual understanding of site dynamics. Evaluating existing data is necessary to focus RI/FS efforts and to avoid duplication of previous activities. In addition, this activity helps to determine additional data needs. Data are needed to:

- Characterize the site to the extent necessary to support subsequent decisions
- Define the risk posed by the site
- Identify viable remedial action alternatives
- Identify applicable or relevant and appropriate requirements (ARARs)
- Evaluate the need for treatability studies
- Support enforcement activities

The types of existing data that should be compiled and evaluated include:

- Site data gathered during the National Priorities List (NPL) listing process and the potentially responsible party (PRP) search
- Historical and aerial photographs
- Records of disposal practices and operating procedures
- Generator manufacturing process information
- Regional geology, hydrology, meteorology, and ecology
- Demographic and land use information
- Location of sensitive environmental areas, supply wells, and surface water use on or near the site

Note: Information sources near the site will provide valuable site data and should not be overlooked. Such sources include local land records and deed books; representatives from the Soil Conservation Service, the Agricultural Extension Service, well drilling companies, and the Sheriff's office; and meterological monitoring stations for local airports or towns. In addition, interviews with present/past site owners and employees will often provide necessary site information.

Conduct Site Visit

The information obtained from conducting a site visit will ease the scoping task, save time, and help to avoid mistakes and oversights. After gaining access to the site, the RPM should walk the site taking field notes and photographs. Specifically, a site visit should be conducted to: (1) identify the site's physical characteristics, noting changes from the historical data base which may necessitate an early action, and (2) assist in developing an understanding of waste sources, areas of contamination, potential exposure pathways, and potential receptors at or near the site.

Develop Conceptual Site Model

The conceptual site model is used to: (1) develop a general understanding of the site to evaluate potential risks to human health and the environment and (2) assist in identifying and setting priorities for the activities to be conducted at the site. The conceptual site model may be either a pictorial or graphic representation of site dynamics as illustrated in Figure 2 of this fact sheet or Figure 2-2 of the *RI/FS Guidance*, respectively. The conceptual site model identifies:

- Potential sources of contamination
- Types of contaminants and affected media

- Release mechanisms and potential contaminant pathways
- Actual and potential human and environmental receptors

Note: A limited field investigation may be undertaken if insufficient information exists to develop the conceptual model. Normally, a limited investigation focuses on easily obtainable data where results can be received in a short time. Examples may include activities such as geophysical surveys, well water level measurements, or sampling and analysis of existing wells.

Identify Remedial Action Objectives and Potential Remedial Alternatives

Once a conceptual understanding of the site is obtained, potential remedial action objectives should be identified for each media to be addressed. These objectives consist of medium or operable-unit specific goals for protecting human health and the environment. An example of such a goal may include preventing migration of some carcinogen in the ground water. Following the establishment of such objectives, general response actions (e.g., treatment) for each media of interest are developed. Technology types (e.g., chemical treatment) applicable to each general response action are then identified, followed by the identification and evaluation of process options for each technology type. Table 4-1 of the *RI/FS Guidance* illustrates the alternative development process and provides examples that illustrate each of these terms.

Performing this task helps to identify the data needs for the FS and allows for an early determination of the need for treatability studies. If remedial actions involving treatment have been identified, then the need for treatability studies should be evaluated during scoping because of the impact they can have on RI/FS costs and schedule. Specifically, literature surveys should be conducted during scoping to gather information on candidate technologies. If the technologies have not been sufficiently demonstrated or cannot be adequately evaluated, based on the available information, treatability tests should be performed.

Note: When developing the preliminary list of remedial action alternatives, consideration should be given to the program expectations and to the types of response actions selected for other sites with similar problems or contaminants.

Initiate Identification of Potential ARARs

Identification of potential ARARs during the scoping phase will assist in: (1) identifying remedial goals and alternatives and (2) establishing communication with the support agency. Furthermore, early identification of potential ARARs will allow better planning of field activities. ARAR identification is progressive, with requirements identified and refined as a better understanding is gained of site conditions, site contaminants, and remedial action alternatives. The *CERCLA Compliance With Other Laws* Manual (Part I - August 1988 and Part II - August 1989, OSWER Directive Nos. 9234.1 and 9234.1-02) contains detailed information on identifying and complying with ARARs.

Note: During scoping, the emphasis should be on the identification of contaminant- and location-specific requirements as well as determining the presence of Resource Conservation and Recovery Act (RCRA) regulated hazardous waste. In addition to Federal ARARs, more stringent State ARARs must also be identified.

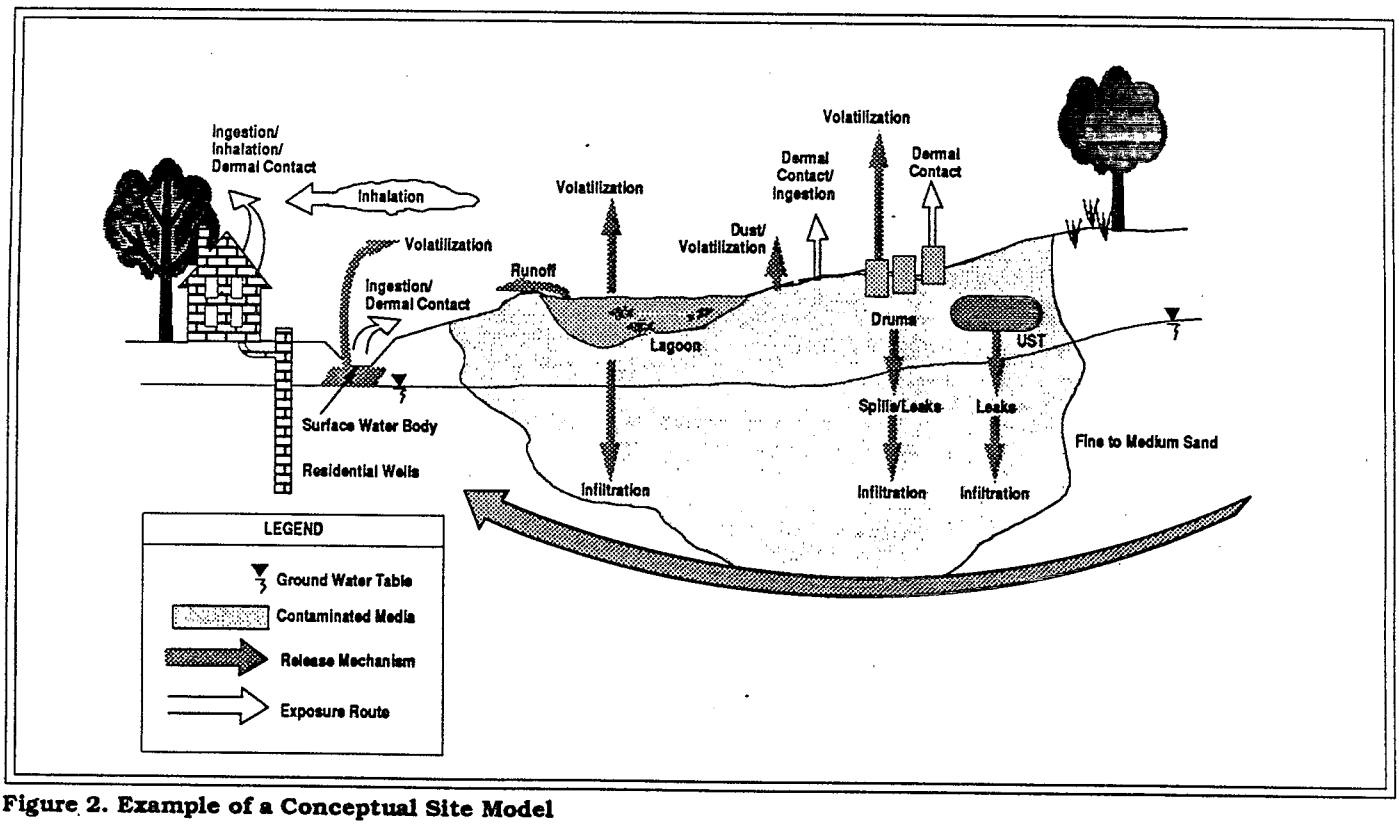


Figure 2. Example of a Conceptual Site Model

Identify Initial Data Needs and Data Quality Objectives

Thorough and focused identification of data needs and data quality objectives (DQOs) will help to avoid data gaps and delays later in the RI, and should minimize reviews/revisions of planning documents. Sufficient data must be obtained to define:

- Site physical characteristics
- Physical and chemical characteristics of sources of contamination
- Volume of contamination and extent of migration
- Potential receptors and associated exposure pathways
- Expected performance requirements of treatment alternatives

This information will be utilized to:

- Determine contaminant fate and transport
- Determine the risks posed by a site
- Develop and evaluate remedial alternatives
- Identify ARARs
- Identify the need for treatability studies
- Support future enforcement or cost recovery activities

Once data needs are identified, the strategies for sampling and analysis are developed, and the DQOs are established. DQOs specify the quality of data required during the different phases of the RI/FS. The type and quality of data needed are based on the intended use of the data, which may include health and safety planning, site characterization, remedial alternatives evaluation, or risk assessment. Additional information on the establishment of DQOs can be found in *Data Quality Objectives for Remedial Response Activities* (March 1989, OSWER Directive No. 9335.0-7B).

Note: Logistics planning should be initiated during scoping once data needs are identified. As an example, procurement of sampling equipment during scoping may be necessary as well as making arrangements with the appropriate laboratory(ies) because of backlog.

Scoping Deliverables

The deliverables developed during the scoping phase include several project plans. These plans are derived directly from activities and data needs identified during scoping.

Work Plan (WP)

The WP documents the decisions and evaluations made during scoping and describes the tasks required to conduct the RI/FS. The WP includes a description of the site management strategy, including the remedial action goals, any short- and long-term actions that may be required to address site problems, and the optimum sequence of site actions and investigative activities. In addition, the WP describes the site's physical setting and includes a background summary detailing the history of previous site activities. To document the decisions made during scoping, the WP should include an evaluation of existing site data, a representation of the conceptual site model, and a description of potential remedial alternatives. A comprehensive description of the work to be performed, including the methodologies to be utilized, as well as the rationale for performing the required activities comprises the main body of the WP. This section also assigns project responsibilities and sets the project's schedule and cost.

The format of the WP should follow the 14 standardized tasks that are described in Appendix B of the *RI/FS Guidance*. These tasks have been developed to provide for consistent reporting and effective monitoring of all Fund-financed

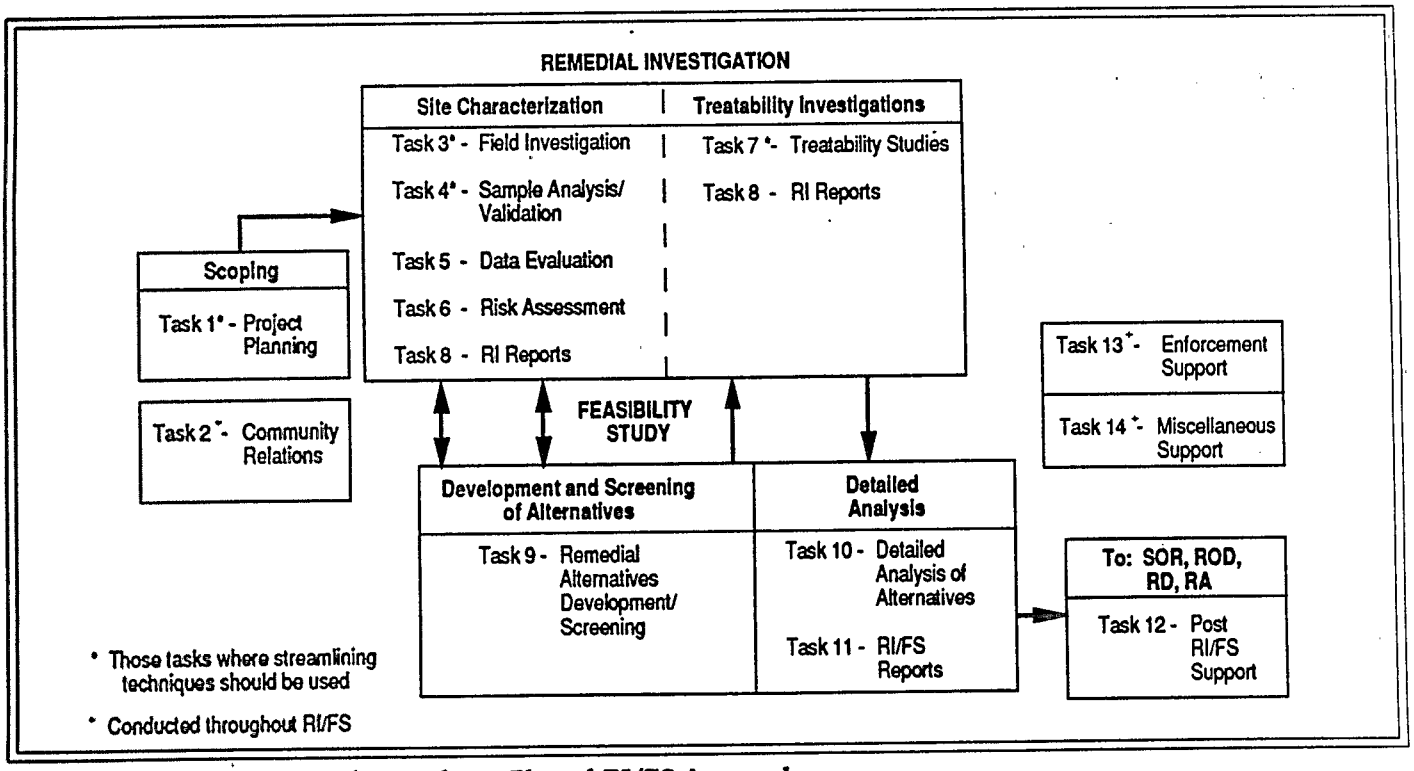


Figure 3. Relationship of RI/FS Tasks to Phased RI/FS Approach

RI/FS projects. These tasks are also recommended for use on State- and PRP-lead projects. Figure 3 depicts the relationships among these standardized tasks and the role that they play during the RI/FS. Those tasks highlighted with an asterisk have been identified as areas where streamlining techniques should be utilized to improve the RI/FS process. Such techniques are described in OSWER Directives 9355.3-06 (2/14/89), 9355.3-05 (4/25/88), and 9355.0-20 (7/22/87).

Note: Work plans may need to be amended when additional data are required to adequately scope later phases of the RI/FS or before conducting treatability studies. If any significant changes to either the budget or scope of the WP are required for Federally funded sites, a Work Plan Revision Request is submitted for approval. When changes to the WP do not affect the budget or schedule, Technical Directive Memoranda have been found to be useful for decreasing administrative time.

Sampling and Analysis Plan (SAP)

The SAP is prepared so that sample collection activities are conducted in accordance with technically acceptable protocols and that the data collected in the field meet the DQOs established during scoping. The plan also serves as a basis for estimating field costs for inclusion in the WP. The SAP consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP). The FSP will define in detail the data-gathering methods that will be used on the project. The FSP should be written so that a field sampling team, unfamiliar with the site, would be able to gather the required information. The QAPP will describe the project objectives and quality assurance/quality control (QA/QC) protocols that will be used to achieve the desired DQOs. A suggested format for the SAP is included in Table 2-4 of the *RI/FS Guidance*. Appropriate guidance on field methods, sampling procedures, and sample custody requirements is found in *A Compendium of Superfund Field Operations Methods* (August 1987, OSWER Directive No. 9355.0-14).

Note: Standard sampling and analytical procedures may be incorporated by reference into the project plans to avoid repeating technical review of a procedure that has already been approved for use in a Region. As an example, there is no need to explain how to take a split-spoon sample; a reference to the appropriate American Society of Testing and Materials (ASTM) document will suffice.

Health and Safety Plan (HSP)

The HSP identifies potentially hazardous operations and exposures and prescribes appropriate protective measures for onsite workers, the surrounding community, and the environment. The HSP should include a detailed site description accompanied by site maps and the results of previous sampling activities. The HSP must conform to the firm's or agency's health and safety program, which must comply with Occupational Safety and Health Administration (OSHA) regulations and protocols. Each HSP should include, at a minimum, the 11 elements described in Appendix B of the *RI/FS Guidance*.

Community Relations Plan (CRP)

The CRP documents the history of community relations and the issues of community concern at a site. It describes the objectives of the community relations activities and how these objectives will be met and includes a discussion of planned community interviews, fact sheets, and public meetings. Discussions with the community should be initiated during scoping as relevant information may be gathered at that time. Report preparation methods, the elements contained in a CRP, and a recommended format are included in *Community Relations in Superfund: A Handbook* (June 1988, OSWER Directive No. 9230.0-3B).

RPM Responsibilities

The RPM is responsible for managing each phase of the RI/FS. These responsibilities include ensuring that adequate technical support is being provided as well as schedule maintenance and financial control of the project.

Technical Support

Techniques the RPM may use during scoping to enhance technical supervision of this phase include:

- Identify people with the appropriate background and experience to serve on a Technical Advisory Committee (TAC). The TAC is a group of personnel from EPA and other Federal agencies, States, and consulting firms selected to serve as technical advisors for a project based on their areas of expertise. Members of this committee should include personnel from ORD's Superfund Technical Assistance Response Team (START) as well as personnel from EPA or other treatability testing laboratories.

  The START is a group of engineering technology experts from ORD whose primary focus is to provide technical support on remedy evaluation, selection, and implementation. Such support will be provided during scoping in the form of identification of potential remedial alternatives and the evaluation of data needs in support of identified technologies. For more information on START, contact Ben Blaney of ORD's Risk Reduction Engineering Laboratory in Cincinnati, FTS-684-7406 or (513) 569-7406.
- Incorporate TAC participation into the project planning phase to identify technical and/or policy issues early in the process.
- Communicate on a regular basis with all involved parties (key decisionmakers from the lead and support agencies; consultants; Federal Trustees, as appropriate; and other TAC members) to reach an early consensus on the project approach. Inform key decisionmakers of all circumstances that relate to making the final decisions regarding the site management strategy.
- Communicate any special concerns associated with the site to all appropriate personnel, including the members of the TAC.
- Communicate with contractor personnel at each juncture of the scoping process. Contractors are not responsible for making major decisions.

THE DECISION SUMMARY

The Decision Summary provides an overview of the problems posed by the conditions at a site, the remedial alternatives, and the analysis of those options. The Decision Summary explains the rationale for the selection and how the selected remedy satisfies statutory requirements. The information to be presented in each of the sections of the Decision Summary is outlined below. In most cases, much of the information presented can be summarized from the Remedial Investigation/Feasibility Study (RI/FS).

Site Name, Location, and Description. Briefly describe the site in terms of:

- Name, location, address (include maps, a site plan, or other graphic descriptions, as appropriate);
- Area and topography of the site, especially if it is located within a floodplain or wetlands;
- Adjacent land uses;
- Natural resource uses;
- Location and distance to nearby human populations;
- General surface-water and ground-water resources; and
- Surface and subsurface features (e.g., number and volume of tanks, lagoons, drums, or other structures).

Site History and Enforcement Activities. Summarize the following:

- History of site activities that led to current problems;
- History of Federal and State site investigations and removal and remedial actions conducted under CERCLA or other authorities; and
- History of CERCLA enforcement activities at the site, including:
  - The results of searches for potentially responsible parties (PRPs); and
  - Whether special notices have been issued to PRPs.

Highlights of Community Participation. Summarize the major public participation activities, as follows:

- Describe how the public participation requirements of CERCLA sections 113(k)(2)(B)(i-v) and 117 were met in the remedy selection process.

Note: Community response to the selected remedy should be addressed under the "community acceptance" criterion in the Comparative Analysis section of the ROD. Responses to community concerns should be addressed in the "Responsiveness Summary" of the ROD.

Scope and Role of Operable Unit [or Response Action] Within Site Strategy.

- Describe the role of the remedial action within the overall site clean-up strategy.
- Summarize the scope of the problems addressed by the remedial action selected. Will the action address any of the principal threats posed by conditions at the site?

Note: The Statutory Determinations section of the ROD should explain whether or not the selected remedy satisfies the statutory preference for remedies employing treatment that reduces toxicity, mobility, or volume as a principal element. By indicating whether the principal threat(s) will be addressed by the action, the Scope and Role section of the Decision Summary should provide the basis for that statutory determination.

Summary of Site Characteristics. Highlight the following factors:

- All known or suspected sources of contamination;
- Contamination and affected media, including:
  - Types and characteristics (e.g., toxic, mobile, carcinogenic, non-carcinogenic) of contaminants;
  - Volume of contaminated material; and
  - Concentrations of contaminants;
- Location of contamination and known or potential routes of migration, including:
  - Population and environmental areas that could be affected, if exposed;
  - Lateral and vertical extent of contamination; and
  - Potential surface and subsurface pathways of migration.

Include maps, charts, tables, and other graphic descriptions, as appropriate.

Summary of Site Risks. Summarize the results of the baseline risk assessment conducted for the site.

Human Health Risks:

- Identify the concentrations of the contaminants (indicator chemicals) of concern in each medium of exposure;
- Summarize results of the exposure assessment;
- Summarize the toxicity assessment of contaminants of concern;
- Summarize risk characterization for each pathway by population and the total risk for the site, including:
  - Potential or actual carcinogenic risks;
  - Noncarcinogenic risks; and
  - Brief explanation of the meaning of key risk terms.

Environmental Risks:

- Summarize the effects of the contamination on critical habitats; and
- Summarize the effects of the contamination on any endangered species.

Note: This summary of the baseline risk assessment provides the rationale for the lead agency's either undertaking a response action or taking no action.

Description of Alternatives. The objective of this section is to provide an understanding of the remedial alternatives developed for the site and their specific components. Each alternative should be described in terms of the components listed below. **Figure 1** is an example of elements to be addressed in this section.

- **Treatment components.** Describe the following, as appropriate:
  - Treatment technologies (e.g., thermal destruction) that will be used;
  - Type and volume of waste to be treated;
  - Process sizing; and
  - Primary treatment levels (e.g., best demonstrated available technology [BDAT], percentage or order of magnitude of concentration reductions expected).
- **Containment or storage components.** Describe the following, as appropriate:
  - Type of storage (e.g., landfill, tank, surface impoundment, containers);
  - Type of closure that will be implemented (RCRA Subtitle C clean closure, landfill closure, Subtitle D solid waste closure);
  - Type and quantity of waste to be stored; and
  - Quantity of untreated waste and treatment residuals to be disposed off-site or managed on-site in a

containment system (cap., minimum technology unit, etc.) and the degree of hazard remaining in such waste.

- **Ground-water component.** Describe the following, as appropriate:
  - Ground-water classification (e.g., Class I, II, or III);
  - Remediation goals (e.g., Maximum Contaminant Levels [MCLs]);
  - Estimated restoration timeframe; and
  - Area of attainment
- **General components.** Describe the following, as appropriate, for each of the three previous components:
  - Contaminated media addressed (and physical location at the site);
  - Risk reduction (including initial risk);
  - Whether treatability testing has been or will be conducted;
  - Implementation requirements;
  - Institutional controls;
  - Residual levels (e.g., delisting, BDAT);
  - Assumptions, limitations, uncertainties;
  - Estimated implementation timeframe; and
  - Estimated capital, O&M, and present-worth costs.
- **The major applicable or relevant and appropriate requirements (ARARs), risk-based levels, and other "to be considered" (TBCs) being met/utilized for the specific components of the remedial alternative.**
  - The description should summarize how the specific components of the alternative will comply with the major ARARs, as well as briefly describe why the standard is applicable or relevant and appropriate (e.g., placing a RCRA characteristic waste, thus RCRA closure is applicable).

Summary of Comparative Analysis of Alternatives. In this section, summarize the relative performance of the alternatives by highlighting the key differences among the alternatives in relation to the nine evaluation criteria. An effective way of organizing this section is to present a *series of paragraphs headed by each* criterion. Under each criterion, the alternative that performs best in that category should be discussed first, with other options discussed in sequence. Refer to the RI/FS and ROD guidance documents for additional information on the factors included in each of the nine criteria. The nine evaluation criteria are summarized below.

Threshold Criteria

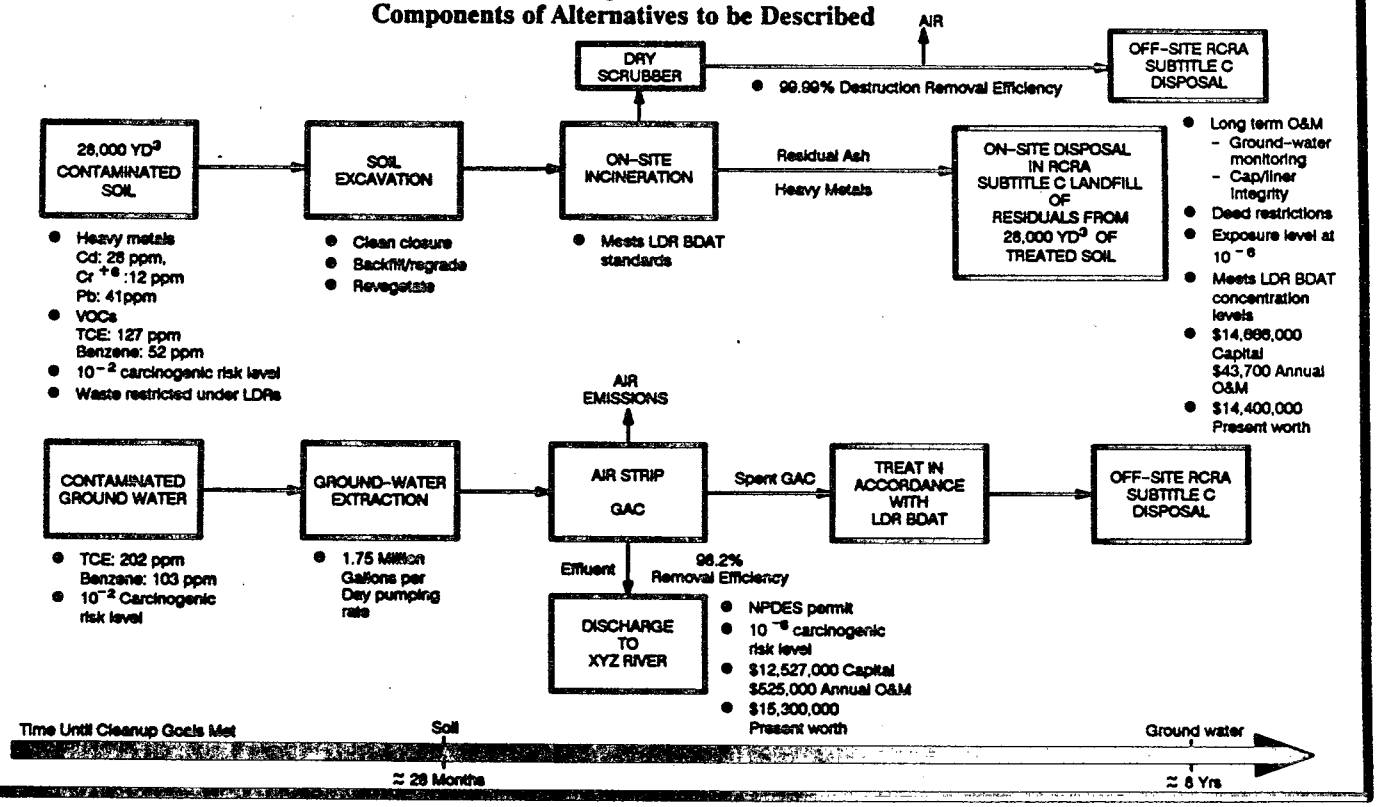
- **Overall protection of human health and the environment** addresses whether a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
- **Compliance with applicable or relevant and appropriate requirements (ARARs)** addresses whether a remedy will meet all of the ARARs of other Federal and State environmental laws and/or justifies a waiver.

Primary Balancing Criteria

- **Long-term effectiveness and permanence** refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once clean-up goals have been met.
- **Reduction of toxicity, mobility, or volume through treatment** is the anticipated performance of the treatment technologies a remedy may employ.
- **Short-term effectiveness** addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until clean-up goals are achieved.
- **Implementability** is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- **Cost** includes estimated capital and O&M costs, as well as present-worth costs.

Figure 1

Components of Alternatives to be Described



Modifying Criteria

- **State/Support Agency Acceptance** should be used to indicate the support agency's comments. Where the State or Federal agency is the lead for the ROD, EPA's acceptance of the selected remedy should be addressed under this criterion.

- **Community Acceptance** summarizes the public's general response to the alternatives described in the Proposed Plan and RI/FS Report. The specific responses to public comments should be addressed in the Responsiveness Summary section of the ROD.

Notes: In addressing the long-term effectiveness and permanence of an alternative, the term "permanence" should be used carefully. Permanence is viewed along a continuum; an alternative can be described as offering a greater or lesser degree of long-term effectiveness and permanence. Alternatives generally should not be described as "permanent" or "impermanent."

Only reductions achieved through treatment should be addressed under the "reduction of toxicity, mobility, or volume through treatment" criterion. Reductions of mobility accomplished through containment should be addressed under "overall protection of human health and the environment."

The Selected Remedy. In this section of the ROD, identify the selected remedy and remediation goals and state:

- The carcinogenic risk level to be attained and the rationale for it; and
- The specific points of compliance, as appropriate, for the media being addressed (e.g., "MCLs will be met at the edge of the waste management area").

The Statutory Determinations. The remedy selected must satisfy the requirements of section 121 of CERCLA to:

- Protect human health and the environment;
- Comply with ARARs (or justify a waiver);
- Be cost-effective;
- Utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and
- Satisfy the preference for treatment as a principal element or justify not meeting the preference.

A description of how the selected remedy satisfies each of the statutory requirements should be provided. Points to address for each of these requirements are presented in **Highlight 2**.

Documentation of Significant Changes. CERCLA section 117(b) requires an explanation of any significant changes from the preferred alternative originally presented in the Proposed Plan. If the selected remedy reflects significant changes from the preferred alternative, the ROD should:

- Identify the preferred alternative originally presented in the Proposed Plan;
- Describe the significant changes; and
- Explain the reason(s) for such changes.

THE RESPONSIVENESS SUMMARY

The final component of the ROD is the Responsiveness Summary, which serves two purposes. First, it provides lead agency decisionmakers with information about community preferences regarding both the remedial alternatives and general concerns about the site. Second, it demonstrates to members of the public how their comments were taken into account as an integral part of the decision making process.

Guidance on preparing Responsiveness Summaries is available in Community Relations in Superfund: A Handbook (OSWER Directive 9230.0-3B, June 1988). That document details the process of preparing the Responsiveness Summary and includes a sample Responsiveness Summary.

Highlight 2: The Statutory Determinations

Protection Of Human Health And The Environment

- Describe how the selected remedy will eliminate, reduce, or control risks posed through each pathway through treatment, engineering controls, or institutional controls, to ensure adequate protection of human health and the environment (including that the site risk will be reduced to within the 10-4 to 10-6 range for carcinogens, and that the Hazard Indices for non-carcinogens will be less than one).
- Indicate that no unacceptable short-term risks or cross-media impacts will be caused by implementation of the remedy.

Compliance with ARARs

- State whether the selected remedy will comply with ARARs. When appropriate, state the waiver that is being invoked and justify the waiver. Organize the ARARs according to chemical-specific, location-specific, and action-specific.
- List and describe the Federal and State ARARs that the selected remedy will attain, distinguishing applicable from relevant and appropriate requirements, as necessary. **Note:** Cite the specific section of the statute or regulation that contains the requirement and provide a brief synopsis of the requirement.
- List and provide the rationale for using any "to be considered" (TBCs). **Note:** TBCs are not ARARs, but they may be used to design a remedy or set clean-up levels if no ARARs address the site, or if existing ARARs do not ensure protectiveness.

Cost-Effectiveness

- Describe how the selected remedy provides overall effectiveness proportionate to its costs, such that it represents a reasonable value for the money to be spent.

Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable ("MEP")

- Describe the **rationale** for the remedy selection, explaining that the remedy selected provides the best balance of tradeoffs among the alternatives with respect to the evaluation criteria, especially the five balancing criteria.
- Discuss those criteria that were most critical in the selection decision (i.e., those that distinguish the alternatives most).
- Highlight the tradeoffs among the alternatives with respect to the five balancing criteria.
- Describe the role of the State and community acceptance considerations in the decision-making process (modifying criteria).
- Provide a general statement that the selected remedy meets the statutory requirement to utilize permanent solutions and treatment technologies, to the maximum extent practicable.

Note: For a remedy that does not employ any treatment or resource recovery technologies, the explanation of the rationale should discuss the reasons why treatment was found to be impracticable or acknowledge that treatment was not within the limited scope of the action (e.g., an interim action).

Preference for Treatment as a Principal Element

- Describe how the preference for treatment is satisfied if the remedy uses treatment to address the principal threat(s) posed by conditions at the site; or
- Explain why the preference is not satisfied if treatment is not used to address the principal threats. This explanation will refer back to the explanation under the "MEP" finding that explains why treatment of the principal threats was found to be either impracticable or not within the limited scope of the action.

A GUIDE TO DEVELOPING SUPERFUND PROPOSED PLANS

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Directive: 9335.3-02FS-2
November 1989

EPA

A Guide to Developing Superfund Proposed Plans

Office of Emergency and Remedial Response
Hazardous Site Control Division
Quick Reference Fact Sheet

Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, requires preparation of Proposed Plans as part of the site remediation process. The Proposed Plan is prepared after the Remedial Investigation/Feasibility Study (RI/FS) is completed and is made available with the RI/FS to the public for comment. The Proposed Plan highlights key aspects of the RI/FS, provides a brief analysis of remedial alternatives under consideration, identifies the preferred alternative, and provides members of the public with information on how they can participate in the remedy selection process. A notice and brief analysis of the Proposed Plan is published in a major local newspaper of general circulation. In addition, the Proposed Plan, the RI/FS, and the other contents of the Administrative Record are available at an information repository near the site.

This guide outlines the major components of the Proposed Plan and suggests effective ways in which the various sections can be presented. EPA recommends issuing the Proposed Plan in a fact sheet format. For some highly complex sites or remedies, more detailed Plans may be appropriate. All Proposed Plans should be written in a style that makes the material easy for the public to understand and should emphasize that the preferred alternative identified in the Proposed Plan is a preliminary determination, and that the Agency is requesting comments on all of the alternatives.

Detailed guidance on the preparation of the Proposed Plan is provided in Chapters 2, 3, and 9 of the "Interim Final Guidance on Preparing Superfund Decision Documents" (the "ROD Guidance") (OSWER Directive 9335.3-02, November 1989, EPA/540/G-89/007).

Introduction

Begin with a statement of the document's purpose. This introduction should state the site name and location, identify the lead and support agencies, and state that the Proposed Plan:

- Fulfills the requirements of CERCLA section 117(a);
- Describes the remedial alternatives analyzed for the site or operable unit;
- Identifies the preferred alternative and explains the rationale for the preference;
- Highlights key information in the RI/FS and administrative record, to which the reader is referred for further details;
- Solicits community involvement in the selection of a remedy; and
- Invites public comment on all alternatives.

Site Background

Provide a brief description of the site, including:

- History of site activities that led to current problems at the site; and
- The site area or media to be addressed by the selected remedy.

Figure 1 is an example of a site map that could be included.

Scope and Role of Operable Unit or Response Action

- Identify the principal threats posed by conditions at the site; and
- Describe the scope of the problems addressed by the preferred alternative and its role within the overall site clean-up strategy.

Summary of Site Risks

- Provide a brief overview of the baseline risk assessment, including the contaminated media, contaminants of concern, exposure pathways and populations, and potential or actual risks;
- Describe how current risks compare with remediation goals; and
- Discuss environmental risks, as appropriate.

Summary of Alternatives

Describe briefly each of the alternatives evaluated in the detailed analysis of the FS. Highlight the following:

- Treatment components;
- Engineering controls (noting the type of containment controls); and
- Institutional controls.

Quantities of waste and implementation requirements related to each component should be noted, as well as major applicable or relevant and appropriate requirements (ARARs), the estimated construction, and operation and maintenance (O&M) costs (also expressed in present worth), and the implementation time of each alternative. Emphasize that these latter two evaluations are estimates. An example is presented in **Highlight 1**.

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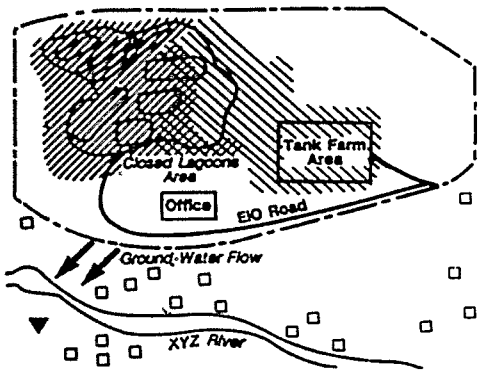
Figure 1

EIO Industrial Site and Surroundings*



Highlight 1: Summarizing an Alternative

Treatment Components:

Excavation, on-site incineration of contaminated soils, and solidification and off-site disposal of residual metals and ash.

Estimated Construction Cost: $42,463,300
Estimated Annual O&M Costs: $26,200
Estimated Present-Worth Costs: $42,708,780
Estimated Implementation Timeframe: 30 Months

Under this alternative, a mobile incinerator would be brought to the site, and 28,000 cubic yards of soils contaminated with RCRA listed wastes would be excavated and incinerated on-site to BDAT levels established under the RCRA Land Disposal Restrictions (LDR). Waste gases and water from this process would be collected and treated off-site in a RCRA Subtitle C treatment facility; residual metals and ash would be solidified to achieve LDR treatment standards and disposed off-site in a RCRA Subtitle C disposal facility.

Evaluation of Alternatives and the Preferred Alternative.

- Identify the preferred alternative, emphasizing that the selection of this alternative is preliminary and could change in response to public comments or other new information. Sample text is presented in **Highlight 2.**

Highlight 2: Stating the Preferred Alternative

The preferred alternative is alternative number 3. Alternative 3 includes excavation and on-site incineration of contaminated soils, with solidification and off-site disposal of residual metals and ash. Based on new information or public comments, EPA, in consultation with the State of Tennessee, may later modify the preferred alternative or select another remedial action presented in this Proposed Plan and the RI/FS. The public, therefore, is encouraged to review and comment on all of the alternatives identified in this Proposed Plan. The RI/FS should be consulted for more information on these alternatives.

- Introduce the nine evaluation criteria used to evaluate the alternatives.

- Summarize the expected performance of the preferred alternative in terms of the nine evaluation criteria explaining how the preferred alternative compares to the other alternatives with respect to those criteria. This description is for the preliminary preference. Sample text for one criterion is presented in **Highlight 3.**

Highlight 3: Presenting the Evaluation of Alternatives

Short-term effectiveness.

Alternative number 4 uses a treatment process for soils and disposal of residuals in an on-site landfill that contains the contaminated soils and reduces the possibility of direct human contact with contaminants more quickly than all of the other alternatives except Alternative 1 (no action). Under the preferred alternative, once the volatile organics have been collected in canisters, there is some minor short-term risk of exposure to the community during transportation of the canisters to a disposal site.

Because the capacity of on-site and off-site incinerators is limited, under Alternatives 3 and 5 contaminated soils would be stockpiled for up to six years. Under these two alternatives, the risks of direct contact with stockpiled contaminated soils would be increased until incineration has been completed. In addition, there are some risks of exposure to air emissions from the incinerators.

The nine evaluation criteria are summarized below.

Threshold Criteria:

- **Overall protection of human health and the environment** addresses whether a remedy provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

- **Compliance with applicable or relevant and appropriate requirements (ARARs)** addresses whether a remedy will meet all of the ARARs of other Federal and State environmental laws and/or justifies a waiver.

Primary Balancing Criteria:

- **Long-term effectiveness and permanence** refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once clean-up goals have been met.

- **Reduction of toxicity, mobility, or volume through treatment** is the anticipated performance of the treatment technologies a remedy may employ.

- **Short-term effectiveness** addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until clean-up goals are achieved.

- **Implementability** is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- **Cost** includes estimated capital and O&M costs, also expressed as net present worth-costs.

Modifying Criteria:

- **State/Support Agency Acceptance** reflects aspects of the preferred alternative and other alternatives that the support agency favors or objects to, and any specific comments regarding State ARARs or the proposed use of waivers. The Proposed Plan should address views known at the time the plan is issued but should not speculate. The assessment of State concerns may not be complete until after the public comment period on the RI/FS and Proposed Plan is held.
- **Community Acceptance** summarizes the public's general response to the alternatives described in the Proposed Plan and in the RI/FS, based on public comments received. Like State Acceptance, evaluations under this criterion usually will not be completed until after the public comment period is held.

Present the lead agency's preliminary determination that the preferred alternative provides the best balance of tradeoffs with respect to the nine criteria. Sample text is presented in **Highlight 4**. The preferred alternative is anticipated to meet the following statutory requirements to:

- Protect human health and the environment;
- Comply with ARARs (or justify a waiver);
- Be cost-effective;
- Utilize permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable; and
- Satisfy the statutory *preference for treatment as a principal* element, or justify not meeting the preference.

Highlight 4: Summarizing the Statutory Findings

In summary, the preferred alternative is believed to provide the best balance of trade-offs among alternatives with respect to the criteria used to evaluate remedies. Based on the information available at this time, therefore, EPA and the State of Tennessee believe the preferred alternative would protect human health and the environment, would comply with ARARs, would be cost-effective, and would utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. The preferred alternative should/will not satisfy the preference for treatment as a principal element.

Community Participation

The Proposed Plan is a public participation decision document. It should include information that helps the public understand how they can be involved. To this end, the Plan should:

- Provide notice of the dates of the public comment period;
- Note the date, time, and location of public meeting(s) planned to be held;
- Identify names, phone numbers, and addresses of lead and support agency contact people to whom comments should be sent;
- State whether a special notice has been issued to the potentially responsible parties (PRPs), if applicable; and
- List the location of the Administrative Record and other information repositories.

SECTION VIII

NATIONAL PRIORITIES LIST

National Priorities List,
Final Sites (by State)
February 1991

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
CT	New London Submarine Base	New London	10/89	8/90	Gr 13F
CT	Nutmeg Valley Road	Wolcott	1/87	3/89	379
CT	Old Southington Landfill	Southington	9/83	9/84	121
CT	Precision Plating Corp.	Vernon	6/88	10/89	214
CT	Revere Textile Prints Corp.	Sterling	6/86	7/87	460
CT	Solvents Recovery Service of New England	Southington	12/82	9/83	321
CT	Yaworski Waste Lagoon	Canterbury	12/82	9/83	626
	15 Final Sites				
DE	Army Creek Landfill (once listed as Delaware Sand & Gravel-Llangollen Army Creek Landfills)	New Castle County	10/81	9/83	9
DE	Chem-Solv, Inc.	Cheswold	1/87	8/90	574
DE	Coker's Sanitation Service Landfills	Kent County	4/85	7/87	159
DE	Delaware City PVC Plant (once listed as Stauffer Chemical Co.)	Delaware City	10/81	9/83	972
DE	Delaware Sand & Gravel Landfill (once listed as Delaware Sand & Gravel-Llangollen Army Creek Landfills)	New Castle County	10/81	9/83	272
DE	Dover Air Force Base	Dover	10/84	3/89	Gr 13F
DE	Dover Gas Light Co.	Dover	1/87	10/89	667
DE	E.I. Du Pont de Nemours & Co., Inc. (Newport Pigment Plant Landfill)	Newport	1/87	2/90	169
DE	Halby Chemical Co.	New Castle	9/85	6/86	952
DE	Harvey & Knott Drum, Inc.	Kirkwood	7/82	9/83	957
DE	Kent County Landfill (Houston)	Houston	6/88	8/90	815
DE	Koppers Co., Inc. (Newport Plant)	Newport	10/89	8/90	827
DE	NCR Corp. (Millsboro Plant)	Millsboro	4/85	7/87	548
DE	New Castle Spill (once listed as TRIS Spill)	New Castle County	12/82	9/83	545
DE	Sealand Limited	Mount Pleasant	6/88	8/90	839
DE	Standard Chlorine of Delaware,Inc	Delaware City	9/85	7/87	
DE	Sussex County Landfill No. 5	Laurel	6/88	10/89	
DE	Tybouts Corner Landfill *	New Castle County	10/81	9/83	6
DE	Tyler Refrigeration Pit	Smyrna	6/86	2/90	770
DE	Wildcat Landfill	Dover	12/82	9/83	967
	20 Final Sites				
FL	Agrico Chemical Co.	Pensacola	6/88	10/89	319
FL	Airco Plating Co.	Miami	6/88	2/90	391
FL	Alpha Chemical Corp.	Galloway	10/81	9/83	360
FL	American Creosote Works, Inc. (Pensacola Plant) (once listed as American Creosote Works)	Pensacola	10/81	9/83	51
FL	Anaconda Aluminum Co./Milgo Electronics Corp.	Miami	10/89	8/90	943
FL	Anodyne, Inc.	North Miami Beach	6/88	2/90	942
FL	B&B Chemical Co., Inc.	Hialeah	6/88	8/90	700
FL	Beulah Landfill	Pensacola	6/88	2/90	553
FL	BMI-Textron	Lake Park	6/88	8/90	704
FL	Brown Wood Preserving	Live Oak	12/82	9/83	312
FL	Cabot/Koppers	Gainesville	9/83	9/84	629
FL	Cecil Field Naval Air Station	Jacksonville	7/89	11/89	Gr 18F
FL	Chemform, Inc.	Pompano Beach	6/88	10/89	578
FL	City Industries, Inc.	Orlando	10/84	10/89	886
FL	Coleman-Evans Wood Preserving Co.	Whitehouse	10/81	9/83	286
FL	Davie Landfill (once listed as Broward County Solid Waste Disposal Facility)	Davie	10/81	9/83	69
FL	Dubose Oil Products Co.	Cantonment	10/84	6/86	758
FL	Florida Steel Corp.	Indiantown	12/82	9/83	298
FL	Gold Coast Oil Corp.	Miami	10/81	9/83	77
FL	Harris Corp. (Palm Bay Plant) (once listed as Harris Corp./General Development Utilities)	Palm Bay	4/85	7/87	674
FL	Hipps Road Landfill	Duval County	9/83	9/84	893

National Priorities List,
Final Sites (by State)
February 1991

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
FL	Hollingsworth Solderless Terminal	Fort Lauderdale	10/81	9/83	330
FL	Homestead Air Force Base	Homestead	7/89	8/90	Gr 8F
FL	Jacksonville Naval Air Station	Jacksonville	7/89	11/89	Gr 18F
FL	Kassauf-Kimerling Battery Disposal (once listed as Timber Lake Battery Disposal)	Tampa	10/81	9/83	136
FL	Madison County Sanitary Landfill	Madison	6/88	8/90	577
FL	Miami Drum Services (once listed as part of Biscayne Aquifer)	Miami	10/81	9/83	130
FL	Munisport Landfill	North Miami	12/82	9/83	863
FL	Northwest 58th Street Landfill (once listed as part of Biscayne Aquifer)	Hialeah	10/81	9/83	209
FL	Peak Oil Co./Bay Drum Co.	Tampa	10/84	6/86	55
FL	Pensacola Naval Air Station	Pensacola	7/89	11/89	Gr 8F
FL	Pepper Steel & Alloys, Inc.	Medley	9/83	9/84	903
FL	Petroleum Products Corp.	Pembroke Park	4/85	7/87	491
FL	Pickettville Road Landfill	Jacksonville	10/81	9/83	365
FL	Pioneer Sand Co.	Warrington	10/81	9/83	165
FL	Piper Aircraft/Vero Beach Water & Sewer Department	Vero Beach	6/86	2/90	938
FL	Reeves Southeast Galvanizing Corp	Tampa	10/81	9/83	46
FL	Sapp Battery Salvage	Cottondale	10/81	9/83	247
FL	Schuylkill Metals Corp.	Plant City	12/82	9/83	43
FL	Sherwood Medical Industries	Deland	12/82	9/83	505
FL	Sixty-Second Street Dump	Tampa	12/82	9/83	215
FL	Standard Auto Bumper Corp.	Hialeah	6/88	10/89	372
FL	Sydney Mine Sludge Ponds	Brandon	6/86	10/89	529
FL	Taylor Road Landfill	Seffner	10/81	9/83	180
FL	Tower Chemical Co.	Clermont	10/81	9/83	343
FL	Whitehouse Oil Pits	Whitehouse	10/81	9/83	151
FL	Wilson Concepts of Florida, Inc.	Pompano Beach	6/88	3/89	579
FL	Wingate Road Municipal Incinerator Dump	Fort Lauderdale	6/88	10/89	910
FL	Woodbury Chemical Co. (Princeton Plant)	Princeton	6/88	8/90	517
FL	Yellow Water Road Dump	Baldwin	9/85	6/86	985
FL	Zellwood Ground Water Contamination	Zellwood	10/81	9/83	171
	51 Final Sites				
GA	Cedartown Industries, Inc.	Cedartown	6/88	2/90	441
GA	Cedartown Municipal Landfill	Cedartown	6/88	3/89	817
GA	Diamond Shamrock Corp. Landfill	Cedartown	1/87	8/90	662
GA	Firestone Tire & Rubber Co. (Albany Plant)	Albany	6/88	10/89	996
GA	Hercules 009 Landfill	Brunswick	9/83	9/84	152
GA	Marine Corps Logistics Base	Albany	7/89	11/89	Gr 7F
GA	Marzone Inc./Chevron Chemical Co.	Tifton	6/88	10/89	986
GA	Mathis Brothers Landfill (South Marble Top Road)	Kensington	1/87	3/89	956
GA	Monsanto Corp. (Augusta Plant)	Augusta	9/83	9/84	658
GA	Powersville Site	Peach County	9/83	9/84	686
GA	Robins Air Force Base (Landfill #4/Sludge Lagoon) (once listed as Robins Air Force Base)	Houston County	10/84	7/87	Gr 4F
GA	T.H. Agriculture & Nutrition Co. (Albany Plant)	Albany	6/88	3/89	464
GA	Woolfolk Chemical Works, Inc.	Fort Valley	6/88	8/90	415
	13 Final Sites				
GU	Ordot Landfill *	Guam	10/81	9/83	97
	1 Final Sites				
HI	Schofield Barracks	Oahu	7/89	8/90	Gr 22F
	1 Final Sites				

National Priorities List,
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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
IA	Aidex Corp. *	Council Bluffs	10/81	9/83	93
IA	Des Moines TCE (once listed as DICO)	Des Moines	12/82	9/83	408
IA	E.I. Du Pont de Nemours & Co., Inc. (County Road X23)	West Point	6/88	8/90	295
IA	Electro-Coatings, Inc.	Cedar Rapids	6/88	10/89	427
IA	Fairfield Coal Gasification Plant	Fairfield	6/88	8/90	565
IA	Farmers' Mutual Cooperative	Hospers	6/88	8/90	800
IA	Iowa Army Ammunition Plant	Middletown	7/89	8/90	Gr 21F
IA	John Deere (Ottumwa Works Landfills)	Ottumwa	6/88	2/90	403
IA	LaBounty Site	Charles City	12/82	9/83	8
IA	Lawrence Todtz Farm	Camanche	9/85	6/86	162
IA	Lehigh Portland Cement Co.	Mason City	6/88	8/90	68
IA	Mid-America Tanning Co.	Sergeant Bluff	6/88	3/89	240
IA	Midwest Manufacturing/North Farm	Kellogg	9/85	6/86	882
IA	Northwestern States Portland Cement Co.	Mason City	6/88	8/90	75
IA	Peoples Natural Gas Co.	Dubuque	6/88	8/90	284
IA	Red Oak City Landfill	Red Oak	6/86	3/89	761
IA	Shaw Avenue Dump	Charles City	9/85	7/87	997
IA	Sheller-Globe Corp. Disposal	Keokuk	5/89	8/90	807
IA	Vogel Paint & Wax Co.	Orange City	10/84	6/86	921
IA	White Farm Equipment Co. Dump	Charles City	6/88	8/90	356
	20 Final Sites				
ID	Arrcom (Drexler Enterprises)	Rathdrum	12/82	9/83	1029
ID	Bunker Hill Mining & Metallurgical	Smelterville	12/82	9/83	114
ID	Eastern Michaud Flats Contamination	Pocatello	5/89	8/90	73
ID	Idaho National Engineering Laboratory (USDOE)	Idaho Fall's	7/89	11/89	[illegible]
ID	Kerr-McGee Chemical Corp. (Soda Springs Plant)	Soda Springs	5/89	10/89	[illegible]
ID	Monsanto Chemical Co. (Soda Springs Plant)	Soda Springs	5/89	8/90	3
ID	Mountain Home Air Force Base	Mountain Home	7/89	8/90	Gr 2F
ID	Pacific Hide & Fur Recycling Co.	Pocatello	9/83	9/84	407
ID	Union Pacific Railroad Co.	Pocatello	9/83	9/84	132
	9 Final Sites				
IL	A & F Material Reclaiming, Inc.	Greenup	7/82	9/83	109
IL	Acme Solvent Reclaiming, Inc. (Morristown Plant)	Morristown	7/82	9/83	888
IL	Adams County Quincy Landfills 2&3	Quincy	6/88	8/90	751
IL	Amoco Chemicals (Joliet Landfill)	Joliet	6/88	2/90	516
IL	Beloit Corp.	Rockton	6/88	8/90	163
IL	Belvidere Municipal Landfill	Belvidere	12/82	9/83	1067
IL	Byron Salvage Yard	Byron	12/82	9/83	777
IL	Central Illinois Public Service Co.	Taylorville	6/88	8/90	1036
IL	Cross Brothers Pail Recycling (Pembroke)	Pembroke Township	12/82	9/83	440
IL	DuPage County Landfill/Blackwell Forest Preserve	Warrenville	6/88	2/90	675
IL	Galesburg/Koppers Co.	Galesburg	12/82	9/83	725
IL	H.O.D. Landfill	Antioch	9/85	2/90	732
IL	Ilada Energy Co.	East Cape Girardeau	6/88	10/89	750
IL	Interstate Pollution Control, Inc.	Rockford	6/88	3/89	292
IL	Johns-Manville Corp.	Waukegan	12/82	9/83	550
IL	Joliet Army Ammunition Plant (Load-Assembly-Packing Area)	Joliet	4/85	3/89	Gr 15F
IL	Joliet Army Ammunition Plant (Manufacturing Area)	Joliet	10/84	7/87	Gr 18F
IL	Kerr-McGee (Kress Creek/West Branch of DuPage River)	DuPage County	10/84	2/91	524
IL	Kerr-McGee (Reed-Keppler Park)	West Chicago	10/84	8/90	514
IL	Kerr-McGee (Residential Areas)	W Chic/DuPage Cnty	10/84	8/90	555
IL	Kerr-McGee (Sewage Treatment Plant)	West Chicago	10/84	8/90	710
IL	LaSalle Electric Utilities	LaSalle	12/82	9/83	439
IL	Lenz Oil Service, Inc.	Lemont	6/88	10/89	400
IL	MIG/Dewane Landfill	Belvidere	10/89	8/90	204

National Priorities List,
Final Sites (by State)
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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
IL	NL Industries/Taracorp Lead Smelter	Granite City	10/84	6/86	558
IL	Outboard Marine Corp. *	Waukegan	10/81	9/83	87
IL	Pagel's Pit	Rockford	10/84	6/86	301
IL	Parsons Casket Hardware Co.	Belvidere	1/87	7/87	108
IL	Sangamo Electric Dump/Crab Orchard National Wildlife Refuge (USDOI)	Carterville	10/84	7/87	Gr 8F
IL	Savanna Army Depot Activity	Savanna	10/84	3/89	Gr 9F
IL	Southeast Rockford Ground Water Contamination	Rockford	6/88	3/89	416
IL	Tri-County Landfill Co./Waste Management of Illinois, Inc.	South Elgin	6/86	3/89	376
IL	Velsicol Chemical Corp. (Illinois)	Marshall	12/82	9/83	230
IL	Wauconda Sand & Gravel	Wauconda	7/82	9/83	137
IL	Woodstock Municipal Landfill	Woodstock	6/88	10/89	202
IL	Yeoman Creek Landfill	Waukegan	6/88	3/89	836
	36 Final Sites				
IN	American Chemical Service, Inc.	Griffith	9/83	9/84	718
IN	Bennett Stone Quarry	Bloomington	9/83	9/84	859
IN	Carter Lee Lumber Co.	Indianapolis	6/88	3/89	693
IN	Columbus Old Municipal Landfill #1	Columbus	9/85	6/86	314
IN	Conrail Rail Yard (Elkhart)	Elkhart	6/88	8/90	418
IN	Continental Steel Corp.	Kokomo	6/88	3/89	907
IN	Douglass Road/Uniroyal, Inc., Landfill	Mishawaka	6/86	3/89	632
IN	Envirochem Corp.	Zionsville	12/82	9/83	278
IN	Fisher-Calo	LaPorte	12/82	9/83	164
IN	Fort Wayne Reduction Dump	Fort Wayne	10/84	6/86	392
IN	Galen Myers Dump/Drum Salvage	Osceola	6/88	3/89	419
IN	Himco Dump	Elkhart	6/88	2/90	406
IN	Lake Sandy Jo (M&M Landfill) (once listed as Lake Sandy Jo)	Gary	12/82	9/83	549
IN	Lakeland Disposal Service, Inc.	Claypool	6/88	3/89	762
IN	Lemon Lane Landfill	Bloomington	12/82	9/83	1027
IN	Main Street Well Field	Elkhart	12/82	9/83	387
IN	Marion (Bragg) Dump	Marion	12/82	9/83	706
IN	MIDCO I	Gary	12/82	9/83	279
IN	MIDCO II	Gary	10/84	6/86	990
IN	Neal's Dump (Spencer)	Spencer	10/84	6/86	636
IN	Neal's Landfill (Bloomington)	Bloomington	10/81	9/83	369
IN	Ninth Avenue Dump	Gary	12/82	9/83	485
IN	Northside Sanitary Landfill, Inc	Zionsville	9/83	9/84	291
IN	Prestolite Battery Division	Vincennes	9/85	10/89	476
IN	Reilly Tar & Chemical Corp. (Indianapolis Plant)	Indianapolis	9/83	9/84	767
IN	Seymour Recycling Corp. *	Seymour	10/81	9/83	54
IN	Southside Sanitary Landfill	Indianapolis	6/86	3/89	443
IN	Tippecanoe Sanitary Landfill, Inc	Lafayette	6/88	8/90	417
IN	Tri-State Plating	Columbus	9/85	6/86	1028
IN	Waste, Inc., Landfill	Michigan City	4/85	7/87	193
IN	Wayne Waste Oil	Columbia City	12/82	9/83	401
IN	Wedzeb Enterprises, Inc.	Lebanon	12/82	9/83	930
IN	Whiteford Sales & Service Inc./NationaLease	South Bend	6/88	8/90	175
	33 Final Sites				
KS	29th & Mead Ground Water Contamination	Wichita	6/88	2/90	701
KS	Arkansas City Dump *	Arkansas City	10/81	9/83	100
KS	Big River Sand Co.	Wichita	10/84	6/86	858
KS	Cherokee County (once listed as Tar Creek, Cherokee County)	Cherokee County	12/82	9/83	57
KS	Doepke Disposal (Holliday)	Johnson County	12/82	9/83	251
KS	Fort Riley	Junction City	7/89	8/90	Gr 16F
KS	Hydro-Flex Inc.	Topeka	6/88	3/89	373
KS	Johns' Sludge Pond	Wichita	12/82	9/83	650

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
KS	Obee Road	Hutchinson	1/87	7/87	822
KS	Pester Refinery Co.	El Dorado	6/88	3/89	993
KS	Strother Field Industrial Park	Cowley County	10/84	6/86	821
	11 Final Sites				
KY	A.L. Taylor (Valley of Drums) *	Brooks	10/81	9/83	96
KY	Airco	Calvert City	9/83	9/84	834
KY	B.F. Goodrich	Calvert City	12/82	9/83	844
KY	Brantley Landfill	Island	6/88	2/90	147
KY	Caldwell Lace Leather Co., Inc.	Auburn	6/88	8/90	749
KY	Distler Brickyard	West Point	12/82	9/83	325
KY	Distler Farm	Jefferson County	7/82	9/83	736
KY	Fort Hartford Coal Co. Stone Quarry	Olaton	6/88	8/90	347
KY	General Tire & Rubber Co. (Mayfield Landfill)	Mayfield	6/88	2/90	845
KY	Green River Disposal, Inc.	Maceo	6/88	8/90	1032
KY	Howe Valley Landfill	Howe Valley	6/86	7/87	625
KY	Lee's Lane Landfill	Louisville	7/82	9/83	513
KY	Maxey Flats Nuclear Disposal	Hillsboro	10/84	6/86	912
KY	Newport Dump	Newport	12/82	9/83	600
KY	Red Penn Sanitation Co. Landfill	Peewee Valley	6/88	3/89	559
KY	Smith's Farm	Brooks	10/84	6/86	853
KY	Tri-City Disposal Co.	Shepherdsville	6/88	3/89	787
	17 Final Sites				
LA	Bayou Bonfouca	Slidell	12/82	9/83	
LA	Bayou Sorrel Site	Bayou Sorrel	7/82	9/84	
LA	Cleve Reber	Sorrento	12/82	9/83	229
LA	Combustion, Inc.	Denham Springs	6/86	8/90	792
LA	D.L. Mud, Inc.	Abbeville	6/88	10/89	864
LA	Dutchtown Treatment Plant	Ascension Parish	1/87	7/87	640
LA	Gulf Coast Vacuum Services	Abbeville	6/88	3/89	375
LA	Louisiana Army Ammunition Plant	Doyline	10/84	3/89	Gr 20F
LA	Old Inger Oil Refinery *	Darrow	7/82	9/83	82
LA	PAB Oil & Chemical Service, Inc.	Abbeville	6/88	3/89	528
LA	Petro-Processors of Louisiana Inc	Scotlandville	9/83	9/84	453
	11 Final Sites				
MA	Atlas Tack Corp.	Fairhaven	6/88	2/90	384
MA	Baird & McGuire	Holbrook	12/82	9/83	14
MA	Cannon Engineering Corp. (CEC)	Bridgewater	12/82	9/83	501
MA	Charles-George Reclamation Trust Landfill	Tyngsborough	10/81	9/83	254
MA	Fort Devens	Fort Devens	7/89	11/89	Gr 9F
MA	Fort Devens-Sudbury Training Annex	Middlesex County	7/89	2/90	Gr 14F
MA	Groveland Wells	Groveland	12/82	9/83	468
MA	Haverhill Municipal Landfill	Haverhill	10/84	6/86	981
MA	Hocomonco Pond	Westborough	12/82	9/83	324
MA	Industri-Plex (once listed as Mark Phillip Trust)	Woburn	10/81	9/83	5
MA	Iron Horse Park	Billerica	9/83	9/84	367
MA	New Bedford Site *	New Bedford	7/82	9/83	81
MA	Norwood PCBs	Norwood	10/84	6/86	1021
MA	Nyanza Chemical Waste Dump	Ashland	10/81	9/83	11
MA	Otis Air National Guard Base/Camp Edwards	Falmouth	7/89	11/89	Gr 6F
MA	Plymouth Harbor/Cannon Engineering Corp. (once listed as Plymouth Harbor/Cordage)	Plymouth	12/82	9/83	112
MA	PSC Resources	Palmer	12/82	9/83	536
MA	Re-Solve, Inc.	Dartmouth	10/81	9/83	243

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MA	Rose Disposal Pit	Lanesboro	10/84	6/86	840
MA	Salem Acres	Salem	10/84	6/86	719
MA	Shpack Landfill	Norton/Attleboro	10/84	6/86	1018
MA	Silresim Chemical Corp.	Lowell	7/82	9/83	377
MA	Sullivan's Ledge	New Bedford	9/83	9/84	852
MA	W.R. Grace & Co Inc (Acton Plant)	Acton	12/82	9/83	38
MA	Wells G&H	Woburn	12/82	9/83	378
	25 Final Sites				
MD	Aberdeen Proving Ground (Edgewood Area)	Edgewood	4/85	2/90	Gr 3F
MD	Aberdeen Proving Ground (Michaelsville Landfill)	Aberdeen	4/85	10/89	Gr 19F
MD	Anne Arundel County Landfill	Glen Burnie	6/88	2/91	575
MD	Bush Valley Landfill	Abingdon	6/88	3/89	486
MD	Kane & Lombard Street Drums	Baltimore	10/84	6/86	994
MD	Limestone Road	Cumberland	12/82	9/83	973
MD	Mid-Atlantic Wood Preservers, Inc	Harmans	10/84	6/86	404
MD	Sand, Gravel & Stone	Elkton	12/82	9/83	458
MD	Southern Maryland Wood Treating	Hollywood	10/84	6/86	748
MD	Woodlawn County Landfill	Woodlawn	1/87	7/87	238
	10 Final Sites				
ME	Brunswick Naval Air Station	Brunswick	10/84	7/87	Gr 8F
ME	Loring Air Force Base	Limestone	7/89	2/90	Gr 15F
ME	McKin Co.	Gray	12/82	9/83	33
ME	O'Connor Co.	Augusta	12/82	9/83	905
ME	Pinette's Salvage Yard	Washburn	12/82	9/83	768
ME	Saco Municipal Landfill	Saco	6/88	2/90	1016
ME	Saco Tannery Waste Pits	Saco	12/82	9/83	362
ME	Union Chemical Co., Inc.	South Hope	4/85	10/89	873
ME	Winthrop Landfill	Winthrop	10/81	9/83	660
	9 Final Sites				
MI	Adam's Plating	Lansing	6/88	3/89	1012
MI	Albion-Sheridan Township Landfill	Albion	6/88	10/89	790
MI	Allied Paper, Inc./Portage Creek/Kalamazoo River	Kalamazoo	5/89	8/90	639
MI	American Anodco, Inc.	Ionia	6/86	3/89	61
MI	Anderson Development Co.	Adrian	12/82	9/83	945
MI	Auto Ion Chemicals, Inc.	Kalamazoo	12/82	9/83	878
MI	Avenue "E" Ground Water Contamination	Traverse City	10/84	6/86	933
MI	Barrels, Inc.	Lansing	1/87	10/89	421
MI	Bendix Corp./Allied Automotive	St. Joseph	6/88	2/90	610
MI	Berlin & Farro	Swartz Creek	7/82	9/83	13
MI	Bofors Nobel, Inc.	Muskegon	6/88	3/89	138
MI	Burrows Sanitation	Hartford	9/83	9/84	968
MI	Butterworth #2 Landfill	Grand Rapids	12/82	9/83	197
MI	Cannelton Industries, Inc.	Sault Sainte Marie	6/88	8/90	991
MI	Carter Industrials, Inc.	Detroit	6/88	3/89	596
MI	Cemetery Dump	Rose Center	12/82	9/83	760
MI	Charlevoix Municipal Well	Charlevoix	12/82	9/83	567
MI	Chem Central	Wyoming Township	12/82	9/83	551
MI	Clare Water Supply	Clare	9/83	9/84	542
MI	Cliff/Dow Dump	Marquette	12/82	9/83	741
MI	Duell & Gardner Landfill	Dalton Township	12/82	9/83	733
MI	Electrovoice	Buchanan	9/83	9/84	697
MI	Folkertsma Refuse	Grand Rapids	6/86	3/89	838
MI	Forest Waste Products	Otisville	12/82	9/83	537

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MI	G&H Landfill	Utica	7/82	9/83	216
MI	Grand Traverse Overall Supply Co.	Greilickville	12/82	9/83	687
MI	Gratiot County Landfill *	St. Louis	10/81	9/83	79
MI	H. Brown Co., Inc.	Grand Rapids	4/85	6/86	502
MI	Hedblum Industries	Oscoda	12/82	9/83	607
MI	Hi-Mill Manufacturing Co.	Highland	6/88	2/90	207
MI	Ionia City Landfill	Ionia	12/82	9/83	926
MI	J & L Landfill	Rochester Hills	6/86	3/89	915
MI	K&L Avenue Landfill	Oshtemo Township	12/82	9/83	560
MI	Kaydon Corp.	Muskegon	6/88	2/90	752
MI	Kent City Mobile Home Park	Kent City	9/85	7/87	818
MI	Kentwood Landfill	Kentwood	12/82	9/83	696
MI	Kysor Industrial Corp.	Cadillac	9/85	10/89	771
MI	Liquid Disposal, Inc.	Utica	7/82	9/83	23
MI	Mason County Landfill	Pere Marquette Twp	12/82	9/83	759
MI	McGraw Edison Corp.	Albion	12/82	9/83	829
MI	Metal Working Shop	Lake Ann	1/87	2/90	1062
MI	Metamora Landfill	Metamora	9/83	9/84	688
MI	Michigan Disposal Service (Cork Street Landfill)	Kalamazoo	10/84	2/90	583
MI	Motor Wheel, Inc.	Lansing	10/84	6/86	222
MI	Muskegon Chemical Co.	Whitehall	6/88	2/90	757
MI	North Bronson Industrial Area	Bronson	10/84	6/86	778
MI	Northernaire Plating	Cadillac	7/82	9/83	64
MI	Novaco Industries	Temperance	12/82	9/83	552
MI	Organic Chemicals, Inc.	Grandville	12/82	9/83	847
MI	Ossineke Ground Water Contamination	Ossineke	12/82	9/83	[illegible]
MI	Ott/Story/Cordova Chemical Co.	Dalton Township	7/82	9/83	
MI	Packaging Corp. of America	Filer City	12/82	9/83	
MI	Parsons Chemical Works, Inc.	Grand Ledge	6/88	3/89	924
MI	Peerless Plating Co.	Muskegon	6/88	8/90	344
MI	Petoskey Municipal Well Field	Petoskey	12/82	9/83	382
MI	Rasmussen's Dump	Green Oak Township	12/82	9/83	908
MI	Rockwell International Corp. (Allegan Plant)	Allegan	4/85	7/87	160
MI	Rose Township Dump	Rose Township	7/82	9/83	189
MI	Roto-Finish Co., Inc.	Kalamazoo	10/84	6/86	473
MI	SCA Independent Landfill	Muskegon Heights	12/82	9/83	728
MI	Shiawassee River	Howell	12/82	9/83	947
MI	South Macomb Disposal Authority (Landfills #9 and #9a)	Macomb Township	10/84	6/86	805
MI	Southwest Ottawa County Landfill	Park Township	12/82	9/83	508
MI	Sparta Landfill	Sparta Township	12/82	9/83	887
MI	Spartan Chemical Co.	Wyoming	12/82	9/83	461
MI	Spiegelberg Landfill	Green Oak Township	12/82	9/83	129
MI	Springfield Township Dump	Davisburg	12/82	9/83	166
MI	State Disposal Landfill, Inc.	Grand Rapids	6/88	2/90	422
MI	Sturgis Municipal Wells	Sturgis	9/83	9/84	420
MI	Tar Lake	Mancelona Township	12/82	9/83	232
MI	Thermo-Chem, Inc.	Muskegon	10/84	6/86	142
MI	Torch Lake	Houghton County	10/84	6/86	268
MI	U.S. Aviex	Howard Township	12/82	9/83	806
MI	Velsicol Chemical Corp. (Michigan)	St. Louis	12/82	9/83	155
MI	Verona Well Field	Battle Creek	7/82	9/83	263
MI	Wash King Laundry	Pleasant Plains Twp	12/82	9/83	494
MI	Waste Management of Michigan (Holland Lagoons)	Holland	10/84	6/86	613
	77 Final Sites				
MN	Adrian Municipal Well Field	Adrian	10/84	6/86	819
MN	Agate Lake Scrapyard	Fairview Township	10/84	6/86	1011
MN	Arrowhead Refinery Co.	Hermantown	9/83	9/84	350

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MN	Boise Cascade/Onan Corp./Medtronics, Inc.	Fridley	9/83	9/84	203
MN	Burlington Northern (Brainerd/Baxter Plant)	Brainerd/Baxter	7/82	9/83	267
MN	Dakhue Sanitary Landfill	Cannon Falls	10/89	8/90	424
MN	East Bethel Demolition Landfill	East Bethel Township	9/85	6/86	1063
MN	FMC Corp. (Fridley Plant)	Fridley	7/82	9/83	17
MN	Freeway Sanitary Landfill	Burnsville	9/85	6/86	303
MN	General Mills/Henkel Corp.	Minneapolis	9/83	9/84	645
MN	Joslyn Manufacturing & Supply Co.	Brooklyn Center	9/83	9/84	336
MN	Koch Refining Co./N-Ren Corp.	Pine Bend	10/84	6/86	937
MN	Koppers Coke	St. Paul	10/81	9/83	111
MN	Kummer Sanitary Landfill	Bemidji	10/84	6/86	676
MN	Kurt Manufacturing Co.	Fridley	10/84	6/86	922
MN	LaGrand Sanitary Landfill	LaGrand Township	6/86	7/87	604
MN	Lehillier/Mankato Site	Lehillier/Mankato	7/82	9/83	388
MN	Long Prairie Ground Water Contamination	Long Prairie	10/84	6/86	894
MN	MacGillis & Gibbs Co./Bell Lumber & Pole Co.	New Brighton	9/83	9/84	236
MN	Naval Industrial Reserve Ordnance Plant	Fridley	7/89	11/89	Gr 20F
MN	New Brighton/Arden Hills	New Brighton	7/82	9/83	39
MN	NL Industries/Taracorp/Golden Auto (once listed as National Lead Taracorp)	St. Louis Park	10/81	9/83	497
MN	Nutting Truck & Caster Co.	Faribault	9/83	9/84	594
MN	Oak Grove Sanitary Landfill	Oak Grove Township	10/84	6/86	355
MN	Oakdale Dump	Oakdale	10/81	9/83	107
MN	Olmsted County Sanitary Landfill	Oronoco	10/84	6/86	474
MN	Perham Arsenic Site	Perham	9/83	9/84	566
MN	Pine Bend Sanitary Landfill (once listed as Pine Bend Sanitary Landfill/Crosby American Demolition Landfill)	Dakota County	10/84	6/86	161
MN	Reilly Tar & Chemical Corp. (St. Louis Park Plant) *	St. Louis Park	10/81	9/83	40
MN	Ritari Post & Pole	Sebeka	1/87	7/87	1005
MN	South Andover Site (once listed as Andover Sites)	Andover	10/81	9/83	691
MN	St. Augusta Sanitary Landfill/Engen Dump (once listed as St. Augusta Sanitary Landfill/St. Cloud Dump)	St. Augusta Township	9/85	7/87	784
MN	St. Louis River Site	St. Louis County	9/83	9/84	877
MN	St. Regis Paper Co.	Cass Lake	9/83	9/84	146
MN	Twin Cities Air Force Reserve Base (Small Arms Range Landfill)	Minneapolis	1/87	7/87	Gr 17F
MN	Union Scrap Iron & Metal Co.	Minneapolis	9/83	9/84	383
MN	University of Minnesota (Rosemount Research Center)	Rosemount	10/84	6/86	302
MN	Waite Park Wells	Waite Park	9/85	6/86	895
MN	Washington County Landfill	Lake Elmo	9/83	9/84	423
MN	Waste Disposal Engineering	Andover	7/82	9/83	190
MN	Whittaker Corp.	Minneapolis	9/83	9/84	495
MN	Windom Dump	Windom	10/84	6/86	554
	42 Final Sites				
MO	Bee Cee Manufacturing Co.	Malden	10/84	6/86	1068
MO	Conservation Chemical Co.	Kansas City	4/85	10/89	1003
MO	Ellisville Site *	Ellisville	10/81	9/83	91
MO	Fulbright Landfill	Springfield	10/81	9/83	477
MO	Kem-Pest Laboratories	Cape Girardeau	1/87	10/89	781
MO	Lake City Army Ammunition Plant (Northwest Lagoon)	Independence	10/84	7/87	Gr 17F
MO	Lee Chemical	Liberty	10/84	6/86	264
MO	Minker/Stout/Romaine Creek (once listed as Arena 2: Fills 1 and 2)	Imperial	12/82	9/83	624
MO	Missouri Electric Works	Cape Girardeau	6/88	2/90	932
MO	North-U Drive Well Contamination	Springfield	10/84	6/86	1050
MO	Oronogo-Duenweg Mining Belt	Jasper County	6/88	8/90	285
MO	Quality Plating	Sikeston	10/84	6/86	475
MO	Shenandoah Stables (once listed as Arena 1: Shenandoah Stables)	Moscow Mills	12/82	9/83	995
MO	Solid State Circuits, Inc.	Republic	10/84	6/86	584

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MO	St. Louis Airport/Hazelwood Interim Storage/Futura Coatings Co.	St. Louis County	5/89	10/89	546
MO	Syntex Facility	Verona	12/82	9/83	348
MO	Times Beach Site	Times Beach	3/83	9/83	493
MO	Valley Park TCE	Valley Park	4/85	6/86	680
MO	Weldon Spring Quarry/Plant/Pits (USDOE/Army) (once listed as Weldon Spring Quarry (USDOE/Army))	St.Charles County	10/84	7/87	Gr 1F
MO	Weldon Spring Former Army Ordnance Works	St. Charles County	7/89	2/90	Gr 20F
MO	Westlake Landfill	Bridgeton	10/89	8/90	1004
MO	Wheeling Disposal Service Co. Landfill	Amazonia	1/87	10/89	231
	22 Final Sites				
MS	Flowood Site *	Flowood	9/83	9/84	98
MS	Newsom Brothers/Old Reichhold Chemicals, Inc.	Columbia	10/84	6/86	309
	2 Final Sites				
MT	Anaconda Co. Smelter	Anaconda	12/82	9/83	48
MT	East Helena Site (once listed as East Helena Smelter)	East Helena	9/83	9/84	29
MT	Idaho Pole Co.	Bozeman	10/84	6/86	547
MT	Libby Ground Water Contamination	Libby	12/82	9/83	599
MT	Milltown Reservoir Sediments	Milltown	12/82	9/83	349
MT	Montana Pole and Treating	Butte	6/86	7/87	842
MT	Mouat Industries	Columbus	10/84	6/86	914
MT	Silver Bow Creek/Butte Area (once listed as Silver Bow Creek)	Sil Bow/Deer Lodge	12/82	9/83	20
	8 Final Sites				
NC	ABC One Hour Cleaners	Jacksonville	6/88	3/89	[illegible]
NC	Aberdeen Pesticide Dumps	Aberdeen	1/87	3/89	148
NC	Benfield Industries, Inc.	Hazelwood	6/88	10/89	913
NC	Bypass 601 Ground Water Contamination	Concord	10/84	6/86	580
NC	Camp Lejeune Military Reservation (once listed as Camp Lejeune Marine Corps Base)	Onslow County	6/88	10/89	Gr 17F
NC	Cape Fear Wood Preserving	Fayetteville	6/86	7/87	764
NC	Carolina Transformer Co.	Fayetteville	1/87	7/87	796
NC	Celanese Corp. (Shelby Fiber Operations)	Shelby	10/84	6/86	218
NC	Charles Macon Lagoon & Drum Storage	Cordova	1/87	7/87	260
NC	Chemtronics, Inc.	Swannanoa	12/82	9/83	989
NC	FCX, Inc. (Statesville Plant)	Statesville	6/88	2/90	581
NC	FCX, Inc. (Washington Plant)	Washington	6/88	3/89	480
NC	Geigy Chemical Corp. (Aberdeen Plant)	Aberdeen	6/88	10/89	843
NC	Hevi-Duty Electric Co.	Goldsboro	5/89	8/90	1001
NC	Jadco-Hughes Facility	Belmont	10/84	6/86	442
NC	JFD Electronics/Channel Master	Oxford	6/88	10/89	526
NC	Koppers Co., Inc. (Morrisville Plant)	Morrisville	6/88	3/89	447
NC	Martin-Marietta, Sodyeco, Inc.	Charlotte	12/82	9/83	168
NC	National Starch & Chemical Corp.	Salisbury	4/85	10/89	274
NC	North Carolina State University (Lot 86, Farm Unit #1)	Raleigh	10/84	6/86	234
NC	New Hanover County Airport Burn Pit	Wilmington	6/88	3/89	519
NC	Potter's Septic Tank Service Pits	Maco	6/88	3/89	1031
	22 Final Sites				
ND	Arsenic Trioxide Site *	Southeastern ND	10/81	9/83	92
ND	Minot Landfill	Minot	6/88	3/89	826
	2 Final Sites				

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NE	10th Street Site	Columbus	10/89	8/90	1051
NE	Cornhusker Army Ammunition Plant	Hall County	10/84	7/87	Gr 4F
NE	Hastings Ground Water Contamination	Hastings	10/84	6/86	428
NE	Lindsay Manufacturing Co.	Lindsay	10/84	10/89	241
NE	Nebraska Ordnance Plant (Former)	Mead	10/89	8/90	896
NE	Waverly Ground Water Contamination	Waverly	10/84	6/86	585
	6 Final Sites				
NH	Auburn Road Landfill	Londonderry	12/82	9/83	643
NH	Coakley Landfill	North Hampton	10/84	6/86	1030
NH	Dover Municipal Landfill	Dover	12/82	9/83	619
NH	Fletcher's Paint Works & Storage	Milford	6/88	3/89	694
NH	Holton Circle Ground Water Contamination	Londonderry	6/88	3/89	889
NH	Kearsarge Metallurgical Corp. (once listed as Kearsage Metallurgical Corp.)	Conway	9/83	9/84	540
NH	Keefe Environmental Services (once listed as KES)	Epping	10/81	9/83	19
NH	Mottolo Pig Farm	Raymond	4/85	7/87	470
NH	Ottati & Goss/Kingston Steel Drum (once listed as Ottati & Goss)	Kingston	10/81	9/83	140
NH	Pease Air Force Base	Portsmouth/Newington	7/89	2/90	Gr 11F
NH	Savage Municipal Water Supply	Milford	9/83	9/84	603
NH	Somersworth Sanitary Landfill	Somersworth	12/82	9/83	16
NH	South Municipal Water Supply Well	Peterborough	9/83	9/84	659
NH	Sylvester *	Nashua	10/81	9/83	24
NH	Tibbets Road	Barrington	4/85	6/86	457
NH	Tinkham Garage	Londonderry	12/82	9/83	359
	16 Final Sites				
NJ	A. O. Polymer	Sparta Township	12/82	9/83	1039
NJ	American Cyanamid Co.	Bound Brook	12/82	9/83	198
NJ	Asbestos Dump	Millington	12/82	9/83	512
NJ	Beachwood/Berkley Wells	Berkley Township	12/82	9/83	409
NJ	Bog Creek Farm	Howell Township	12/82	9/83	361
NJ	Brick Township Landfill	Brick Township	12/82	9/83	59
NJ	Bridgeport Rental & Oil Services	Bridgeport	10/81	9/83	35
NJ	Brook Industrial Park	Bound Brook	6/88	10/89	60
NJ	Burnt Fly Bog	Marlboro Township	10/81	9/83	42
NJ	Caldwell Trucking Co.	Fairfield	12/82	9/83	52
NJ	Chemical Control	Elizabeth	10/81	9/83	259
NJ	Chemical Insecticide Corp.	Edison Township	10/89	8/90	571
NJ	Chemical Leaman Tank Lines, Inc. (once listed as Chemical Leaman Tank Liners, Inc.)	Bridgeport	9/83	9/84	249
NJ	Chemsol, Inc.	Piscataway	12/82	9/83	380
NJ	Ciba-Geigy Corp. (once listed as Toms River Chemical)	Toms River	12/82	9/83	196
NJ	Cinnaminson Township (Block 702) Ground Water Contamination	Cinnaminson Township	10/84	6/86	570
NJ	Combe Fill North Landfill	Mount Olive Twp	12/82	9/83	242
NJ	Combe Fill South Landfill	Chester Township	12/82	9/83	315
NJ	Cosden Chemical Coatings Corp.	Beverly	1/87	7/87	783
NJ	CPS/Madison Industries	Old Bridge Township	12/82	9/83	10
NJ	Curcio Scrap Metal, Inc.	Saddle Brook Twp	1/87	7/87	745
NJ	D'Imperio Property	Hamilton Township	10/81	9/83	106
NJ	Dayco Corp./L.E Carpenter Co.	Wharton Borough	4/85	7/87	287
NJ	De Rewal Chemical Co.	Kingwood Township	9/83	9/84	655
NJ	Delilah Road	Egg Harbor Township	9/83	9/84	210
NJ	Denzer & Schafer X-Ray Co.	Bayville	12/82	9/83	483
NJ	Diamond Alkali Co.	Newark	9/83	9/84	692
NJ	Dover Municipal Well 4	Dover Township	12/82	9/83	1041
NJ	Ellis Property	Evesham Township	12/82	9/83	735

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NJ	Evor Phillips Leasing	Old Bridge Township	12/82	9/83	630
NJ	Ewan Property	Shamong Township	9/83	9/84	200
NJ	Fair Lawn Well Field	Fair Lawn	12/82	9/83	386
NJ	Federal Aviation Administration Technical Center	Atlantic County	7/89	8/90	Gr 11F
NJ	Florence Land Recontouring Landfill	Florence Township	9/83	9/84	252
NJ	Fort Dix (Landfill Site)	Pemberton Township	10/84	7/87	Gr 13F
NJ	Fried Industries	East Brunswick Twp	10/84	6/86	824
NJ	Garden State Cleaners Co.	Minotola	6/88	3/89	1044
NJ	GEMS Landfill	Gloucester Township	7/82	9/83	12
NJ	Glen Ridge Radium Site	Glen Ridge	10/84	2/85	212
NJ	Global Sanitary Landfill	Old Bridge Township	6/88	3/89	297
NJ	Goose Farm	Plumstead Township	10/81	9/83	244
NJ	Helen Kramer Landfill	Mantua Township	7/82	9/83	4
NJ	Hercules, Inc. (Gibbstown Plant)	Gibbstown	12/82	9/83	484
NJ	Higgins Disposal	Kingston	6/88	8/90	953
NJ	Higgins Farm	Franklin Township	6/88	3/89	975
NJ	Hopkins Farm	Plumstead Township	9/83	9/84	763
NJ	Imperial Oil Co., Inc./Champion Chemicals	Morganville	12/82	9/83	782
NJ	Industrial Latex Corp.	Wallington Borough	6/88	3/89	862
NJ	Jackson Township Landfill	Jackson Township	12/82	9/83	557
NJ	JIS Landfill	Jamesburg/S. Brnswck	12/82	9/83	316
NJ	Kauffman & Minteer, Inc.	Jobstown	6/88	3/89	1070
NJ	Kin-Buc Landfill	Edison Township	10/81	9/83	192
NJ	King of Prussia	Winslow Township	12/82	9/83	255
NJ	Landfill & Development Co.	Mount Holly	9/83	9/84	[illegible]
NJ	Lang Property	Pemberton Township	12/82	9/83	
NJ	Lipari Landfill	Pitman	10/81	9/83	
NJ	Lodi Municipal Well	Lodi	10/84	8/90	
NJ	Lone Pine Landfill	Freehold Township	10/81	9/83	[illegible]
NJ	M&T Delisa Landfill	Asbury Park	12/82	9/83	866
NJ	Mannheim Avenue Dump	Galloway Township	12/82	9/83	635
NJ	Maywood Chemical Co.	Maywood/Rochelle Pk	12/82	9/83	184
NJ	Metaltec/Aerosystems	Franklin Borough	12/82	9/83	219
NJ	Monitor Devices/Intercircuits Inc	Wall Township	4/85	6/86	444
NJ	Monroe Township Landfill	Monroe Township	12/82	9/83	397
NJ	Montclair/West Orange Radium Site	Montclair/W Orange	10/84	2/85	213
NJ	Montgomery Township Housing Development	Montgomery Township	12/82	9/83	568
NJ	Myers Property	Franklin Township	12/82	9/83	785
NJ	Nascolite Corp.	Millville	9/83	9/84	185
NJ	Naval Air Engineering Center	Lakehurst	9/85	7/87	Gr 4F
NJ	Naval Weapons Station Earle (Site A)	Colts Neck	10/84	8/90	Gr 21F
NJ	NL Industries	Pedricktown	12/82	9/83	145
NJ	Pepe Field	Boonton	12/82	9/83	786
NJ	Picatinny Arsenal	Rockaway Township	7/89	2/90	Gr 8F
NJ	Pijak Farm	Plumstead Township	10/81	9/83	353
NJ	PJP Landfill	Jersey City	12/82	9/83	1065
NJ	Pohatcong Valley Ground Water Contamination	Warren County	6/88	3/89	1043
NJ	Pomona Oaks Residential Wells	Galloway Township	10/84	6/86	890
NJ	Price Landfill	Pleasantville	10/81	9/83	6
NJ	Radiation Technology, Inc.	Rockaway Township	9/83	9/84	385
NJ	Reich Farms	Pleasant Plains	12/82	9/83	131
NJ	Renora, Inc.	Edison Township	12/82	9/83	479
NJ	Ringwood Mines/Landfill	Ringwood Borough	12/82	9/83	150
NJ	Rockaway Borough Well Field	Rockaway Township	12/82	9/83	399
NJ	Rockaway Township Wells	Rockaway	12/82	9/83	1042
NJ	Rocky Hill Municipal Well	Rocky Hill Borough	12/82	9/83	569
NJ	Roebling Steel Co.	Florence	12/82	9/83	462
NJ	Sayreville Landfill	Sayreville	12/82	9/83	618
NJ	Scientific Chemical Processing	Carlstadt	12/82	9/83	104

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
NJ	Sharkey Landfill	Parsippany/Troy Hls	12/82	9/83	227
NJ	Shieldalloy Corp.	Newfield Borough	9/83	9/84	47
NJ	South Brunswick Landfill	South Brunswick	12/82	9/83	133
NJ	South Jersey Clothing Co.	Minotola	6/88	10/89	410
NJ	Spence Farm	Plumstead Township	10/81	9/83	307
NJ	Swope Oil & Chemical Co.	Pennsauken	7/82	9/83	657
NJ	Syncon Resins	South Kearny	7/82	9/83	354
NJ	Tabernacle Drum Dump	Tabernacle Township	9/83	9/84	623
NJ	U.S. Radium Corp.	Orange	12/82	9/83	595
NJ	Universal Oil Products (Chemical Division)	East Rutherford	12/82	9/83	116
NJ	Upper Deerfield Township Sanitary Landfill	Upper Deerfield Twp	9/83	9/84	810
NJ	Ventron/Velsicol	Wood Ridge Borough	9/83	9/84	179
NJ	Vineland Chemical Co., Inc.	Vineland	9/83	9/84	41
NJ	Vineland State School	Vineland	12/82	9/83	466
NJ	W.R. Grace & Co., Inc./Wayne Interim Storage Site (USDOE) (once listed as W.R. Grace & Co., Inc. (Wayne Plant))	Wayne Township	9/83	9/84	Gr 6F
NJ	Waldick Aerospace Devices, Inc.	Wall Township	10/84	6/86	323
NJ	Williams Property	Swainton	12/82	9/83	478
NJ	Wilson Farm	Plumstead Township	9/83	9/84	773
NJ	Witco Chemical Corp. (Oakland Plant)	Oakland	6/88	10/89	965
NJ	Woodland Route 532 Dump	Woodland Township	9/83	9/84	717
NJ	Woodland Route 72 Dump	Woodland Township	9/83	9/84	935
	109 Final Sites				
NM	AT & SF (Clovis)	Clovis	10/81	9/83	820
NM	Cal West Metals (USSBA)	Lemitar	6/88	3/89	Gr 1F
NM	Cimarron Mining Corp.	Carrizozo	6/88	10/89	530
NM	Cleveland Mill	Silver City	6/88	3/89	482
NM	Homestake Mining Co.	Milan	10/81	9/83	754
NM	Lee Acres Landfill (USDOI)	Farmington	6/88	8/90	Gr 11F
NM	Pagano Salvage	Los Lunas	6/88	10/89	679
NM	Prewitt Abandoned Refinery	Prewitt	6/88	8/90	339
NM	South Valley *	Albuquerque	7/82	9/83	88
NM	United Nuclear Corp.	Church Rock	10/81	9/83	977
	10 Final Sites				
NV	Carson River Mercury Site	Lyon/Churchill Cnty	10/89	8/90	523
	1 Final Sites				
NY	Action Anodizing, Plating, & Polishing Corp.	Copiague	6/88	3/89	729
NY	American Thermostat Co.	South Cairo	12/82	9/83	825
NY	Anchor Chemicals	Hicksville	10/84	6/86	612
NY	Applied Environmental Services	Glenwood Landing	10/84	6/86	455
NY	Batavia Landfill	Batavia	10/81	9/83	201
NY	BEC Trucking	Town of Vestal	10/84	6/86	962
NY	BioClinical Laboratories, Inc.	Bohemia	6/86	3/89	848
NY	Brewster Well Field	Putnam County	12/82	9/83	572
NY	Brookhaven National Laboratory (USDOE)	Upton	7/89	11/89	Gr 10F
NY	Byron Barrel & Drum	Byron	10/84	6/86	609
NY	C & J Disposal Leasing Co. Dump	Hamilton	6/88	3/89	712
NY	Carroll & Dubies Sewage Disposal	Port Jervis	6/88	2/90	797
NY	Circuitron Corp.	East Farmingdale	6/88	3/89	123
NY	Claremont Polychemical	Old Bethpage	10/84	6/86	916
NY	Clothier Disposal	Town of Granby	10/84	6/86	742
NY	Colesville Municipal Landfill	Town of Colesville	10/84	6/86	984
NY	Conklin Dumps	Conklin	6/86	3/89	774

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NY	Cortese Landfill	Vil of Narrowsburg	10/84	6/86	874
NY	Endicott Village Well Field	Village of Endicott	10/84	6/86	666
NY	Facet Enterprises, Inc.	Elmira	10/81	9/83	271
NY	FMC Corp. (Dublin Road Landfill)	Town of Shelby	10/84	6/86	850
NY	Forest Glen Mobile Home Subdivision	Niagara Falls	8/89	11/89	1072
NY	Fulton Terminals	Fulton	12/82	9/83	638
NY	GE Moreau	South Glen Falls	12/82	9/83	53
NY	General Motors (Central Foundry Division)	Massena	9/83	9/84	469
NY	Genzale Plating Co.	Franklin Square	6/86	7/87	789
NY	Goldisc Recordings, Inc.	Holbrook	10/84	6/86	831
NY	Griffiss Air Force Base	Rome	10/84	7/87	Gr 16F
NY	Haviland Complex	Town of Hyde Park	10/84	6/86	812
NY	Hertel Landfill	Plattekill	10/84	6/86	811
NY	Hooker (102nd Street)	Niagara Falls	12/82	9/83	974
NY	Hooker (Hyde Park)	Niagara Falls	12/82	9/83	727
NY	Hooker (S Area)	Niagara Falls	12/82	9/83	176
NY	Hooker Chemical/Ruco Polymer Corp	Hicksville	10/84	6/86	451
NY	Hudson River PCBs	Hudson River	9/83	9/84	115
NY	Islip Municipal Sanitary Landfill	Islip	1/87	3/89	832
NY	Johnstown City Landfill	Town of Johnstown	10/84	6/86	233
NY	Jones Chemicals, Inc.	Caledonia	6/88	2/90	814
NY	Jones Sanitation	Hyde Park	1/87	7/87	153
NY	Katonah Municipal Well	Town of Bedford	10/84	6/86	699
NY	Kenmark Textile Corp.	Farmingdale	10/84	6/86	909
NY	Kentucky Avenue Well Field	Horseheads	7/82	9/83	[illegible]
NY	Liberty Industrial Finishing	Farmingdale	10/84	6/86	
NY	Love Canal	Niagara Falls	10/81	9/83	
NY	Ludlow Sand & Gravel	Clayville	12/82	9/83	
NY	Malta Rocket Fuel Area	Malta	6/86	7/87	813
NY	Marathon Battery Corp.	Cold Springs	10/81	9/83	983
NY	Mattiace Petrochemical Co., Inc.	Glen Cove	6/88	3/89	904
NY	Mercury Refining, Inc.	Colonie	12/82	9/83	329
NY	Nepera Chemical Co., Inc.	Maybrook	10/84	6/86	503
NY	Niagara County Refuse	Wheatfield	10/81	9/83	504
NY	Niagara Mohawk Power Corp. (Saratoga Springs Plant)	Saratoga Springs	6/88	2/90	689
NY	North Sea Municipal Landfill	North Sea	10/84	6/86	798
NY	Old Bethpage Landfill	Oyster Bay	10/81	9/83	45
NY	Olean Well Field	Olean	10/81	9/83	331
NY	Pasley Solvents & Chemicals, Inc.	Hempstead	10/84	6/86	510
NY	Plattsburgh Air Force Base	Plattsburgh	7/89	11/89	Gr 20F
NY	Pollution Abatement Services *	Oswego	10/81	9/83	7
NY	Port Washington Landfill	Port Washington	12/82	9/83	313
NY	Preferred Plating Corp.	Farmingdale	10/84	6/86	714
NY	Radium Chemical Co., Inc.	New York City	8/89	11/89	1073
NY	Ramapo Landfill	Ramapo	12/82	9/83	326
NY	Richardson Hill Road Landfill/Pond	Sidney Center	6/86	7/87	720
NY	Robintech, Inc./National Pipe Co.	Town of Vestal	10/84	6/86	961
NY	Rosen Brothers Scrap Yard/Dump	Cortland	6/88	3/89	182
NY	Rowe Industries Ground Water Contamination	Noyack/Sag Harbor	6/86	7/87	891
NY	Sarney Farm	Amenia	10/84	6/86	837
NY	Sealand Restoration, Inc.	Lisbon	10/89	8/90	1024
NY	Seneca Army Depot	Romulus	7/89	8/90	Gr 14F
NY	Sidney Landfill	Sidney	6/88	3/89	1023
NY	Sinclair Refinery	Wellsville	7/82	9/83	127
NY	SMS Instruments, Inc.	Deer Park	10/84	6/86	606
NY	Solvent Savers	Lincklaen	12/82	9/83	723
NY	Suffern Village Well Field	Village of Suffern	10/84	6/86	665
NY	Syosset Landfill	Oyster Bay	12/82	9/83	122
NY	Tri-Cities Barrel Co., Inc.	Port Crane	5/89	10/89	341

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NY	Tronic Plating Co., Inc.	Farmingdale	10/84	6/86	317
NY	Vestal Water Supply Well 1-1 (once listed with Well 4-2 as one site)	Vestal	12/82	9/83	573
NY	Vestal Water Supply Well 4-2 (once listed with Well 1-1 as one site)	Vestal	12/82	9/83	411
NY	Volney Municipal Landfill	Town of Volney	10/84	6/86	849
NY	Warwick Landfill	Warwick	9/85	3/89	1022
NY	Wide Beach Development	Brant	12/82	9/83	102
NY	York Oil Co.	Moira	7/82	9/83	246
	83 Final Sites				
OH	Allied Chemical & Ironton Coke	Ironton	12/82	9/83	262
OH	Alsco Anaconda	Gnadenhutten	10/84	6/86	366
OH	Arcanum Iron & Metal	Darke County	12/82	9/83	28
OH	Big D Campground	Kingsville	12/82	9/83	959
OH	Bowers Landfill	Circleville	12/82	9/83	194
OH	Buckeye Reclamation	St. Clairsville	12/82	9/83	713
OH	Chem-Dyne *	Hamilton	10/81	9/83	83
OH	Coshocton Landfill	Franklin Township	12/82	9/83	521
OH	E.H. Schilling Landfill	Hamilton Township	12/82	9/83	740
OH	Feed Materials Production Center (USDOE)	Fernald	7/89	11/89	Gr 2F
OH	Fields Brook	Ashtabula	10/81	9/83	320
OH	Fultz Landfill	Jackson Township	12/82	9/83	518
OH	Industrial Excess Landfill	Uniontown	10/84	6/86	186
OH	Laskin/Poplar Oil Co. (once listed as Poplar Oil Co.)	Jefferson Township	7/82	9/83	647
OH	Miami County Incinerator	Troy	9/83	9/84	70
OH	Mound Plant (USDOE)	Miamisburg	7/89	11/89	Gr 15F
OH	Nease Chemical	Salem	12/82	9/83	257
OH	New Lyme Landfill	New Lyme	12/82	9/83	934
OH	Old Mill (once listed as Rock Creek/Jack Webb)	Rock Creek	12/82	9/83	648
OH	Ormet Corp.	Hannibal	9/85	7/87	280
OH	Powell Road Landfill	Dayton	9/83	9/84	917
OH	Pristine, Inc.	Reading	12/82	9/83	707
OH	Reilly Tar & Chemical Corp. (Dover Plant)	Dover	6/88	8/90	923
OH	Republic Steel Corp. Quarry	Elyria	10/84	6/86	1002
OH	Sanitary Landfill Co. (Industrial Waste Disposal Co., Inc.)	Dayton	10/84	6/86	677
OH	Skinner Landfill	West Chester	12/82	9/83	987
OH	South Point Plant	South Point	9/83	9/84	281
OH	Summit National	Deerfield Township	10/81	9/83	156
OH	TRW, Inc. (Minerva Plant)	Minerva	6/86	3/89	561
OH	United Scrap Lead Co., Inc.	Troy	9/83	9/84	56
OH	Van Dale Junkyard	Marietta	10/84	6/86	841
OH	Wright-Patterson Air Force Base	Dayton	6/88	10/89	Gr 2F
OH	Zanesville Well Field	Zanesville	12/82	9/83	663
	33 Final Sites				
OK	Compass Industries (Avery Drive) (once listed as Compass Industries)	Tulsa	9/83	9/84	634
OK	Double Eagle Refinery Co.	Oklahoma City	6/88	3/89	955
OK	Fourth Street Abandoned Refinery	Oklahoma City	6/88	3/89	964
OK	Hardage/Criner (once listed as Criner/Hardage Waste Disposal)	Criner	10/81	9/83	188
OK	Mosley Road Sanitary Landfill	Oklahoma City	6/88	2/90	563
OK	Oklahoma Refining Co.	Cyril	6/88	2/90	294
OK	Sand Springs Petrochemical Complex	Sand Springs	10/84	6/86	1060
OK	Tar Creek (Ottawa County)	Ottawa County	10/81	9/83	58
OK	Tenth Street Dump/Junkyard	Oklahoma City	1/87	7/87	948
OK	Tinker Air Force Base (Soldier Creek/Building 3001)	Oklahoma City	4/85	7/87	Gr 9F
	10 Final Sites				

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OR	Allied Plating, Inc.	Portland	1/87	2/90	520
OR	Gould, Inc.	Portland	12/82	9/83	872
OR	Joseph Forest Products	Joseph	6/88	3/89	856
OR	Martin-Marietta Aluminum Co.	The Dalles	10/84	6/86	351
OR	Teledyne Wah Chang	Albany	12/82	9/83	125
OR	Umatilla Army Depot (Lagoons)	Hermiston	10/84	7/87	Gr 19F
OR	Union Pacific Railroad Co. Tie Treating Plant	The Dalles	10/89	8/90	591
OR	United Chrome Products, Inc.	Corvallis	9/83	9/84	941
	8 Final Sites				
PA	A.I.W. Frank/Mid-County Mustang	Exton	6/88	10/89	395
PA	Aladdin Plating	Scott Township	1/87	7/87	668
PA	Ambler Asbestos Piles	Ambler	10/84	6/86	743
PA	AMP, Inc. (Glen Rock Facility)	Glen Rock	6/88	10/89	525
PA	Avco Lycoming (Williamsport Division)	Williamsport	1/87	2/90	413
PA	Bally Ground Water Contamination	Bally Borough	6/86	7/87	576
PA	Bell Landfill	Terry Township	6/88	10/89	722
PA	Bendix Flight Systems Division	Bridgewater Township	9/85	7/87	799
PA	Berkley Products Co. Dump	Denver	6/88	3/89	998
PA	Berks Landfill	Spring Township	6/88	10/89	290
PA	Berks Sand Pit	Longswamp Township	9/83	9/84	883
PA	Blosenski Landfill	West Caln Township	12/82	9/83	969
PA	Boarhead Farms	Bridgeton Township	6/88	3/89	500
PA	Brodhead Creek	Stroudsburg	12/82	9/83	939
PA	Brown's Battery Breaking	Shoemakersville	10/84	6/86	605
PA	Bruin Lagoon	Bruin Borough	10/81	9/83	
PA	Butler Mine Tunnel	Pittston	6/86	7/87	
PA	Butz Landfill	Stroudsburg	6/88	3/89	
PA	C & D Recycling	Foster Township	9/85	7/87	346
PA	Centre County Kepone	State College Boro	12/82	9/83	318
PA	Commodore Semiconductor Group	Lower Providence Twp	1/87	10/89	398
PA	Craig Farm Drum	Parker	12/82	9/83	1066
PA	Croydon TCE	Croydon	9/85	6/86	918
PA	CryoChem, Inc.	Worman	6/86	10/89	1069
PA	Delta Quarries & Disposal, Inc./Stotler Landfill	Antis/Logan Twps	6/86	3/89	459
PA	Dorney Road Landfill	Upper Macungie Twp	9/83	9/84	289
PA	Douglassville Disposal	Douglassville	12/82	9/83	110
PA	Drake Chemical	Lock Haven	7/82	9/83	538
PA	Dublin TCE Site	Dublin Borough	10/89	8/90	1047
PA	East Mount Zion	Springettsbury Twp	9/83	9/84	463
PA	Eastern Diversified Metals	Hometown	6/86	10/89	944
PA	Elizabethtown Landfill	Elizabethtown	6/88	3/89	1035
PA	Fischer & Porter Co.	Warminster	12/82	9/83	1034
PA	Havertown PCP	Haverford	12/82	9/83	544
PA	Hebelka Auto Salvage Yard	Weisenberg Township	6/86	7/87	892
PA	Heleva Landfill	North Whitehall Twp	12/82	9/83	199
PA	Hellertown Manufacturing Co.	Hellertown	1/87	3/89	170
PA	Henderson Road	Upper Merion Twp	9/83	9/84	450
PA	Hranica Landfill	Buffalo Township	10/81	9/83	167
PA	Hunterstown Road	Straban Township	10/84	6/86	237
PA	Industrial Lane	Williams Township	9/83	9/84	390
PA	Jacks Creek/Sitkin Smelting & Refining, Inc.	Maitland	6/88	10/89	481
PA	Keystone Sanitation Landfill	Union Township	4/85	7/87	795
PA	Kimberton Site	Kimberton Borough	12/82	9/83	1019
PA	Lackawanna Refuse	Old Forge Borough	12/82	9/83	633
PA	Lansdowne Radiation Site	Lansdowne	4/85	9/85	1071
PA	Letterkenny Army Depot (Property Disposal Office Area)	Franklin County	4/85	3/89	Gr 13F
PA	Letterkenny Army Depot (Southeast Area)	Chambersburg	10/84	7/87	Gr 16F

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PA	Lindane Dump	Harrison Township	10/81	9/83	177
PA	Lord-Shope Landfill	Girard Township	10/81	9/83	532
PA	Malvern TCE	Malvern	12/82	9/83	270
PA	McAdoo Associates *	McAdoo Borough	10/81	9/83	26
PA	Metal Banks	Philadelphia	12/82	9/83	835
PA	Middletown Air Field	Middletown	10/84	6/86	656
PA	Mill Creek Dump	Erie	9/83	9/84	211
PA	Modern Sanitation Landfill	Lower Windsor Twp	10/84	6/86	776
PA	Moyers Landfill	Eagleville	12/82	9/83	602
PA	MW Manufacturing (once listed as Domino Salvage Yard)	Valley Township	10/84	6/86	275
PA	Naval Air Development Center (8 Waste Areas)	Warminster Township	6/86	10/89	Gr 2F
PA	North Penn - Area 1 (once listed as Gentle Cleaners, Inc./Granite Knitting Mills, Inc.)	Souderton	1/87	3/89	669
PA	North Penn - Area 12 (once listed as Transicoil, Inc.)	Worcester	1/87	2/90	1046
PA	North Penn - Area 2 (once listed as Ametek, Inc. (Hunter Spring Division))	Hatfield	1/87	10/89	672
PA	North Penn - Area 5 (once listed as American Electronics Laboratories)	Montgomery Township	1/87	3/89	673
PA	North Penn - Area 6 (once listed as J.W. Rex Co./Allied Paint Manufacturing Co., Inc./Keystone Hydraulics)	Lansdale	1/87	3/89	671
PA	North Penn - Area 7 (once listed as Spra-Fin, Inc.)	North Wales	1/87	3/89	670
PA	Novak Sanitary Landfill	South Whitehall Twp	1/87	10/89	405
PA	Occidental Chemical Corp./Firestone Tire & Rubber Co.	Lower Pottsgrove Twp	6/88	10/89	299
PA	Ohio River Park	Neville Island	10/89	8/90	414
PA	Old City of York Landfill	Seven Valleys	12/82	9/83	775
PA	Osborne Landfill	Grove City	7/82	9/83	119
PA	Palmerton Zinc Pile	Palmerton	12/82	9/83	368
PA	Paoli Rail Yard	Paoli	1/87	8/90	869
PA	Publicker Industries Inc.	Philadephia	5/89	10/89	44
PA	Raymark	Hatboro	6/88	10/89	134
PA	Recticon/Allied Steel Corp.	East Coventry Twp	6/88	10/89	879
PA	Resin Disposal	Jefferson Borough	12/82	9/83	598
PA	Revere Chemical Co.	Nockamixon Township	9/85	7/87	925
PA	River Road Landfill (Waste Management, Inc.)	Hermitage	1/87	10/89	363
PA	Route 940 Drum Dump (once listed as Pocono Summit)	Pocono Summit	9/85	7/87	342
PA	Saegertown Industrial Area	Saegertown	6/88	2/90	816
PA	Salford Quarry	Salford Township	1/87	8/90	78
PA	Shriver's Corner	Straban Township	10/84	6/86	288
PA	Stanley Kessler	King of Prussia	12/82	9/83	779
PA	Strasburg Landfill	Newlin Township	6/88	3/89	963
PA	Taylor Borough Dump	Taylor Borough	9/83	9/84	950
PA	Tobyhanna Army Depot	Tobyhanna	7/89	8/90	Gr 12F
PA	Tonolli Corp.	Nesquehoning	6/88	10/89	273
PA	Tysons Dump	Upper Merion Twp	9/83	9/84	25
PA	Walsh Landfill	Honeybrook Township	9/83	9/84	808
PA	Westinghouse Electric Corp. (Sharon Plant)	Sharon	6/88	8/90	454
PA	Westinghouse Elevator Co. Plant	Gettysburg	10/84	6/86	641
PA	Westline Site	Westline	12/82	9/83	911
PA	Whitmoyer Laboratories	Jackson Township	10/84	6/86	283
PA	William Dick Lagoons	West Caln Township	1/87	7/87	631
PA	York County Solid Waste and Refuse Authority Landfill	Hopewell Township	4/85	7/87	337
	95 Final Sites				
PR	Barceloneta Landfill	Florida Afuera	12/82	9/83	456
PR	Fibers Public Supply Wells	Jobos	9/83	9/84	703
PR	Frontera Creek	Rio Abajo	12/82	9/83	364
PR	GE Wiring Devices	Juana Diaz	12/82	9/83	931
PR	Juncos Landfill	Juncos	12/82	9/83	857
PR	Naval Security Group Activity	Sabana Seca	6/88	10/89	Gr 15F

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
PR	RCA Del Caribe	Barceloneta	12/82	9/83	936
PR	Upjohn Facility	Barceloneta	9/83	9/84	446
PR	Vega Alta Public Supply Wells	Vega Alta	9/83	9/84	412
	9 Final Sites				
RI	Central Landfill	Johnston	10/84	6/86	269
RI	Davis (GSR) Landfill	Glocester	4/85	6/86	531
RI	Davis Liquid Waste	Smithfield	10/81	9/83	253
RI	Davisville Naval Construction Battalion Center	North Kingstown	7/89	11/89	Gr 15F
RI	Landfill & Resource Recovery, Inc. (L&RR)	North Smithfield	12/82	9/83	206
RI	Newport Naval Education & Training Center	Newport	7/89	11/89	Gr 18F
RI	Peterson/Puritan, Inc.	Lincoln/Cumberland	12/82	9/83	492
RI	Picillo Farm *	Coventry	10/81	9/83	80
RI	Rose Hill Regional Landfill	South Kingstown	6/88	10/89	556
RI	Stamina Mills, Inc. (once listed as Forestdale-Stamina Mills, Inc.)	North Smithfield	12/82	9/83	765
RI	Western Sand & Gravel	Burrillville	10/81	9/83	181
	11 Final Sites				
SC	Beaunit Corp. (Circular Knit & Dyeing Plant)	Fountain Inn	6/88	2/90	861
SC	Carolawn, Inc.	Fort Lawn	12/82	9/83	881
SC	Elmore Waste Disposal	Greer	6/88	3/89	920
SC	Geiger (C & M Oil)	Rantoules	9/83	9/84	868
SC	Golden Strip Septic Tank Service	Simpsonville	1/87	7/87	48
SC	Helena Chemical Co. Landfill	Fairfax	6/88	2/90	78
SC	Independent Nail Co.	Beaufort	9/83	9/84	
SC	Kalama Specialty Chemicals	Beaufort	9/83	9/84	
SC	Koppers Co., Inc. (Florence Plant)	Florence	9/83	9/84	63
SC	Leonard Chemical Co., Inc.	Rock Hill	9/83	9/84	261
SC	Lexington County Landfill Area	Cayce	6/88	10/89	582
SC	Medley Farm Drum Dump	Gaffney	6/86	3/89	919
SC	Palmetto Recycling, Inc.	Columbia	1/87	7/87	1017
SC	Palmetto Wood Preserving	Dixiana	9/83	9/84	541
SC	Para-Chem Southern, Inc.	Simpsonville	10/89	8/90	846
SC	Rochester Property	Travelers Rest	6/86	10/89	628
SC	Rock Hill Chemical Co.	Rock Hill	6/88	2/90	488
SC	Sangamo Weston, Inc./Twelve-Mile Creek/Lake Hartwell PCB Contamination	Pickens	1/87	2/90	601
SC	Savannah River Site (USDOE)	Aiken	7/89	11/89	Gr 5F
SC	SCRDI Bluff Road *	Columbia	10/81	9/83	84
SC	SCRDI Dixiana	Cayce	7/82	9/83	472
SC	Townsend Saw Chain Co.	Pontiac	6/88	2/90	649
SC	Wamchem, Inc.	Burton	9/83	9/84	248
	23 Final Sites				
SD	Ellsworth Air Force Base	Rapid City	10/89	8/90	Gr 17F
SD	Whitewood Creek *	Whitewood	10/81	9/83	21
SD	Williams Pipe Line Co. Disposal Pit	Sioux Falls	10/89	8/90	429
	3 Final Sites				
TN	American Creosote Works, Inc. (Jackson Plant) (once listed as American Creosote Works)	Jackson	10/84	6/86	709
TN	Annicola Dump	Chattanooga	12/82	9/83	465
TN	Arlington Blending & Packaging	Arlington	1/87	7/87	527
TN	Carrier Air Conditioning Co.	Collierville	6/88	2/90	221
TN	Gallaway Pits	Gallaway	12/82	9/83	958

National Priorities List,
Final Sites (by State)
February 1991

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
TN	Lewisburg Dump	Lewisburg	12/82	9/83	828
TN	Mallory Capacitor Co.	Waynesboro	1/87	10/89	1020
TN	Milan Army Ammunition Plant	Milan	10/84	7/87	Gr 2F
TN	Murray-Ohio Dump	Lawrenceburg	12/82	9/83	277
TN	Murray-Ohio Manufacturing Co. (Horseshoe Bend Dump)	Lawrenceburg	6/88	8/90	951
TN	North Hollywood Dump *	Memphis	10/81	9/83	95
TN	Oak Ridge Reservation (USDOE)	Oak Ridge	7/89	11/89	Gr 4F
TN	Velsicol Chemical Corp. (Hardeman County)	Toone	12/82	9/83	245
TN	Wrigley Charcoal Plant	Wrigley	6/88	3/89	646
	14 Final Sites				
TX	Air Force Plant #4 (General Dynamics)	Fort Worth	10/84	8/90	Gr 10F
TX	Bailey Waste Disposal	Bridge City	10/84	6/86	139
TX	Bio-Ecology Systems, Inc.	Grand Prairie	10/81	9/83	715
TX	Brio Refining, Inc.	Friendswood	10/84	3/89	195
TX	Crystal Chemical Co.	Houston	7/82	9/83	34
TX	Crystal City Airport	Crystal City	10/84	6/86	867
TX	Dixie Oil Processors, Inc.	Friendswood	6/88	10/89	755
TX	French, Ltd.	Crosby	10/81	9/83	22
TX	Geneva Industries/Fuhrmann Energy	Houston	9/83	9/84	37
TX	Highlands Acid Pit	Highlands	7/82	9/83	597
TX	Koppers Co., Inc. (Texarkana Plant)	Texarkana	10/84	6/86	927
TX	Lone Star Army Ammunition Plant	Texarkana	10/84	7/87	Gr 19F
TX	Longhorn Army Ammunition Plant	Karnack	7/89	8/90	Gr 11F
TX	Motco, Inc. *	La Marque	10/81	9/83	27
TX	North Cavalcade Street	Houston	10/84	6/86	617
TX	Odessa Chromium #1	Odessa	10/84	6/86	425
TX	Odessa Chromium #2 (Andrews Highway)	Odessa	10/84	6/86	426
TX	Pesses Chemical Co.	Fort Worth	10/84	6/86	1061
TX	Petro-Chemical Systems, Inc. (Turtle Bayou)	Liberty County	10/84	6/86	1000
TX	Sheridan Disposal Services	Hempstead	6/86	3/89	992
TX	Sikes Disposal Pits	Crosby	10/81	9/83	30
TX	Sol Lynn/Industrial Transformers	Houston	10/84	3/89	511
TX	South Cavalcade Street	Houston	10/84	6/86	535
TX	Stewco, Inc.	Waskom	10/84	6/86	226
TX	Tex-Tin Corp.	Texas City	6/88	8/90	543
TX	Texarkana Wood Preserving Co.	Texarkana	4/85	6/86	489
TX	Triangle Chemical Co.	Bridge City	12/82	9/83	1064
TX	United Creosoting Co.	Conroe	9/83	9/84	608
	28 Final Sites				
UT	Hill Air Force Base	Ogden	10/84	7/87	Gr 5F
UT	Midvale Slag	Midvale	6/86	2/91	394
UT	Monticello Mill Tailings (USDOE)	Monticello	7/89	11/89	Gr 13F
UT	Monticello Radioactively Contaminated Properties	Monticello	10/84	6/86	716
UT	Ogden Defense Depot	Ogden	10/84	7/87	Gr 7F
UT	Portland Cement (Kiln Dust 2 & 3)	Salt Lake City	10/84	6/86	120
UT	Rose Park Sludge Pit	Salt Lake City	10/81	9/83	99
UT	Sharon Steel Corp. (Midvale Tailings) (once listed as Sharon Steel Corp. (Midvale Smelter))	Midvale	10/84	8/90	448
UT	Tooele Army Depot (North Area)	Tooele	10/84	8/90	Gr 3F
UT	Utah Power & Light/American Barrel Co.	Salt Lake City	5/89	10/89	587
UT	Wasatch Chemical Co. (Lot 6)	Salt Lake City	1/87	2/91	205
	11 Final Sites				
VA	Abex Corp.	Portsmouth	6/88	8/90	637

National Priorities List,
Final Sites (by State)
February 1991

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
VA	Arrowhead Associates/Scovill Corp.	Montross	6/88	2/90	615
VA	Atlantic Wood Industries, Inc.	Portsmouth	6/86	2/90	616
VA	Avtex Fibers, Inc.	Front Royal	10/84	6/86	695
VA	Buckingham County Landfill (once listed as Love's Container Service Landfill)	Buckingham	4/85	10/89	471
VA	C & R Battery Co., Inc.	Chesterfield County	1/87	7/87	276
VA	Chisman Creek	York County	10/81	9/83	256
VA	Culpeper Wood Preservers, Inc.	Culpeper	10/84	10/89	300
VA	Defense General Supply Center	Chesterfield County	10/84	7/87	Gr 16F
VA	Dixie Caverns County Landfill	Salem	1/87	10/89	705
VA	First Piedmont Corp. Rock Quarry (Route 719) (once listed as First Piedmont Corp. Rock Quarry)	Pittsylvania County	4/85	7/87	988
VA	Greenwood Chemical Co.	Newtown	1/87	7/87	144
VA	H & H Inc., Burn Pit	Farrington	1/87	3/89	804
VA	L.A. Clarke & Son	Spotsylvania County	10/84	6/86	746
VA	Rentokil, Inc. (Virginia Wood Preserving Division)	Richmond	1/87	3/89	978
VA	Rhinehart Tire Fire Dump	Frederick County	10/84	6/86	970
VA	Saltville Waste Disposal Ponds	Saltville	12/82	9/83	1015
VA	Saunders Supply Co.	Chuckatuck	1/87	10/89	621
VA	Suffolk City Landfill	Suffolk	6/88	2/90	653
VA	U.S. Titanium	Piney River	12/82	9/83	724
	20 Final Sites				
VT	Bennington Municipal Sanitary Landfill	Bennington	6/88	3/89	2[illegible]
VT	BFI Sanitary Landfill(Rockingham)	Rockingham	6/88	10/89	[illegible]
VT	Burgess Brothers Landfill	Woodford	6/88	3/89	
VT	Darling Hill Dump	Lyndon	6/88	10/89	
VT	Old Springfield Landfill	Springfield	12/82	9/83	
VT	Parker Sanitary Landfill	Lyndon	6/88	2/90	154
VT	Pine Street Canal *	Burlington	10/81	9/83	89
VT	Tansitor Electronics, Inc.	Bennington	6/88	10/89	654
	8 Final Sites				
WA	ALCOA (Vancouver Smelter)	Vancouver	6/88	2/90	72
WA	American Crossarm & Conduit Co.	Chehalis	6/88	10/89	976
WA	American Lake Gardens	Tacoma	9/83	9/84	1057
WA	Bangor Naval Submarine Base	Silverdale	7/89	8/90	Gr 3F
WA	Bangor Ordnance Disposal	Bremerton	10/84	7/87	Gr 20F
WA	Bonneville Power Administration Ross Complex (USDOE)	Vancouver	7/89	11/89	Gr 3F
WA	Centralia Municipal Landfill	Centralia	6/88	8/90	642
WA	Colbert Landfill	Colbert	12/82	9/83	452
WA	Commencement Bay, Near Shore/Tide Flats	Pierce County	10/81	9/83	438
WA	Commencement Bay, South Tacoma Channel	Tacoma	10/81	9/83	118
WA	Fairchild Air Force Base (4 Waste Areas)	Spokane County	6/88	3/89	Gr 18F
WA	FMC Corp. (Yakima Pit)	Yakima	12/82	9/83	533
WA	Fort Lewis (Landfill No. 5)	Tacoma	10/84	7/87	Gr 16F
WA	Fort Lewis Logistics Center	Tillicum	7/89	11/89	Gr 14F
WA	Frontier Hard Chrome, Inc.	Vancouver	12/82	9/83	62
WA	General Electric Co. (Spokane Shop)	Spokane	6/88	10/89	71
WA	Greenacres Landfill	Spokane County	9/83	9/84	1058
WA	Hanford 100-Area (USDOE)	Benton County	6/88	10/89	Gr 6F
WA	Hanford 1100-Area (USDOE)	Benton County	6/88	10/89	Gr 13F
WA	Hanford 200-Area (USDOE)	Benton County	6/88	10/89	Gr 1F
WA	Hanford 300-Area (USDOE)	Benton County	6/88	10/89	Gr 1F
WA	Harbor Island (Lead)	Seattle	12/82	9/83	738
WA	Hidden Valley Landfill (Thun Field)	Pierce County	6/86	3/89	592
WA	Kaiser Aluminum Mead Works	Mead	12/82	9/83	562

National Priorities List,
Final Sites (by State)
February 1991

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
WA	Lakewood Site	Lakewood	12/82	9/83	389
WA	McChord Air Force Base (Wash Rack/Treatment Area)	Tacoma	10/84	7/87	Gr 9F
WA	Mica Landfill	Mica	10/84	6/86	734
WA	Midway Landfill	Kent	10/84	6/86	126
WA	Naval Air Station, Whidbey Island (Ault Field)	Whidbey Island	9/85	2/90	Gr 5F
WA	Naval Air Station, Whidbey Island (Seaplane Base)	Whidbey Island	9/85	2/90	Gr 11F
WA	Naval Undersea Warfare Engineering Station (4 Waste Areas)	Keyport	6/86	10/89	Gr 17F
WA	North Market Street (once listed as Tosco Corp. (Spokane Terminal))	Spokane	6/88	8/90	855
WA	Northside Landfill	Spokane	10/84	6/86	1059
WA	Northwest Transformer	Everson	10/84	6/86	788
WA	Northwest Transformer (South Harkness Street)	Everson	6/88	2/90	971
WA	Old Inland Pit	Spokane	6/86	2/90	1025
WA	Pacific Car & Foundry Co.	Renton	6/88	2/90	402
WA	Pasco Sanitary Landfill	Pasco	6/88	2/90	334
WA	Pesticide Lab (Yakima)	Yakima	12/82	9/83	1026
WA	Queen City Farms	Maple Valley	9/83	9/84	744
WA	Seattle Municipal Landfill (Kent Highlands)	Kent	6/88	8/90	158
WA	Silver Mountain Mine	Loomis	10/84	6/86	999
WA	Western Processing Co., Inc.	Kent	7/82	9/83	49
WA	Wyckoff Co./Eagle Harbor	Bainbridge Island	9/85	7/87	860
WA	Yakima Plating Co.	Yakima	6/88	3/89	593
	45 Final Sites				
WI	Algoma Municipal Landfill	Algoma	6/86	7/87	496
WI	Better Brite Plating Co. Chrome & Zinc Shops	DePere	10/89	8/90	223
WI	City Disposal Corp. Landfill	Dunn	9/83	9/84	622
WI	Delavan Municipal Well #4	Delavan	9/83	9/84	1048
WI	Eau Claire Municipal Well Field	Eau Claire	9/83	9/84	678
WI	Fadrowski Drum Disposal	Franklin	10/84	6/86	940
WI	Hagen Farm	Stoughton	9/85	7/87	880
WI	Hechimovich Sanitary Landfill	Williamstown	6/88	3/89	239
WI	Hunts Disposal Landfill	Caledonia	6/86	7/87	946
WI	Janesville Ash Beds	Janesville	9/83	9/84	66
WI	Janesville Old Landfill	Janesville	9/83	9/84	63
WI	Kohler Co. Landfill	Kohler	9/83	9/84	370
WI	Lauer I Sanitary Landfill	Menomonee Falls	9/83	9/84	381
WI	Lemberger Landfill, Inc. (once listed as Lemberger Fly Ash Landfill)	Whitelaw	9/85	6/86	766
WI	Lemberger Transport & Recycling	Franklin Township	9/83	9/84	739
WI	Madison Metropolitan Sewerage District Lagoons	Blooming Grove	6/88	2/90	854
WI	Master Disposal Service Landfill	Brookfield	9/83	9/84	250
WI	Mid-State Disposal, Inc. Landfill	Cleveland Township	9/83	9/84	708
WI	Moss-American(Kerr-McGee Oil Co.)	Milwaukee	9/83	9/84	870
WI	Muskego Sanitary Landfill	Muskego	9/83	9/84	173
WI	N.W. Mauthe Co., Inc. *	Appleton	6/88	3/89	94
WI	National Presto Industries, Inc.	Eau Claire	10/84	6/86	396
WI	Northern Engraving Co.	Sparta	9/83	9/84	534
WI	Oconomowoc Electroplating Co. Inc	Ashippin	9/83	9/84	906
WI	Omega Hills North Landfill	Germantown	9/83	9/84	50
WI	Onalaska Municipal Landfill	Onalaska	9/83	9/84	393
WI	Sauk County Landfill	Excelsior	6/88	10/89	753
WI	Schmalz Dump	Harrison	9/83	9/84	220
WI	Scrap Processing Co., Inc.	Medford	9/83	9/84	747
WI	Sheboygan Harbor & River	Sheboygan	9/85	6/86	791
WI	Spickler Landfill	Spencer	1/87	7/87	338
WI	Stoughton City Landfill	Stoughton	10/84	6/86	651
WI	Tomah Armory	Tomah	1/87	7/87	966
WI	Tomah Fairgrounds	Tomah	1/87	7/87	851
WI	Tomah Municipal Sanitary Landfill	Tomah	6/86	3/89	304

National Priorities List,
Final Sites (by State)
February 1991

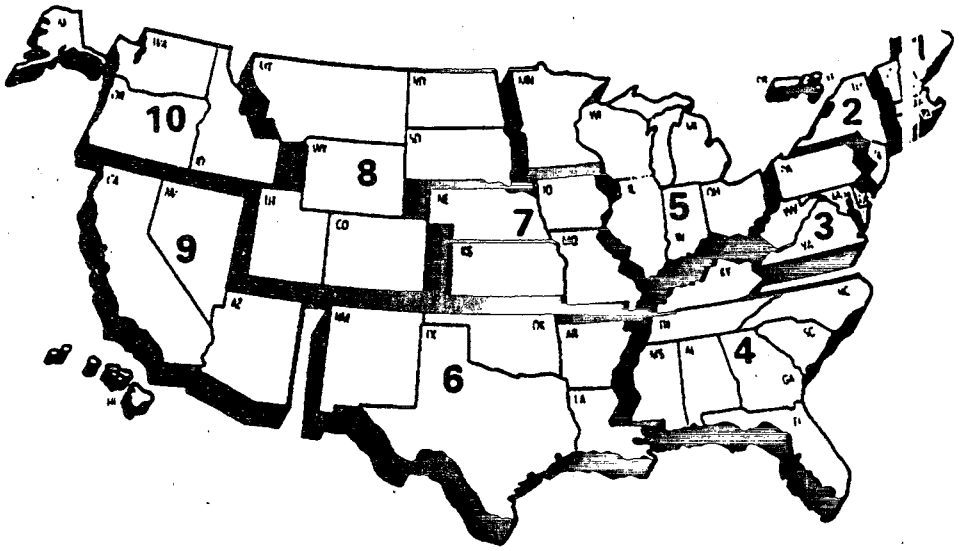
St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
WI	Waste Management of Wisconsin, Inc. (Brookfield Sanitary Landfill)	Brookfield	6/88	8/90	1049
WI	Waste Research & Reclamation Co.	Eau Claire	9/83	9/84	871
WI	Wausau Ground Water Contamination	Wausau	4/85	6/86	1040
WI	Wheeler Pit	La Prairie Township	9/83	9/84	76
	39 Final Sites				
WV	Fike Chemical, Inc.	Nitro	12/82	9/83	644
WV	Follansbee Site	Follansbee	12/82	9/83	794
WV	Leetown Pesticide	Leetown	12/82	9/83	627
WV	Ordnance Works Disposal Areas	Morgantown	10/84	6/86	661
WV	West Virginia Ordnance *	Point Pleasant	10/81	9/83	90
	5 Final Sites				
WY	Baxter/Union Pacific Tie Treating	Laramie	12/82	9/83	611
WY	F.E. Warren Air Force Base	Cheyenne	7/89	2/90	Gr 11F
WY	Mystery Bridge Rd/U.S. Highway 20	Evansville	6/88	8/90	875
	3 Final Sites				

1189 Total Final Sites

United States Environmental Protection Agency

For further information, call the Superfund Hotline, toll-free at 1-800-424-9346 or 703-920-9810 in Washington, DC, metropolitan area, or the U. S. EPA Superfund Offices listed below

For publications, contact **Public Information Center, PM-211B**
401 M Street SW.
Washington DC 20460
CML:(202) 382-2080
FTS: 382-2080



Office of Emergency and Remedial Response, OS-230
401 M Street, SW
Washington, DC 20460
CML: (202) 475-8103
FTS: 475-8103

Region 1
Superfund Branch, HSL-CAN 2
John F. Kennedy Building
Boston, MA 02203
CML: (617) 573-9610
FTS: 833-1610

Region 2
Emergency & Remedial Response Division
26 Federal Plaza
New York, NY 10278
CML: (212) 264-8672
FTS: 264-8672

Region 3
Site Assessment Section, 3HW13
841 Chestnut Building
Philadelphia, PA 19107
CML: (215) 597-3437
FTS: 597-3437

Region 4
Waste Management Division
345 Courtland Street, NE
Atlanta, GA 30365
CML: (404) 347-3454
FTS: 257-3454

Region 5
Remedial Response Branch, 5HS-11
230 South Dearborn Street, 12th Floor
Chicago, IL 60604
CML: (312) 886-5877
FTS: 886-5877

Region 6
Superfund Management Branch Division, 6H-M
1445 Ross Avenue
Dallas, TX 75202-2733
CML: (214) 655-6740
FTS: 255-6740

Region 7
Superfund Branch
726 Minnesota Avenue
Kansas City, KS 66101
CML: (913) 551-7052
FTS: 276-7052

Region 8
Superfund Remedial Branch, 8HV M-SR
999 18th Street, Suite 500
Denver, CO 80202-2405
CML: (303) 294-7630
FTS: 330-7630

Region 9
Waste Management Division, H-
75 Hawthorne Street
San Francisco, CA 94105
CML: (415) 744-1730
FTS: 484-1730

Region 10
Superfund Branch, HW-113
1200 6th Avenue
Seattle, WA 98101
CML: (206) 442-1987
FTS: 399-1987

LISTING MUNICIPAL LANDFILLS ON THE NATIONAL PRIORITIES LIST

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 21 1987

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

OSWER Directive 9320.1-09

SUBJECT: Listing Municipal Landfills on the NPL

FROM: Henry L. Longest II, Director
Office of Emergency and Remedial Response

TO: Director, Waste Management Division
Regions I, IV, V, VII, and VIII
Director, Emergency and Remedial Response Division
Region II
Director, Hazardous Waste Management Division
Region III and VI
Director, Toxics and Waste Management Division
Region IX
Director, Hazardous Waste Division
Region X

This memo is a followup to my October 24, 1986, memo (see attached) regarding listing municipal landfills on the National Priorities List (NPL). In that memo, I deferred listing municipal landfills on Update #6 that did not have a clear record of accepting hazardous waste. I believe it is important to understand the intent of that memo and clarify procedures for submission of municipal landfills in the next proposed update.

At the time I issued the October 1986 memo, it appeared that municipal landfills were being submitted by the Regions in increasing numbers. I wanted to ensure that these municipal landfill sites were appropriate for Superfund remedial action. Therefore, as a management tool, I required a clear record of hazardous waste disposal for sites to be considered eligible for the Update #6 proposed rulemaking.

As you are aware, at the time I issued the October 1986 memo, the Agency had recently promulgated the RCRA Subtitle C deferred NPL listing policy (51 FR 21054). The Office of Solid Waste (OSW) will soon propose revisions to the Subtitle D Criteria for Classification of Solid Waste Disposal Facilities and Practices set forth in 40 CFR Part 258. This rule will propose specific requirements for new and existing municipal solid

waste landfills, including ground water monitoring and corrective action for these facilities. Municipal solid waste landfills that close prior to the effective date of the rule are proposed to be excluded from the rule. I viewed the RCRA Subtitle D authority for municipal landfills as a possible corollary to the RCRA Subtitle C deferred NPL listing policy.

It was our experience with Update #6 that the Regions had difficulty documenting hazardous waste disposal at several landfills even though there may have been an indication that hazardous substances were being released from the landfill. It was not my intention in the October 1986 memo to defer from placement on the NPL a serious environmental threat, e.g., a municipal landfill with a documented release of hazardous waste or indication of the presence of hazardous waste. Rather my intention was to ensure that the Superfund program concentrate on those sites that cannot be addressed sufficiently through another authority.

I continue to believe it is important to ensure that the Superfund program focuses on the cleanup of hazardous waste sites that cannot be addressed sufficiently by another authority. At the same time, however, I will not place restrictions that impede the listing of serious public health or environmental threats. Therefore, you may submit municipal landfills that score above 28.50 for listing on the NPL without a record of hazardous waste disposal. I request, however, that you submit a cover letter with each municipal landfill HRS package. This letter should discuss the site's history to indicate the types of materials disposed at the site, any monitoring data indicating a release from the site, and an assessment of the environmental and public health risks at the site based on information contained in the preliminary assessment, site inspection, and HRS package. I believe this approach will help us make better environmental management decisions at municipal landfill sites.

We will closely follow the Subtitle D rule and will develop an appropriate policy for municipal landfills prior to scoring sites under the revised HRS.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 24 1986

OSWER Directive 9320.1-08

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Listing Municipal Landfills on the NPL

FROM: Henry L. Longest II, Director
Office of Emergency and Remedial Response

TO: Director, Emergency and Remedial Response Division
Region II
Director, Hazardous Waste Management Division
Region III
Director, Waste Management Division
Region IV and V
Director, Toxics and Waste Management Division
Region IX

The purpose of this memo is to outline the Agency's position regarding listing municipal landfills on the National Priorities List (NPL). Municipal landfills, and private landfills that accepted municipal waste, are being submitted by the Regions for addition to the NPL in increasing numbers. As a result, the Agency needs to evaluate whether municipal landfills that do not have a clear record of accepting hazardous waste should be included on the NPL. The current position, therefore, is that municipal landfills that have a record of hazardous waste disposal will be included in the next proposed update to the NPL scheduled for November. Those sites that have passed quality assurance review, but for which no record of hazardous waste disposal exists, will not be included in the next update, but rather will be set aside while the Agency develops a policy for listing these sites. Since NPL updates occur more frequently than in the past, we believe that temporarily setting aside sites that raise unresolved policy issues will allow the proposal to move ahead while not holding up sites for too long.

The specific sites in your Region that have been dropped from consideration for Update #6 are listed in the attachment. If additional information regarding hazardous waste disposal at these sites can be obtained, please send it to Mr. Harold J. Snyder, Chief, Discovery and Investigation Branch (WH-548E).

We believe that this issue is very important and are interested in the Regional perspective. Consequently, if you have any comments or questions regarding this issue, please forward them to my office.

Attachment

Attachment to OSWER Directive 9320.1-08 (October 24, 1986)

MUNICIPAL LANDFILLS WITHOUT A RECORD OF HAZARDOUS WASTE DISPOSAL

DEFERRED FROM NATIONAL PRIORITIES LIST UPDATE #6

Region II:

Horstmann's Dump, East Hanover, NJ
Islip Sanitary Landfill, Islip, NY

Region III

Novak Sanitary Landfill, Lehigh County, Pa.
Bush Valley Landfill, Abingdon, Md.

Region IV

Wingate Road Incinerator Dump, Ft. Lauderdale, Fla.

Region V

Yeoman Creek Landfill, Waukegan, Ill.
Himco Dump, Elkhardt, Ind.
DuPage City Landfill/Blackwell Forest, Warrenville, Ill.

Region IX
Fresno Sanitary Landfill, Fresno, Ca.

LISTS, GRAPHICS, AND DATA SUMMARIES

FEDERAL REGISTER NOTICES
Date/Citation/Number of Sites

October 23, 1981
115 ("Interim Priorities List")

July 23, 1982
45 ("Expanded Eligibility List")

December 30, 1982, 47 FR 58476
418 (proposal of first NPL, including 153 of 160 sites announced previously)

March 4, 1983, 48 FR 9311
1 (proposal of Times Beach, Missouri)

September 8, 1983, 48 FR 40658
406 (promulgation of first NPL; 7 sites remain proposed)

September 8, 1983, 48 FR 40674
133 (proposal of Update #1)

May 8, 1984, 49 FR 19480
4 (promulgation of 4 San Gabriel Valley sites in California, part of Update #1)

September 21, 1984, 49 FR 37070
128 (promulgation of 123 Update #1 sites and 5 from original proposal; 4 sites remain proposed)

October 15, 1984, 49 FR 40320
244, including 36 Federal facility sites (proposal of Update #2)

February 14, 1985, 50 FR 6320
2 (promulgation of Glen Ridge and Montclair/West Orange Radium Sites in New Jersey, part of Update #2)

April 10, 1985, 50 FR 14115
32, including 6 Federal facility sites (proposal of Update #3)

September 16, 1985, 50 FR 37630
1 (promulgation of Lansdowne Radiation Site in Pennsylvania, part of Update #3)

September 18, 1985, 50 FR 37950
41, including 3 Federal facility sites (proposal of Update #4)

June 10, 1986, 51 FR 21054
170 (promulgation of sites from Updates #1-4; 185 sites remain proposed)

June 10, 1986, 51 FR 21099
45, including 2 Federal Facility sites (proposal of Update #5)

June 10, 1986, 51 FR 21109
proposed RCRA policy; reopening of comment period for 5 sites

January 22, 1987, 52 FR 2492
64, including 1 Federal facility site (proposal of Update #6)

February 25, 1987, 52 FR 5578
Availability of information

May 13, 1987, 52 FR 17991
proposed RCRA policy for Federal facility sites

July 22, 1987, 52 FR 27620
99 (promulgation of sites from Updates #2-6; 149 sites remain proposed)

July 22, 1987, 52 FR 27643
7 (reproposal of Federal facility sites)

June 24, 1988, 53 FR 23978
43 (reproposal of RCRA sites)

June 24, 1988, 53 FR 23988
229, including 14 Federal facility sites (proposal of Update #7)

August 9, 1988, 53 FR 30002/30005
RCRA policy statements

March 13, 1989, 54 FR 10520
Federal facility/RCRA policy statement
March 13, 1989, 54 FR 10512
(8 Federal facility sites) and

March 31, 1989, 54 FR 13296
101 (promulgation of sites from Updates #2-7, 273 sites remain proposed)

May 5, 1989, 54 FR 19526
10 (proposal of Update #8)

July 14, 1989, 54 FR 29820
52 Federal facility sites (proposal of Update #9)

August 16, 1989, 54 FR 33846
2 (proposal of ATSDR sites)

October 4, 1989, 54 FR 41000/41015
93 (promulgation of sites from Updates # 2-8; 31 proposed sites dropped; 213 sites remain proposed)

October 26, 1989, 54 FR 43778
25, including 2 Federal facility sites (proposal of Update #10)

November 21, 1989, 54 FR 48184
29 (promulgation of 27 Federal facility sites from Update #9 and 2 ATSDR sites; expansion of 1 Federal facility site; 209 sites remain proposed)

February 21, 1990, 55 FR 6154
71 (promulgation of sites from Updates #2-7, 9; 1 proposed site dropped; 137 sites remain proposed)

March 14, 1990, 55 FR 9688
1 (promulgation of United Heckathorn Co., Richmond, California; 136 sites remain proposed)

AUGUST 1990
106 (promulgation of sites from Updates 2, 5-10; 10 proposed sites dropped; 20 sites remain proposed)

National Priorities List (by Rank)
August 1990

NPL Rank	EPA Reg	St	Site Name	City/County
			Group 1 (HRS Scores 75.60 - 58.54)	
1	02	NJ	Lipari Landfill	Pitman
2	03	DE	Tybouts Corner Landfill *	New Castle County
3	03	PA	Bruin Lagoon	Bruin Borough
4	02	NJ	Helen Kramer Landfill	Mantua Township
5	01	MA	Industri-Plex	Woburn
6	02	NJ	Price Landfill *	Pleasantville
7	02	NY	Pollution Abatement Services *	Oswego
8	07	IA	LaBounty Site	Charles City
9	03	DE	Army Creek Landfill	New Castle County
10	02	NJ	CPS/Madison Industries	Old Bridge Township
11	01	MA	Nyanza Chemical Waste Dump	Ashland
12	02	NJ	GEMS Landfill	Gloucester Township
13	05	MI	Berlin & Farro	Swartz Creek
14	01	MA	Baird & McGuire	Holbrook
15	02	NJ	Lone Pine Landfill	Freehold Township
16	01	NH	Somersworth Sanitary Landfill	Somersworth
17	05	MN	FMC Corp. (Fridley Plant)	Fridley
18	06	AR	Vertac, Inc.	Jacksonville
19	01	NH	Keefe Environmental Services	Epping
20	08	MT	Silver Bow Creek/Butte Area	Sil Bow/Deer Lodge
21	08	SD	Whitewood Creek *	Whitewood
22	06	TX	French, Ltd.	Crosby
23	05	MI	Liquid Disposal, Inc.	Utica
24	01	NH	Sylvester *	Nashua
25	03	PA	Tysons Dump	Upper Merion Twp
26	03	PA	McAdoo Associates *	McAdoo Borough
27	06	TX	Motco, Inc. *	La Marque
28	05	OH	Arcanum Iron & Metal	Darke County
29	08	MT	East Helena Site	East Helena
30	06	TX	Sikes Disposal Pits	Crosby
31	04	AL	Triana/Tennessee River	Limestone/Morgan
32	09	CA	Stringfellow *	Glen Avon Heights
33	01	ME	McKin Co.	Gray
34	06	TX	Crystal Chemical Co.	Houston
35	02	NJ	Bridgeport Rental & Oil Services	Bridgeport
36	08	CO	Sand Creek Industrial	Commerce City
37	06	TX	Geneva Industries/Fuhrmann Energy	Houston
38	01	MA	W.R. Grace & Co Inc (Acton Plant)	Acton
39	05	MN	New Brighton/Arden Hills	New Brighton
40	05	MN	Reilly Tar (St. Louis Park Plant) *	St. Louis Park
41	02	NJ	Vineland Chemical Co., Inc.	Vineland
42	02	NJ	Burnt Fly Bog	Marlboro Township
43	04	FL	Schuylkill Metals Corp.	Plant City
44	03	PA	Publicker Industries Inc.	Philadephia
45	02	NY	Old Bethpage Landfill	Oyster Bay
46	04	FL	Reeves Southeast Galvanizing Corp	Tampa
47	02	NJ	Shieldalloy Corp.	Newfield Borough
48	08	MT	Anaconda Co. Smelter	Anaconda
49	10	WA	Western Processing Co., Inc.	Kent
50	05	WI	Omega Hills North Landfill	Germantown

National Priorities List (by Rank)
August 1990

NPL Rank	EPA Reg	St	Site Name	City/County
Group 2 (HRS Scores 58.41 - 57.80, except for State top priority sites)				
51	04	FL	American Creosote (Pensacola Plt)	Pensacola
52	02	NJ	Caldwell Trucking Co.	Fairfield
53	02	NY	GE Moreau	South Glen Falls
54	05	IN	Seymour Recycling Corp. *	Seymour
55	04	FL	Peak Oil Co./Bay Drum Co.	Tampa
56	05	OH	United Scrap Lead Co., Inc.	Troy
57	07	KS	Cherokee County	Cherokee County
58	06	OK	Tar Creek (Ottawa County)	Ottawa County
59	02	NJ	Brick Township Landfill	Brick Township
60	02	NJ	Brook Industrial Park	Bound Brook
61	05	MI	American Anodco, Inc.	Ionia
62	10	WA	Frontier Hard Chrome, Inc.	Vancouver
63	05	WI	Janesville Old Landfill	Janesville
64	05	MI	Northernaire Plating	Cadillac
65	04	SC	Independent Nail Co.	Beaufort
66	05	WI	Janesville Ash Beds	Janesville
67	04	SC	Kalama Specialty Chemicals	Beaufort
68	07	IA	Lehigh Portland Cement Co.	Mason City
69	04	FL	Davie Landfill	Davie
70	05	OH	Miami County Incinerator	Troy
71	10	WA	ALCOA (Vancouver Smelter)	Vancouver
72	10	ID	Eastern Michaud Flats Contamin	Pocatello
73	09	AZ	Tucson International Airport Area	Tucson
74	07	IA	Northwestern States Portland Cem	Mason City
75	05	WI	Wheeler Pit	La Prairie Township
76	05	IN	International Minerals (E. Plant)	Terre Haute
77	04	FL	Gold Coast Oil Corp.	Miami
78	03	PA	Salford Quarry	Salford Township
79	05	MI	Gratiot County Landfill *	St. Louis
80	01	RI	Picillo Farm *	Coventry
81	01	MA	New Bedford Site *	New Bedford
82	06	LA	Old Inger Oil Refinery *	Darrow
83	05	OH	Chem-Dyne *	Hamilton
84	04	SC	SCRDI Bluff Road *	Columbia
85	01	CT	Laurel Park, Inc. *	Naugatuck Borough
86	08	CO	Marshall Landfill *	Boulder County
87	05	IL	Outboard Marine Corp. *	Waukegan
88	06	NM	South Valley *	Albuquerque
89	01	VT	Pine Street Canal *	Burlington
90	03	WV	West Virginia Ordnance *	Point Pleasant
91	07	MO	Ellisville Site *	Ellisville
92	08	ND	Arsenic Trioxide Site *	Southeastern ND
93	07	IA	Aidex Corp. *	Council Bluffs
94	05	WI	N.W. Mauthe Co., Inc. *	Appleton
95	04	TN	North Hollywood Dump *	Memphis
96	04	KY	A.L. Taylor (Valley of Drums) *	Brooks
97	09	GU	Ordot Landfill *	Guam
98	04	MS	Flowood Site *	Flowood
99	08	UT	Rose Park Sludge Pit *	Salt Lake City
100	07	KS	Arkansas City Dump *	Arkansas City

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 3 (HRS Scores 57.80 - 52.58)	
101	10	WA	General Electric(Spokane Shop)	Spokane
102	09	CA	Operating Industries, Inc. Lndfll	Monterey Park
103	02	NY	Wide Beach Development	Brant
104	09	CA	Iron Mountain Mine	Redding
105	02	NJ	Scientific Chemical Processing	Carlstadt
106	08	CO	California Gulch	Leadville
107	02	NJ	D'Imperio Property	Hamilton Township
108	05	MN	Oakdale Dump	Oakdale
109	05	IL	Parsons Casket Hardware Co.	Belvidere
110	05	IL	A & F Material Reclaiming, Inc.	Greenup
111	03	PA	Douglassville Disposal	Douglassville
112	05	MN	Koppers Coke	St. Paul
113	01	MA	Plymouth Harbor/Cannon Eng. Corp.	Plymouth
114	10	ID	Monsanto Chemical (Soda Springs)	Soda Springs
115	10	ID	Bunker Hill Mining & Metallurg	Smelterville
116	02	NY	Hudson River PCBs	Hudson River
117	02	NJ	Universal Oil Products(Chem Div)	East Rutherford
118	09	CA	Aerojet General Corp.	Rancho Cordova
119	10	WA	Com Bay, South Tacoma Channel	Tacoma
120	03	PA	Osborne Landfill	Grove City
121	08	UT	Portland Cement (Kiln Dust 2 & 3)	Salt Lake City
122	01	CT	Old Southington Landfill	Southington
123	02	NY	Syosset Landfill	Oyster Bay
124	02	NY	Circuitron Corp.	East Farmingdale
125	09	AZ	Nineteenth Avenue Landfill	Phoenix
126	10	OR	Teledyne Wah Chang	Albany
127	10	WA	Midway Landfill	Kent
128	02	NY	Sinclair Refinery	Wellsville
129	04	AL	Mowbray Engineering Co.	Greenville
130	05	MI	Spiegelberg Landfill	Green Oak Township
131	04	FL	Miami Drum Services	Miami
132	02	NJ	Reich Farms	Pleasant Plains
133	10	ID	Union Pacific Railroad Co.	Pocatello
134	02	NJ	South Brunswick Landfill	South Brunswick
135	03	PA	Raymark	Hatboro
136	04	AL	Ciba-Geigy Corp. (McIntosh Plant)	McIntosh
137	04	FL	Kassauf-Kimerling Battery	Tampa
138	05	IL	Wauconda Sand & Gravel	Wauconda
139	05	MI	Bofors Nobel, Inc.	Muskegon
140	06	TX	Bailey Waste Disposal	Bridge City
141	01	NH	Ottati & Goss/Kingston Steel Drum	Kingston
142	05	MI	Ott/Story/Cordova Chemical Co.	Dalton Township
143	05	MI	Thermo-Chem, Inc.	Muskegon
144	09	CA	Brown & Bryant, Inc.(Arvin Plant)	Arvin
145	03	VA	Greenwood Chemical Co.	Newtown
146	02	NJ	NL Industries	Pedricktown
147	05	MN	St. Regis Paper Co.	Cass Lake
148	04	KY	Brantley Landfill	Island
149	04	NC	Aberdeen Pesticide Dumps	Aberdeen
150	01	VT	Burgess Brothers Landfill	Woodford

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 4 (HRS Scores 52.58 - 50.23)	
151	02	NJ	Ringwood Mines/Landfill	Ringwood Borough
152	04	FL	Whitehouse Oil Pits	Whitehouse
153	04	GA	Hercules 009 Landfill	Brunswick
154	02	NY	Jones Sanitation	Hyde Park
155	01	VT	Parker Sanitary Landfill	Lyndon
156	05	MI	Velsicol Chemical Corp.(Michigan)	St. Louis
157	05	OH	Summit National	Deerfield Township
158	02	NY	Love Canal	Niagara Falls
159	10	WA	Seattle Mun Lndfll (Kent Hghlnds)	Kent
160	03	DE	Coker's Sanitation Service Lndfls	Kent County
161	05	MI	Rockwell International (Allegan)	Allegan
162	05	MN	Pine Bend Sanitary Landfill	Dakota County
163	07	IA	Lawrence Todtz Farm	Camanche
164	05	IL	Beloit Corp.	Rockton
165	05	IN	Fisher-Calo	LaPorte
166	04	FL	Pioneer Sand Co.	Warrington
167	05	MI	Springfield Township Dump	Davisburg
168	03	PA	Hranica Landfill	Buffalo Township
169	04	NC	Martin-Marietta, Sodyeco, Inc.	Charlotte
170	03	DE	E.I. Du Pont (Newport Plant Lf)	Newport
171	03	PA	Hellertown Manufacturing Co.	Hellertown
172	04	FL	Zellwood Ground Water Contamin	Zellwood
173	05	MI	Packaging Corp. of America	Filer City
174	05	WI	Muskego Sanitary Landfill	Muskego
175	10	ID	Kerr-McGee Chemical(Soda Springs)	Soda Springs
176	05	IN	Whiteford Sales&Ser/Nationalease	South Bend
177	02	NY	Hooker (S Area)	Niagara Falls
178	03	PA	Lindane Dump	Harrison Township
179	08	CO	Central City-Clear Creek	Idaho Springs
180	02	NJ	Ventron/Velsicol	Wood Ridge Borough
181	04	FL	Taylor Road Landfill	Seffner
182	01	RI	Western Sand & Gravel	Burrillville
183	02	NY	Rosen Brothers Scrap Yard/Dump	Cortland
184	04	SC	Koppers Co Inc (Florence Plant)	Florence
185	02	NJ	Maywood Chemical Co.	Maywood/Rochelle Pk
186	02	NJ	Nascolite Corp.	Millville
187	05	OH	Industrial Excess Landfill	Uniontown
188	09	CA	Industrial Waste Processing	Fresno
189	06	OK	Hardage/Criner	Criner
190	05	MI	Rose Township Dump	Rose Township
191	05	MN	Waste Disposal Engineering	Andover
192	02	NY	Liberty Industrial Finishing	Farmingdale
193	02	NJ	Kin-Buc Landfill	Edison Township
194	05	IN	Waste, Inc., Landfill	Michigan City
195	05	OH	Bowers Landfill	Circleville
196	06	TX	Brio Refining, Inc.	Friendswood
197	02	NJ	Ciba-Geigy Corp.	Toms River
198	05	MI	Butterworth #2 Landfill	Grand Rapids
199	02	NJ	American Cyanamid Co.	Bound Brook
200	03	PA	Heleva Landfill	North Whitehall Twp

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 5 (HRS Scores 50.19 - 47.49)	
201	02	NJ	Ewan Property	Shamong Township
202	02	NY	Batavia Landfill	Batavia
203	05	IL	Woodstock Municipal Landfill	Woodstock
204	05	MN	Boise Cascade/Onan/Medtronics	Fridley
205	05	IL	MIG/Dewane Landfill	Belvidere
206	01	RI	Landfill & Resource Recovery	North Smithfield
207	05	MI	Hi-Mill Manufacturing Co.	Highland
208	03	PA	Butler Mine Tunnel	Pittston
209	04	FL	Northwest 58th Street Landfill	Hialeah
210	02	NJ	Delilah Road	Egg Harbor Township
211	03	PA	Mill Creek Dump	Erie
212	02	NJ	Glen Ridge Radium Site	Glen Ridge
213	02	NJ	Montclair/West Orange Radium Site	Montclair/W Orange
214	01	CT	Precision Plating Corp.	Vernon
215	04	FL	Sixty-Second Street Dump	Tampa
216	05	MI	G&H Landfill	Utica
217	01	VT	Bennington Municipal Sanitary Lfl	Bennington
218	04	NC	Celanese(Shelby Fiber Operations)	Shelby
219	02	NJ	Metaltec/Aerosystems	Franklin Borough
220	05	WI	Schmalz Dump	Harrison
221	04	TN	Carrier Air Conditioning Co.	Collierville
222	05	MI	Motor Wheel, Inc.	Lansing
223	05	WI	Better Brite Chrome & Zinc Shops	DePere
224	09	CA	Southern Calif Edison (Visalia)	Visalia
225	02	NJ	Lang Property	Pemberton Township
226	06	TX	Stewco, Inc.	Waskom
227	02	NJ	Sharkey Landfill	Parsippany/Troy Hls
228	09	CA	Selma Treating Co.	Selma
229	06	LA	Cleve Reber	Sorrento
230	05	IL	Velsicol Chemical Corp.(Illinois)	Marshall
231	07	MO	Wheeling Disposal Service Co. Lf	Amazonia
232	05	MI	Tar Lake	Mancelona Township
233	02	NY	Johnstown City Landfill	Town of Johnstown
234	04	NC	NC State U (Lot 86, Farm Unit #1)	Raleigh
235	08	CO	Lowry Landfill	Arapahoe County
236	05	MN	MacGillis & Gibbs/Bell Lumber	New Brighton
237	03	PA	Hunterstown Road	Straban Township
238	03	MD	Woodlawn County Landfill	Woodlawn
239	05	WI	Hechimovich Sanitary Landfill	Williamstown
240	07	IA	Mid-America Tanning Co.	Sergeant Bluff
241	07	NE	Lindsay Manufacturing Co.	Lindsay
242	02	NJ	Combe Fill North Landfill	Mount Olive Twp
243	01	MA	Re-Solve, Inc.	Dartmouth
244	02	NJ	Goose Farm	Plumstead Township
245	04	TN	Velsicol Chem (Hardeman County)	Toone
246	02	NY	York Oil Co.	Moira
247	04	FL	Sapp Battery Salvage	Cottondale
248	04	SC	Wamchem, Inc.	Burton
249	02	NJ	Chemical Leaman Tank Lines, Inc.	Bridgeport
250	05	WI	Master Disposal Service Landfill	Brookfield

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 6 (HRS Scores 47.46 - 45.91)	
251	07	KS	Doepke Disposal (Holliday)	Johnson County
252	02	NJ	Florence Land Recontouring Lndfll	Florence Township
253	01	RI	Davis Liquid Waste	Smithfield
254	01	MA	Charles-George Reclamation Lndfll	Tyngsborough
255	02	NJ	King of Prussia	Winslow Township
256	03	VA	Chisman Creek	York County
257	05	OH	Nease Chemical	Salem
258	08	CO	Eagle Mine	Minturn/Redcliff
259	02	NJ	Chemical Control	Elizabeth
260	04	NC	Charles Macon Lagoon & Drum Stor	Cordova
261	04	SC	Leonard Chemical Co., Inc.	Rock Hill
262	05	OH	Allied Chemical & Ironton Coke	Ironton
263	05	MI	Verona Well Field	Battle Creek
264	07	MO	Lee Chemical	Liberty
265	01	CT	Beacon Heights Landfill	Beacon Falls
266	04	AL	Stauffer Chem (Cold Creek Plant)	Bucks
267	05	MN	Burlington Northern (Brainerd)	Brainerd/Baxter
268	05	MI	Torch Lake	Houghton County
269	01	RI	Central Landfill	Johnston
270	03	PA	Malvern TCE	Malvern
271	02	NY	Facet Enterprises, Inc.	Elmira
272	03	DE	Delaware Sand & Gravel Landfill	New Castle County
273	03	PA	Tonolli Corp.	Nesquehoning
274	04	NC	National Starch & Chemical Corp.	Salisbury
275	03	PA	MW Manufacturing	Valley Township
276	03	VA	C & R Battery Co., Inc.	Chesterfield County
277	04	TN	Murray-Ohio Dump	Lawrenceburg
278	05	IN	Envirochem Corp.	Zionsville
279	05	IN	MIDCO I	Gary
280	05	OH	Ormet Corp.	Hannibal
281	05	OH	South Point Plant	South Point
282	01	CT	Gallup's Quarry	Plainfield
283	03	PA	Whitmoyer Laboratories	Jackson Township
284	07	IA	Peoples Natural Gas Co.	Dubuque
285	07	MO	Oronogo-Duenweg Mining Belt	Jasper County
286	04	FL	Coleman-Evans Wood Preserving Co.	Whitehouse
287	02	NJ	Dayco Corp./L.E Carpenter Co.	Wharton Borough
288	03	PA	Shriver's Corner	Straban Township
289	03	PA	Dorney Road Landfill	Upper Macungie Twp
290	03	PA	Berks Landfill	Spring Township
291	05	IN	Northside Sanitary Landfill, Inc	Zionsville
292	05	IL	Interstate Pollution Control, Inc	Rockford
293	06	AR	Monroe Auto Equip (Paragould Pit)	Paragould
294	06	OK	Oklahoma Refining Co.	Cyril
295	07	IA	E.I. Du Pont (County Rd X23)	West Point
296	09	CA	Pacific Coast Pipe Lines	Fillmore
297	02	NJ	Global Sanitary Landfill	Old Bridge Township
298	04	FL	Florida Steel Corp.	Indiantown
299	03	PA	Occidental Chem/Firestone Tire	Lower Pottsgrove Twp
300	03	VA	Culpeper Wood Preservers, Inc.	Culpeper

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 7 (HRS Scores 45.91 - 43.75)	
301	05	IL	Pagel's Pit	Rockford
302	05	MN	University Minn Rosemount Res Cen	Rosemount
303	05	MN	Freeway Sanitary Landfill	Burnsville
304	05	WI	Tomah Municipal Sanitary Landfill	Tomah
305	09	AZ	Litchfield Airport Area	Goodyear/Avondale
306	09	CA	Firestone Tire (Salinas Plant)	Salinas
307	02	NJ	Spence Farm	Plumstead Township
308	06	AR	Mid-South Wood Products	Mena
309	04	MS	Newsom Brothers/Old Reichhold	Columbia
310	09	CA	Atlas Asbestos Mine	Fresno County
311	09	CA	Coalinga Asbestos Mine	Coalinga
312	04	FL	Brown Wood Preserving	Live Oak
313	02	NY	Port Washington Landfill	Port Washington
314	05	IN	Columbus Old Municipal Lndfll #1	Columbus
315	02	NJ	Combe Fill South Landfill	Chester Township
316	02	NJ	JIS Landfill	Jamesburg/S. Brnswck
317	02	NY	Tronic Plating Co., Inc.	Farmingdale
318	03	PA	Centre County Kepone	State College Boro
319	04	FL	Agrico Chemical Co.	Pensacola
320	05	OH	Fields Brook	Ashtabula
321	01	CT	Solvents Recovery Service New Eng	Southington
322	08	CO	Woodbury Chemical Co.	Commerce City
323	02	NJ	Waldick Aerospace Devices, Inc.	Wall Township
324	01	MA	Hocomonco Pond	Westborough
325	04	KY	Distler Brickyard	West Point
326	02	NY	Ramapo Landfill	Ramapo
327	09	CA	Coast Wood Preserving	Ukiah
328	09	CA	South Bay Asbestos Area	Alviso
329	02	NY	Mercury Refining, Inc.	Colonie
330	04	FL	Hollingsworth Solderless Terminal	Fort Lauderdale
331	02	NY	Olean Well Field	Olean
332	04	AL	T.H. Agricul & Nutri (Montgomery)	Montgomery
333	09	CA	Fairchild Semiconduct(S San Jose)	South San Jose
334	10	WA	Pasco Sanitary Landfill	Pasco
335	09	CA	Sulphur Bank Mercury Mine	Clear Lake
336	05	MN	Joslyn Manufacturing & Supply Co.	Brooklyn Center
337	03	PA	York County Solid Waste/Refuse Lf	Hopewell Township
338	05	WI	Spickler Landfill	Spencer
339	06	NM	Prewitt Abandoned Refinery	Prewitt
340	08	CO	Denver Radium Site	Denver
341	02	NY	Tri-Cities Barrel Co., Inc.	Port Crane
342	03	PA	Route 940 Drum Dump	Pocono Summit
343	04	FL	Tower Chemical Co.	Clermont
344	05	MI	Peerless Plating Co.	Muskegon
345	01	VT	Darling Hill Dump	Lyndon
346	03	PA	C & D Recycling	Foster Township
347	04	KY	Fort Hartford Coal Co Stone Qurry	Olaton
348	07	MO	Syntex Facility	Verona
349	08	MT	Milltown Reservoir Sediments	Milltown
350	05	MN	Arrowhead Refinery Co.	Hermantown

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 8 (HRS Scores 43.70 - 42.33)	
351	10	OR	Martin-Marietta Aluminum Co.	The Dalles
352	08	CO	Uravan Uranium (Union Carbide)	Uravan
353	02	NJ	Pijak Farm	Plumstead Township
354	02	NJ	Syncon Resins	South Kearny
355	05	MN	Oak Grove Sanitary Landfill	Oak Grove Township
356	07	IA	White Farm Equipment Co. Dump	Charles City
357	09	CA	Liquid Gold Oil Corp.	Richmond
358	09	CA	Purity Oil Sales, Inc.	Malaga
359	01	NH	Tinkham Garage	Londonderry
360	04	FL	Alpha Chemical Corp.	Galloway
361	02	NJ	Bog Creek Farm	Howell Township
362	01	ME	Saco Tannery Waste Pits	Saco
363	03	PA	River Road Lf/Waste Mngmnt, Inc.	Hermitage
364	02	PR	Frontera Creek	Rio Abajo
365	04	FL	Pickettville Road Landfill	Jacksonville
366	05	OH	Alsco Anaconda	Gnadenhutten
367	01	MA	Iron Horse Park	Billerica
368	03	PA	Palmerton Zinc Pile	Palmerton
369	05	IN	Neal's Landfill (Bloomington)	Bloomington
370	05	WI	Kohler Co. Landfill	Kohler
371	04	AL	Interstate Lead Co. (ILCO)	Leeds
372	04	FL	Standard Auto Bumper Corp.	Hialeah
373	07	KS	Hydro-Flex Inc.	Topeka
374	09	AZ	Hassayampa Landfill	Hassayampa
375	06	LA	Gulf Coast Vacuum Services	Abbeville
376	05	IL	Tri-County Lf/Waste Mgmt Illinois	South Elgin
377	01	MA	Silresim Chemical Corp.	Lowell
378	01	MA	Wells G&H	Woburn
379	01	CT	Nutmeg Valley Road	Wolcott
380	02	NJ	Chemsol, Inc.	Piscataway
381	05	WI	Lauer I Sanitary Landfill	Menomonee Falls
382	05	MI	Petoskey Municipal Well Field	Petoskey
383	05	MN	Union Scrap Iron & Metal Co.	Minneapolis
384	01	MA	Atlas Tack Corp.	Fairhaven
385	02	NJ	Radiation Technology, Inc.	Rockaway Township
386	02	NJ	Fair Lawn Well Field	Fair Lawn
387	05	IN	Main Street Well Field	Elkhart
388	05	MN	Lehillier/Mankato Site	Lehillier/Mankato
389	10	WA	Lakewood Site	Lakewood
390	03	PA	Industrial Lane	Williams Township
391	04	FL	Airco Plating Co.	Miami
392	05	IN	Fort Wayne Reduction Dump	Fort Wayne
393	05	WI	Onalaska Municipal Landfill	Onalaska
394	03	PA	A.I.W. Frank/Mid-County Mustang	Exton
395	05	WI	National Presto Industries, Inc.	Eau Claire
396	02	NJ	Monroe Township Landfill	Monroe Township
397	03	PA	Commodore Semiconductor Group	Lower Providence Twp
398	02	NJ	Rockaway Borough Well Field	Rockaway Township
399	05	IL	Lenz Oil Service, Inc.	Lemont
400	05	IN	Wayne Waste Oil	Columbia City

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 9 (HRS Scores 42.33 - 41.60)	
401	10	WA	Pacific Car & Foundry Co.	Renton
402	07	IA	John Deere (Ottumwa Works Lndfls)	Ottumwa
403	03	MD	Mid-Atlantic Wood Preservers, Inc	Harmans
404	03	PA	Novak Sanitary Landfill	South Whitehall Twp
405	05	IN	Himco Dump	Elkhart
406	10	ID	Pacific Hide & Fur Recycling Co.	Pocatello
407	07	IA	Des Moines TCE	Des Moines
408	02	NJ	Beachwood/Berkley Wells	Berkley Township
409	02	NJ	South Jersey Clothing Co.	Minotola
410	02	NY	Vestal Water Supply Well 4-2	Vestal
411	02	PR	Vega Alta Public Supply Wells	Vega Alta
412	03	PA	Avco Lycoming (Williamsport Div)	Williamsport
413	03	PA	Ohio River Park	Neville Island
414	04	GA	Woolfolk Chemical Works, Inc.	Fort Valley
415	05	IL	Southeast Rockford Grnd Wtr Con	Rockford
416	05	IN	Tippecanoe Sanitary Landfill, Inc	Lafayette
417	05	IN	Conrail Rail Yard (Elkhart)	Elkhart
418	05	IN	Galen Myers Dump/Drum Salvage	Osceola
419	05	MI	Sturgis Municipal Wells	Sturgis
420	05	MI	Barrels, Inc.	Lansing
421	05	MI	State Disposal Landfill, Inc.	Grand Rapids
422	05	MN	Washington County Landfill	Lake Elmo
423	05	MN	Dakhue Sanitary Landfill	Cannon Falls
424	06	TX	Odessa Chromium #1	Odessa
425	06	TX	Odessa Chromium #2 (Andrews Hgwy)	Odessa
426	07	IA	Electro-Coatings, Inc.	Cedar Rapids
427	07	NE	Hastings Ground Water Contamin	Hastings
428	08	SD	Williams Pipe Line Disposal Pit	Sioux Falls
429	09	AZ	Indian Bend Wash Area	Scottsdale/Tmpe/Phnx
430	09	CA	San Gabriel Valley (Area 1)	El Monte
431	09	CA	San Gabriel Valley (Area 2)	Baldwin Park Area
432	09	CA	San Fernando Valley (Area 1)	Los Angeles
433	09	CA	San Fernando Valley (Area 2)	Los Angeles/Glendale
434	09	CA	San Fernando Valley (Area 3)	Glendale
435	09	CA	T.H. Agriculture & Nutrition Co.	Fresno
436	10	AK	Arctic Surplus	Fairbanks
437	10	WA	Com Bay, Near Shore/Tide Flats	Pierce County
438	05	IL	LaSalle Electric Utilities	LaSalle
439	05	IL	Cross Brothers Pail (Pembroke)	Pembroke Township
440	04	GA	Cedartown Industries, Inc.	Cedartown
441	04	NC	Jadco-Hughes Facility	Belmont
442	05	IN	Southside Sanitary Landfill	Indianapolis
443	02	NJ	Monitor Devices/Intercircuits Inc	Wall Township
444	01	VT	BFI Sanitary Landfill(Rockingham)	Rockingham
445	02	PR	Upjohn Facility	Barceloneta
446	04	NC	Koppers Co Inc (Morrisville Plnt)	Morrisville
447	08	UT	Sharon Steel (Midvale Tailings)	Midvale
448	09	CA	McColl	Fullerton
449	03	PA	Henderson Road	Upper Merion Twp
450	02	NY	Hooker Chemical/Ruco Polymer Corp	Hicksville

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 10 (HRS Scores 41.59 - 39.89)	
451	10	WA	Colbert Landfill	Colbert
452	06	LA	Petro-Processors of Louisiana Inc	Scotlandville
453	03	PA	Westinghouse Elec (Sharon Plant)	Sharon
454	02	NY	Applied Environmental Services	Glenwood Landing
455	02	PR	Barceloneta Landfill	Florida Afuera
456	01	NH	Tibbets Road	Barrington
457	03	MD	Sand, Gravel & Stone	Elkton
458	03	PA	Delta Quarries/Stotler Landfill	Antis/Logan Twps
459	01	CT	Revere Textile Prints Corp.	Sterling
460	05	MI	Spartan Chemical Co.	Wyoming
461	02	NJ	Roebling Steel Co.	Florence
462	03	PA	East Mount Zion	Springettsbury Twp
463	04	GA	T.H. Agricul & Nutri (Albany)	Albany
464	04	TN	Amnicola Dump	Chattanooga
465	02	NJ	Vineland State School	Vineland
466	09	AZ	Motorola, Inc.(52nd Street Plant)	Phoenix
467	01	MA	Groveland Wells	Groveland
468	02	NY	General Motors (Cent Foundry Div)	Massena
469	01	NH	Mottolo Pig Farm	Raymond
470	03	VA	Buckingham County Landfill	Buckingham
471	04	SC	SCRDI Dixiana	Cayce
472	05	MI	Roto-Finish Co., Inc.	Kalamazoo
473	05	MN	Olmsted County Sanitary Landfill	Oronoco
474	07	MO	Quality Plating	Sikeston
475	05	IN	Prestolite Battery Division	Vincennes
476	07	MO	Fulbright Landfill	Springfield
477	02	NJ	Williams Property	Swainton
478	02	NJ	Renora, Inc.	Edison Township
479	04	NC	FCX, Inc. (Washington Plant)	Washington
480	03	PA	Jacks Creek/Sitkin Smelting & Ref	Maitland
481	06	NM	Cleveland Mill	Silver City
482	02	NJ	Denzer & Schafer X-Ray Co.	Bayville
483	02	NJ	Hercules, Inc. (Gibbstown Plant)	Gibbstown
484	05	IN	Ninth Avenue Dump	Gary
485	03	MD	Bush Valley Landfill	Abingdon
486	04	SC	Golden Strip Septic Tank Service	Simpsonville
487	04	SC	Rock Hill Chemical Co.	Rock Hill
488	06	TX	Texarkana Wood Preserving Co.	Texarkana
489	06	AR	Gurley Pit	Edmondson
490	04	FL	Petroleum Products Corp.	Pembroke Park
491	01	RI	Peterson/Puritan, Inc.	Lincoln/Cumberland
492	07	MO	Times Beach Site	Times Beach
493	05	MI	Wash King Laundry	Pleasant Plains Twp
494	05	MN	Whittaker Corp.	Minneapolis
495	05	WI	Algoma Municipal Landfill	Algoma
496	05	MN	NL Industries/Taracorp/Golden	St. Louis Park
497	09	CA	Westinghouse Elec (Sunnyvale Plt)	Sunnyvale
498	01	CT	Kellogg-Deering Well Field	Norwalk
499	03	PA	Boarhead Farms	Bridgeton Township
500	01	MA	Cannon Engineering Corp. (CEC)	Bridgewater

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 11 (HRS Scores 39.88 - 38.20)	
501	05	MI	H. Brown Co., Inc.	Grand Rapids
502	02	NY	Nepera Chemical Co., Inc.	Maybrook
503	02	NY	Niagara County Refuse	Wheatfield
504	04	FL	Sherwood Medical Industries	Deland
505	09	CA	Western Pacific Railroad Co.	Oroville
506	04	AL	Olin Corp. (McIntosh Plant)	McIntosh
507	05	MI	Southwest Ottawa County Landfill	Park Township
508	02	NY	Kentucky Avenue Well Field	Horseheads
509	02	NY	Pasley Solvents & Chemicals, Inc.	Hempstead
510	06	TX	Sol Lynn/Industrial Transformers	Houston
511	02	NJ	Asbestos Dump	Millington
512	04	KY	Lee's Lane Landfill	Louisville
513	05	IL	Kerr-McGee (Reed-Keppler Park)	West Chicago
514	06	AR	Frit Industries	Walnut Ridge
515	05	IL	Amoco Chemicals (Joliet Landfill)	Joliet
516	04	FL	Woodbury Chemical(Princeton Plnt)	Princeton
517	05	OH	Fultz Landfill	Jackson Township
518	04	NC	New Hanover Cnty Airport Burn Pit	Wilmington
519	10	OR	Allied Plating, Inc.	Portland
520	05	OH	Coshocton Landfill	Franklin Township
521	09	AZ	Apache Powder Co.	St. David
522	09	NV	Carson River Mercury Site	Lyon/Churchill Cnty
523	03	PA	AMP, Inc. (Glen Rock Facility)	Glen Rock
524	04	NC	JFD Electronics/Channel Master	Oxford
525	04	TN	Arlington Blending & Packaging	Arlington
526	06	LA	PAB Oil & Chemical Service, Inc.	Abbeville
527	04	FL	Sydney Mine Sludge Ponds	Brandon
528	06	NM	Cimarron Mining Corp.	Carrizozo
529	01	RI	Davis (GSR) Landfill	Glocester
530	03	PA	Lord-Shope Landfill	Girard Township
531	10	WA	FMC Corp. (Yakima Pit)	Yakima
532	05	WI	Northern Engraving Co.	Sparta
533	06	TX	South Cavalcade Street	Houston
534	01	MA	PSC Resources	Palmer
535	05	MI	Forest Waste Products	Otisville
536	03	PA	Drake Chemical	Lock Haven
537	09	CA	United Heckathorn Co.	Richmond
538	01	NH	Kearsarge Metallurgical Corp.	Conway
539	04	SC	Palmetto Wood Preserving	Dixiana
540	05	IL	Petersen Sand & Gravel	Libertyville
541	05	MI	Clare Water Supply	Clare
542	06	TX	Tex-Tin Corp.	Texas City
543	03	PA	Havertown PCP	Haverford
544	03	DE	New Castle Spill	New Castle County
545	07	MO	St Louis Airport/HIS/Fut Coatings	St. Louis County
546	08	MT	Idaho Pole Co.	Bozeman
547	03	DE	NCR Corp. (Millsboro Plant)	Millsboro
548	05	IN	Lake Sandy Jo (M&M Landfill)	Gary
549	05	IL	Johns-Manville Corp.	Waukegan
550	05	MI	Chem Central	Wyoming Township

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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 12 (HRS Scores 38.20 - 37.62)	
551	05	MI	Novaco Industries	Temperance
552	04	FL	Beulah Landfill	Pensacola
553	05	MN	Windom Dump	Windom
554	05	IL	Kerr-McGee (Residential Areas)	W Chic/DuPage Cnty
555	01	RI	Rose Hill Regional Landfill	South Kingstown
556	02	NJ	Jackson Township Landfill	Jackson Township
557	05	IL	NL Industries/Taracorp Lead Smelt	Granite City
558	04	KY	Red Penn Sanitation Co. Landfill	Peewee Valley
559	05	MI	K&L Avenue Landfill	Oshtemo Township
560	05	OH	TRW, Inc. (Minerva Plant)	Minerva
561	10	WA	Kaiser Aluminum Mead Works	Mead
562	06	OK	Mosley Road Sanitary Landfill	Oklahoma City
563	01	CT	Barkhamsted-New Hartford Landfill	Barkhamsted
564	07	IA	Fairfield Coal Gasification Plant	Fairfield
565	05	MN	Perham Arsenic Site	Perham
566	05	MI	Charlevoix Municipal Well	Charlevoix
567	02	NJ	Montgomery Township Housing Devel	Montgomery Township
568	02	NJ	Rocky Hill Municipal Well	Rocky Hill Borough
569	02	NJ	Cinnaminson Ground Water Contamin	Cinnaminson Township
570	02	NJ	Chemical Insecticide Corp.	Edison Township
571	02	NY	Brewster Well Field	Putnam County
572	02	NY	Vestal Water Supply Well 1-1	Vestal
573	03	DE	Chem-Solv, Inc.	Cheswold
574	03	PA	Bally Ground Water Contamination	Bally Borough
575	04	FL	Madison County Sanitary Landfill	Madison
576	04	FL	Chemform, Inc.	Pompano Beach
577	04	FL	Wilson Concepts of Florida, Inc.	Pompano Beach
578	04	NC	Bypass 601 Ground Water Contamin	Concord
579	04	NC	FCX, Inc. (Statesville Plant)	Statesville
580	04	SC	Lexington County Landfill Area	Cayce
581	05	MI	Michigan Disposal(Cork Street Lf)	Kalamazoo
582	07	MO	Solid State Circuits, Inc.	Republic
583	07	NE	Waverly Ground Water Contamin	Waverly
584	08	CO	Chemical Sales Co.	Denver
585	08	UT	Utah Power&Light/American Barrel	Salt Lake City
586	09	CA	Advanced Micro Devices, Inc.	Sunnyvale
587	09	CA	Hexcel Corp.	Livermore
588	09	CA	Crazy Horse Sanitary Landfill	Salinas
589	10	OR	Union Pacific Railroad Tie Treat	The Dalles
590	10	WA	Hidden Valley Lndfl (Thun Field)	Pierce County
591	10	WA	Yakima Plating Co.	Yakima
592	05	MN	Nutting Truck & Caster Co.	Faribault
593	02	NJ	U.S. Radium Corp.	Orange
594	05	MI	Carter Industrials, Inc.	Detroit
595	06	TX	Highlands Acid Pit	Highlands
596	03	PA	Resin Disposal	Jefferson Borough
597	08	MT	Libby Ground Water Contamination	Libby
598	04	KY	Newport Dump	Newport
599	04	SC	Sangamo/Twelve-Mile/Hartwell PCB	Pickens
600	03	PA	Moyers Landfill	Eagleville

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 13 (HRS Scores 37.52 - 35.79)	
601	01	NH	Savage Municipal Water Supply	Milford
602	05	MN	LaGrand Sanitary Landfill	LaGrand Township
603	05	IN	Poer Farm	Hancock County
604	03	PA	Brown's Battery Breaking	Shoemakersville
605	02	NY	SMS Instruments, Inc.	Deer Park
606	05	MI	Hedblum Industries	Oscoda
607	06	TX	United Creosoting Co.	Conroe
608	02	NY	Byron Barrel & Drum	Byron
609	05	MI	Bendix Corp./Allied Automotive	St. Joseph
610	08	WY	Baxter/Union Pacific Tie Treating	Laramie
611	02	NY	Anchor Chemicals	Hicksville
612	05	MI	Waste Management-Mich (Holland)	Holland
613	03	VA	Arrowhead Assoc/Scovill Corp.	Montross
614	03	VA	Atlantic Wood Industries, Inc.	Portsmouth
615	06	TX	North Cavalcade Street	Houston
616	02	NJ	Sayreville Landfill	Sayreville
617	01	NH	Dover Municipal Landfill	Dover
618	02	NY	Ludlow Sand & Gravel	Clayville
619	03	VA	Saunders Supply Co.	Chuckatuck
620	05	WI	City Disposal Corp. Landfill	Dunn
621	02	NJ	Tabernacle Drum Dump	Tabernacle Township
622	07	MO	Minker/Stout/Romaine Creek	Imperial
623	04	KY	Howe Valley Landfill	Howe Valley
624	01	CT	Yaworski Waste Lagoon	Canterbury
625	03	WV	Leetown Pesticide	Leetown
626	04	SC	Rochester Property	Travelers Rest
627	04	FL	Cabot/Koppers	Gainesville
628	02	NJ	Evor Phillips Leasing	Old Bridge Township
629	03	PA	William Dick Lagoons	West Caln Township
630	05	IN	Douglass Road/Uniroyal, Inc., Lf	Mishawaka
631	03	PA	Lackawanna Refuse	Old Forge Borough
632	06	OK	Compass Industries (Avery Drive)	Tulsa
633	02	NJ	Mannheim Avenue Dump	Galloway Township
634	05	IN	Neal's Dump (Spencer)	Spencer
635	03	VA	Abex Corp.	Portsmouth
636	02	NY	Fulton Terminals	Fulton
637	05	MI	Allied Paper/Portage Ck/Kalamaz R	Kalamazoo
638	06	LA	Dutchtown Treatment Plant	Ascension Parish
639	03	PA	Westinghouse Elevator Co. Plant	Gettysburg
640	10	WA	Centralia Municipal Landfill	Centralia
641	01	NH	Auburn Road Landfill	Londonderry
642	03	WV	Fike Chemical, Inc.	Nitro
643	05	MN	General Mills/Henkel Corp.	Minneapolis
644	04	TN	Wrigley Charcoal Plant	Wrigley
645	05	OH	Laskin/Poplar Oil Co.	Jefferson Township
646	05	OH	Old Mill	Rock Creek
647	04	SC	Townsend Saw Chain Co.	Pontiac
648	07	KS	Johns' Sludge Pond	Wichita
649	05	WI	Stoughton City Landfill	Stoughton
650	09	CA	Del Norte Pesticide Storage	Crescent City

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 14 (HRS Scores 35.76 - 35.35)	
651	03	VA	Suffolk City Landfill	Suffolk
652	01	VT	Tansitor Electronics, Inc.	Bennington
653	02	NJ	De Rewal Chemical Co.	Kingwood Township
654	03	PA	Middletown Air Field	Middletown
655	02	NJ	Swope Oil & Chemical Co.	Pennsauken
656	04	GA	Monsanto Corp. (Augusta Plant)	Augusta
657	01	NH	South Municipal Water Supply Well	Peterborough
658	01	ME	Winthrop Landfill	Winthrop
659	03	WV	Ordnance Works Disposal Areas	Morgantown
660	04	GA	Diamond Shamrock Corp. Landfill	Cedartown
661	05	OH	Zanesville Well Field	Zanesville
662	01	CT	Cheshire Ground Water Contamin	Cheshire
663	02	NY	Suffern Village Well Field	Village of Suffern
664	02	NY	Endicott Village Well Field	Village of Endicott
665	03	DE	Dover Gas Light Co.	Dover
666	03	PA	Aladdin Plating	Scott Township
667	03	PA	North Penn - Area 1	Souderton
668	03	PA	North Penn - Area 7	North Wales
669	03	PA	North Penn - Area 6	Lansdale
670	03	PA	North Penn - Area 2	Hatfield
671	03	PA	North Penn - Area 5	Montgomery Township
672	04	FL	Harris Corp. (Palm Bay Plant)	Palm Bay
673	05	IL	DuPage Cty Ldf/Blackwell Forest	Warrenville
674	05	MN	Kummer Sanitary Landfill	Bemidji
675	05	OH	Sanitary Landfill Co. (IWD)	Dayton
676	05	WI	Eau Claire Municipal Well Field	Eau Claire
677	06	NM	Pagano Salvage	Los Lunas
678	07	MO	Valley Park TCE	Valley Park
679	09	CA	San Fernando Valley (Area 4)	Los Angeles
680	09	CA	Monolithic Memories	Sunnyvale
681	09	CA	National Semiconductor Corp.	Santa Clara
682	09	CA	Fresno Municipal Sanitary Lndfll	Fresno
683	09	CA	Newmark Ground Water Contamin	San Bernardino
684	04	GA	Powersville Site	Peach County
685	05	MI	Grand Traverse Overall Supply Co.	Greilickville
686	05	MI	Metamora Landfill	Metamora
687	02	NY	Niagara Mohawk Power(Saratoga Sp)	Saratoga Springs
688	05	MI	Whitehall Municipal Wells	Whitehall
689	03	DE	Standard Chlorine of Delaware,Inc	Delaware City
690	05	MN	South Andover Site	Andover
691	02	NJ	Diamond Alkali Co.	Newark
692	05	IN	Carter Lee Lumber Co.	Indianapolis
693	01	NH	Fletcher's Paint Works & Storage	Milford
694	03	VA	Avtex Fibers, Inc.	Front Royal
695	05	MI	Kentwood Landfill	Kentwood
696	05	MI	Electrovoice	Buchanan
697	09	CA	Jasco Chemical Corp.	Mountain View
698	02	NY	Katonah Municipal Well	Town of Bedford
699	04	FL	B&B Chemical Co., Inc.	Hialeah
700	07	KS	29th & Mead Ground Water Contamin	Wichita

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 15 (HRS Scores 35.35 - 34.21)	
701	09	CA	Teledyne Semiconductor	Mountain View
702	02	PR	Fibers Public Supply Wells	Jobos
703	04	FL	BMI-Textron	Lake Park
704	03	VA	Dixie Caverns County Landfill	Salem
705	05	IN	Marion (Bragg) Dump	Marion
706	05	OH	Pristine, Inc.	Reading
707	05	WI	Mid-State Disposal, Inc. Landfill	Cleveland Township
708	04	TN	American Creosote (Jackson Plant)	Jackson
709	05	IL	Kerr-McGee (Sewage Treat Plant)	West Chicago
710	08	CO	Broderick Wood Products	Denver
711	02	NY	C & J Disposal Leasing Co. Dump	Hamilton
712	05	OH	Buckeye Reclamation	St. Clairsville
713	02	NY	Preferred Plating Corp.	Farmingdale
714	06	TX	Bio-Ecology Systems, Inc.	Grand Prairie
715	08	UT	Monticello Rad Contaminated Props	Monticello
716	02	NJ	Woodland Route 532 Dump	Woodland Township
717	05	IN	American Chemical Service, Inc.	Griffith
718	01	MA	Salem Acres	Salem
719	02	NY	Richardson Hill Road Lndfll/Pond	Sidney Center
720	01	VT	Old Springfield Landfill	Springfield
721	03	PA	Bell Landfill	Terry Township
722	02	NY	Solvent Savers	Lincklaen
723	03	VA	U.S. Titanium	Piney River
724	05	IL	Galesburg/Koppers Co.	Galesburg
725	09	CA	J.H. Baxter & Co.	Weed
726	02	NY	Hooker (Hyde Park)	Niagara Falls
727	05	MI	SCA Independent Landfill	Muskegon Heights
728	02	NY	Action Anodizing,Plating Polish	Copiague
729	09	CA	MGM Brakes	Cloverdale
730	06	LA	Bayou Sorrel Site	Bayou Sorrel
731	05	IL	H.O.D. Landfill	Antioch
732	05	MI	Duell & Gardner Landfill	Dalton Township
733	10	WA	Mica Landfill	Mica
734	02	NJ	Ellis Property	Evesham Township
735	04	KY	Distler Farm	Jefferson County
736	09	CA	Waste Disposal, Inc.	Santa Fe Springs
737	10	WA	Harbor Island (Lead)	Seattle
738	05	WI	Lemberger Transport & Recycling	Franklin Township
739	05	OH	E.H. Schilling Landfill	Hamilton Township
740	05	MI	Cliff/Dow Dump	Marquette
741	02	NY	Clothier Disposal	Town of Granby
742	03	PA	Ambler Asbestos Piles	Ambler
743	10	WA	Queen City Farms	Maple Valley
744	02	NJ	Curcio Scrap Metal, Inc.	Saddle Brook Twp
745	03	VA	L.A. Clarke & Son	Spotsylvania County
746	05	WI	Scrap Processing Co., Inc.	Medford
747	03	MD	Southern Maryland Wood Treating	Hollywood
748	04	KY	Caldwell Lace Leather Co., Inc.	Auburn
749	05	IL	Ilada Energy Co.	East Cape Girardeau
750	05	IL	Adams County Quincy Landfills 2&3	Quincy

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 16 (HRS Scores 34.21 - 33.73)	
751	05	MI	Kaydon Corp.	Muskegon
752	05	WI	Sauk County Landfill	Excelsior
753	06	NM	Homestake Mining Co.	Milan
754	06	TX	Dixie Oil Processors, Inc.	Friendswood
755	09	CA	Beckman Instruments (Porterville)	Porterville
756	05	MI	Muskegon Chemical Co.	Whitehall
757	04	FL	Dubose Oil Products Co.	Cantonment
758	05	MI	Mason County Landfill	Pere Marquette Twp
759	05	MI	Cemetery Dump	Rose Center
760	07	IA	Red Oak City Landfill	Red Oak
761	05	IN	Lakeland Disposal Service, Inc.	Claypool
762	02	NJ	Hopkins Farm	Plumstead Township
763	04	NC	Cape Fear Wood Preserving	Fayetteville
764	01	RI	Stamina Mills, Inc.	North Smithfield
765	05	WI	Lemberger Landfill, Inc.	Whitelaw
766	05	IN	Reilly Tar (Indianapolis Plant)	Indianapolis
767	01	ME	Pinette's Salvage Yard	Washburn
768	01	CT	Durham Meadows	Durham
769	03	DE	Tyler Refrigeration Pit	Smyrna
770	05	MI	Kysor Industrial Corp.	Cadillac
771	09	CA	Lorentz Barrel & Drum Co.	San Jose
772	02	NJ	Wilson Farm	Plumstead Township
773	02	NY	Conklin Dumps	Conklin
774	03	PA	Old City of York Landfill	Seven Valleys
775	03	PA	Modern Sanitation Landfill	Lower Windsor Twp
776	05	IL	Byron Salvage Yard	Byron
777	05	MI	North Bronson Industrial Area	Bronson
778	03	PA	Stanley Kessler	King of Prussia
779	04	SC	Helena Chemical Co. Landfill	Fairfax
780	07	MO	Kem-Pest Laboratories	Cape Girardeau
781	02	NJ	Imperial Oil/Champion Chemicals	Morganville
782	02	NJ	Cosden Chemical Coatings Corp.	Beverly
783	05	MN	St. Augusta San Lndfll/Engen Dump	St. Augusta Township
784	02	NJ	Myers Property	Franklin Township
785	02	NJ	Pepe Field	Boonton
786	04	KY	Tri-City Disposal Co.	Shepherdsville
787	10	WA	Northwest Transformer	Everson
788	02	NY	Genzale Plating Co.	Franklin Square
789	05	MI	Albion-Sheridan Township Landfill	Albion
790	05	WI	Sheboygan Harbor & River	Sheboygan
791	06	LA	Combustion, Inc.	Denham Springs
792	05	MI	Ossineke Ground Water Contamin	Ossineke
793	03	WV	Follansbee Site	Follansbee
794	03	PA	Keystone Sanitation Landfill	Union Township
795	04	NC	Carolina Transformer Co.	Fayetteville
796	02	NY	Carroll & Dubies Sewage Disposal	Port Jervis
797	02	NY	North Sea Municipal Landfill	North Sea
798	03	PA	Bendix Flight Systems Division	Bridgewater Township
799	07	IA	Farmers' Mutual Cooperative	Hospers
800	09	CA	Koppers Co Inc (Oroville Plant)	Oroville

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 17 (HRS Scores 33.73 - 32.87)	
801	09	CA	Louisiana-Pacific Corp.	Oroville
802	01	CT	Linemaster Switch Corp.	Woodstock
803	03	VA	H & H Inc., Burn Pit	Farrington
804	05	MI	South Macomb Disposal (Lf 9 & 9A)	Macomb Township
805	05	MI	U.S. Aviex	Howard Township
806	07	IA	Sheller-Globe Corp. Disposal	Keokuk
807	03	PA	Walsh Landfill	Honeybrook Township
808	02	NJ	Landfill & Development Co.	Mount Holly
809	02	NJ	Upper Deerfield Township San Lndf	Upper Deerfield Twp
810	02	NY	Hertel Landfill	Plattekill
811	02	NY	Haviland Complex	Town of Hyde Park
812	02	NY	Malta Rocket Fuel Area	Malta
813	02	NY	Jones Chemicals, Inc.	Caledonia
814	03	DE	Kent County Landfill (Houston)	Houston
815	03	PA	Saegertown Industrial Area	Saegertown
816	04	GA	Cedartown Municipal Landfill	Cedartown
817	05	MI	Kent City Mobile Home Park	Kent City
818	05	MN	Adrian Municipal Well Field	Adrian
819	06	NM	AT & SF (Clovis)	Clovis
820	07	KS	Strother Field Industrial Park	Cowley County
821	07	KS	Obee Road	Hutchinson
822	09	CA	CTS Printex, Inc.	Mountain View
823	02	NJ	Fried Industries	East Brunswick Twp
824	02	NY	American Thermostat Co.	South Cairo
825	08	ND	Minot Landfill	Minot
826	03	DE	Koppers Co., Inc. (Newport Plant)	Newport
827	04	TN	Lewisburg Dump	Lewisburg
828	05	MI	McGraw Edison Corp.	Albion
829	02	NJ	Lodi Municipal Well	Lodi
830	02	NY	Goldisc Recordings, Inc.	Holbrook
831	02	NY	Islip Municipal Sanitary Landfill	Islip
832	09	CA	Sola Optical USA, Inc.	Petaluma
833	04	KY	Airco	Calvert City
834	03	PA	Metal Banks	Philadelphia
835	05	IL	Yeoman Creek Landfill	Waukegan
836	02	NY	Sarney Farm	Amenia
837	05	MI	Folkertsma Refuse	Grand Rapids
838	03	DE	Sealand Limited	Mount Pleasant
839	01	MA	Rose Disposal Pit	Lanesboro
840	05	OH	Van Dale Junkyard	Marietta
841	08	MT	Montana Pole and Treating	Butte
842	04	NC	Geigy Chemical Corp(Aberdeen Plt)	Aberdeen
843	04	KY	B.F. Goodrich	Calvert City
844	04	KY	General Tire/Rubber(Mayfield Lnf)	Mayfield
845	04	SC	Para-Chem Southern, Inc.	Simpsonville
846	05	MI	Organic Chemicals, Inc.	Grandville
847	02	NY	BioClinical Laboratories, Inc.	Bohemia
848	02	NY	Volney Municipal Landfill	Town of Volney
849	02	NY	FMC Corp. (Dublin Road Landfill)	Town of Shelby
850	05	WI	Tomah Fairgrounds	Tomah

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 18 (HRS Scores 32.77 - 31.94)	
851	01	MA	Sullivan's Ledge	New Bedford
852	04	KY	Smith's Farm	Brooks
853	05	WI	Madison Metro Sewer District Lag	Blooming Grove
854	10	WA	North Market Street	Spokane
855	10	OR	Joseph Forest Products	Joseph
856	02	PR	Juncos Landfill	Juncos
857	07	KS	Big River Sand Co.	Wichita
858	05	IN	Bennett Stone Quarry	Bloomington
859	10	WA	Wyckoff Co./Eagle Harbor	Bainbridge Island
860	04	SC	Beaunit Corp(Circular Knit & Dye)	Fountain Inn
861	02	NJ	Industrial Latex Corp.	Wallington Borough
862	04	FL	Munisport Landfill	North Miami
863	06	LA	D.L. Mud, Inc.	Abbeville
864	04	AL	Stauffer Chem (LeMoyne Plant)	Axis
865	02	NJ	M&T Delisa Landfill	Asbury Park
866	06	TX	Crystal City Airport	Crystal City
867	04	SC	Geiger (C & M Oil)	Rantoules
868	03	PA	Paoli Rail Yard	Paoli
869	05	WI	Moss-American(Kerr-McGee Oil Co.)	Milwaukee
870	05	WI	Waste Research & Reclamation Co.	Eau Claire
871	10	OR	Gould, Inc.	Portland
872	01	ME	Union Chemical Co., Inc.	South Hope
873	02	NY	Cortese Landfill	Vil of Narrowsburg
874	08	WY	Mystery Bridge Rd/U.S. Highway 20	Evansville
875	09	CA	Montrose Chemical Corp.	Torrance
876	05	MN	St. Louis River Site	St. Louis County
877	05	MI	Auto Ion Chemicals, Inc.	Kalamazoo
878	03	PA	Recticon/Allied Steel Corp.	East Coventry Twp
879	05	WI	Hagen Farm	Stoughton
880	04	SC	Carolawn, Inc.	Fort Lawn
881	07	IA	Midwest Manufacturing/North Farm	Kellogg
882	03	PA	Berks Sand Pit	Longswamp Township
883	09	CA	Valley Wood Preserving, Inc.	Turlock
884	03	PA	Butz Landfill	Stroudsburg
885	04	FL	City Industries, Inc.	Orlando
886	05	MI	Sparta Landfill	Sparta Township
887	05	IL	Acme Solvent (Morristown Plant)	Morristown
888	01	NH	Holton Circle Ground Water Contam	Londonderry
889	02	NJ	Pomona Oaks Residential Wells	Galloway Township
890	02	NY	Rowe Industries Ground Water Cont	Noyack/Sag Harbor
891	03	PA	Hebelka Auto Salvage Yard	Weisenberg Township
892	04	FL	Hipps Road Landfill	Duval County
893	05	MN	Long Prairie Ground Water Contam	Long Prairie
894	05	MN	Waite Park Wells	Waite Park
895	07	NE	Nebraska Ordnance Plant (Former)	Mead
896	09	CA	Applied Materials	Santa Clara
897	09	CA	Intel Magnetics	Santa Clara
898	09	CA	Intel Corp. (Santa Clara III)	Santa Clara
899	09	CA	TRW Microwave, Inc (Building 825)	Sunnyvale
900	09	CA	Synertek, Inc. (Building 1)	Santa Clara

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 19 (HRS Scores 31.94 - 30.93)	
901	09	CA	Advanced Micro Devices(Bldg. 915)	Sunnyvale
902	04	FL	Pepper Steel & Alloys, Inc.	Medley
903	02	NY	Mattiace Petrochemical Co., Inc.	Glen Cove
904	01	ME	O'Connor Co.	Augusta
905	05	WI	Oconomowoc Electroplating Co. Inc	Ashippin
906	05	IN	Continental Steel Corp.	Kokomo
907	05	MI	Rasmussen's Dump	Green Oak Township
908	02	NY	Kenmark Textile Corp.	Farmingdale
909	04	FL	Wingate Road Munic Incinerat Dump	Fort Lauderdale
910	03	PA	Westline Site	Westline
911	04	KY	Maxey Flats Nuclear Disposal	Hillsboro
912	04	NC	Benfield Industries, Inc.	Hazelwood
913	08	MT	Mouat Industries	Columbus
914	05	MI	J & L Landfill	Rochester Hills
915	02	NY	Claremont Polychemical	Old Bethpage
916	05	OH	Powell Road Landfill	Dayton
917	03	PA	Croydon TCE	Croydon
918	04	SC	Medley Farm Drum Dump	Gaffney
919	04	SC	Elmore Waste Disposal	Greer
920	07	IA	Vogel Paint & Wax Co.	Orange City
921	05	MN	Kurt Manufacturing Co.	Fridley
922	05	OH	Reilly Tar & Chemical(Dover Plnt)	Dover
923	05	MI	Parsons Chemical Works, Inc.	Grand Ledge
924	03	PA	Revere Chemical Co.	Nockamixon Township
925	05	MI	Ionia City Landfill	Ionia
926	06	TX	Koppers Co Inc (Texarkana Plant)	Texarkana
927	08	CO	Lincoln Park	Canon City
928	08	CO	Smuggler Mountain	Pitkin County
929	05	IN	Wedzeb Enterprises, Inc.	Lebanon
930	02	PR	GE Wiring Devices	Juana Diaz
931	07	MO	Missouri Electric Works	Cape Girardeau
932	05	MI	Avenue "E" Ground Water Contamin	Traverse City
933	05	OH	New Lyme Landfill	New Lyme
934	02	NJ	Woodland Route 72 Dump	Woodland Township
935	02	PR	RCA Del Caribe	Barceloneta
936	05	MN	Koch Refining Co./N-Ren Corp.	Pine Bend
937	04	FL	Piper Aircraft/Vero Beach Wtr&Swr	Vero Beach
938	03	PA	Brodhead Creek	Stroudsburg
939	05	WI	Fadrowski Drum Disposal	Franklin
940	10	OR	United Chrome Products, Inc.	Corvallis
941	04	FL	Anodyne, Inc.	North Miami Beach
942	04	FL	Anaconda Aluminum/Milgo Electron	Miami
943	03	PA	Eastern Diversified Metals	Hometown
944	05	MI	Anderson Development Co.	Adrian
945	05	WI	Hunts Disposal Landfill	Caledonia
946	05	MI	Shiawassee River	Howell
947	06	OK	Tenth Street Dump/Junkyard	Oklahoma City
948	10	AK	Alaska Battery Enterprises	Fairbanks N Star Bor
949	03	PA	Taylor Borough Dump	Taylor Borough
950	04	TN	Murray-Ohio Mfg (Horseshoe Bend)	Lawrenceburg

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
			Group 20 (HRS Scores 30.90 - 29.88)	
951	03	DE	Halby Chemical Co.	New Castle
952	02	NJ	Higgins Disposal	Kingston
953	04	AL	Redwing Carriers, Inc. (Saraland)	Saraland
954	06	OK	Double Eagle Refinery Co.	Oklahoma City
955	04	GA	Mathis Bros Lf (S Marble Top Rd)	Kensington
956	03	DE	Harvey & Knott Drum, Inc.	Kirkwood
957	04	TN	Gallaway Pits	Gallaway
958	05	OH	Big D Campground	Kingsville
959	06	AR	Midland Products	Ola/Birta
960	02	NY	Robintech, Inc./National Pipe Co.	Town of Vestal
961	02	NY	BEC Trucking	Town of Vestal
962	03	PA	Strasburg Landfill	Newlin Township
963	06	OK	Fourth Street Abandoned Refinery	Oklahoma City
964	02	NJ	Witco Chemical Corp.(Oakland Plt)	Oakland
965	05	WI	Tomah Armory	Tomah
966	03	DE	Wildcat Landfill	Dover
967	05	MI	Burrows Sanitation	Hartford
968	03	PA	Blosenski Landfill	West Caln Township
969	03	VA	Rhinehart Tire Fire Dump	Frederick County
970	10	WA	Northwest Transformer(S Harkness)	Everson
971	03	DE	Delaware City PVC Plant	Delaware City
972	03	MD	Limestone Road	Cumberland
973	02	NY	Hooker (102nd Street)	Niagara Falls
974	02	NJ	Higgins Farm	Franklin Township
975	10	WA	American Crossarm & Conduit Co.	Chehalis
976	06	NM	United Nuclear Corp.	Church Rock
977	03	VA	Rentokil, Inc. (VA Wood Pres Div)	Richmond
978	06	AR	Industrial Waste Control	Fort Smith
979	09	CA	Celtor Chemical Works	Hoopa
980	01	MA	Haverhill Municipal Landfill	Haverhill
981	04	AL	Perdido Ground Water Contamin	Perdido
982	02	NY	Marathon Battery Corp.	Cold Springs
983	02	NY	Colesville Municipal Landfill	Town of Colesville
984	04	FL	Yellow Water Road Dump	Baldwin
985	04	GA	Marzone Inc./Chevron Chemical Co.	Tifton
986	05	OH	Skinner Landfill	West Chester
987	03	VA	First Piedmont Quarry (Route 719)	Pittsylvania County
988	04	NC	Chemtronics, Inc.	Swannanoa
989	05	IN	MIDCO II	Gary
990	05	MI	Cannelton Industries, Inc.	Sault Sainte Marie
991	06	TX	Sheridan Disposal Services	Hempstead
992	07	KS	Pester Refinery Co.	El Dorado
993	03	MD	Kane & Lombard Street Drums	Baltimore
994	07	MO	Shenandoah Stables	Moscow Mills
995	04	GA	Firestone Tire (Albany Plant)	Albany
996	07	IA	Shaw Avenue Dump	Charles City
997	03	PA	Berkley Products Co. Dump	Denver
998	10	WA	Silver Mountain Mine	Loomis
999	06	TX	Petro-Chemical (Turtle Bayou)	Liberty County
1000	04	NC	Hevi-Duty Electric Co.	Goldsboro

National Priorities List (by Rank)
August 1990

NPL Rank	EPA Reg	St	Site Name	City/County
			Group 21 (HRS Scores 29.85 - 28.90)	
1001	05	OH	Republic Steel Corp. Quarry	Elyria
1002	07	MO	Conservation Chemical Co.	Kansas City
1003	07	MO	Westlake Landfill	Bridgeton
1004	05	MN	Ritari Post & Pole	Sebeka
1005	06	LA	Bayou Bonfouca	Slidell
1006	09	CA	Intel Corp. (Mountain View Plant)	Mountain View
1007	09	CA	Raytheon Corp.	Mountain View
1008	09	CA	Hewlett-Packard(620-40 Page Mill)	Palo Alto
1009	05	MN	Agate Lake Scrapyard	Fairview Township
1010	05	MI	Adam's Plating	Lansing
1011	06	AR	Jacksonville Municipal Landfill	Jacksonville
1012	06	AR	Rogers Road Municipal Landfill	Jacksonville
1013	03	VA	Saltville Waste Disposal Ponds	Saltville
1014	01	ME	Saco Municipal Landfill	Saco
1015	04	SC	Palmetto Recycling, Inc..	Columbia
1016	01	MA	Shpack Landfill	Norton/Attleboro
1017	03	PA	Kimberton Site	Kimberton Borough
1018	04	TN	Mallory Capacitor Co.	Waynesboro
1019	01	MA	Norwood PCBs	Norwood
1020	02	NY	Warwick Landfill	Warwick
1021	02	NY	Sidney Landfill	Sidney
1022	02	NY	Sealand Restoration, Inc.	Lisbon
1023	10	WA	Old Inland Pit	Spokane
1024	10	WA	Pesticide Lab (Yakima)	Yakima
1025	05	IN	Lemon Lane Landfill	Bloomington
1026	05	IN	Tri-State Plating	Columbus
1027	10	ID	Arrcom (Drexler Enterprises)	Rathdrum
1028	01	NH	Coakley Landfill	North Hampton
1029	04	NC	Potter's Septic Tank Service Pits	Maco
1030	04	KY	Green River Disposal, Inc.	Maceo
1031	04	NC	ABC One Hour Cleaners	Jacksonville
1032	03	PA	Fischer & Porter Co.	Warminster
1033	03	PA	Elizabethtown Landfill	Elizabethtown
1034	05	IL	Central Illinois Public Serv Co.	Taylorville
1035	06	AR	Arkwood, Inc.	Omaha
1036	09	CA	Jibboom Junkyard	Sacramento
1037	02	NJ	A. O. Polymer	Sparta Township
1038	05	WI	Wausau Ground Water Contamination	Wausau
1039	02	NJ	Dover Municipal Well 4	Dover Township
1040	02	NJ	Rockaway Township Wells	Rockaway
1041	02	NJ	Pohatcong Valley Ground Water Con	Warren County
1042	02	NJ	Garden State Cleaners Co.	Minotola
1043	03	DE	Sussex County Landfill No. 5	Laurel
1044	03	PA	North Penn - Area 12	Worcester
1045	03	PA	Dublin TCE Site	Dublin Borough
1046	05	WI	Delavan Municipal Well #4	Delavan
1047	05	WI	Waste Management (Brookfield Lfl)	Brookfield
1048	07	MO	North-U Drive Well Contamination	Springfield
1049	07	NE	10th Street Site	Columbus
1050	09	CA	San Gabriel Valley (Area 3)	Alhambra

National Priorities List (by Rank)
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NPL Rank	EPA Reg	St	Site Name	City/County
Group 22 (HRS Scores 28.90 - 28.50 , except for health-advisory sites)				
1051	09	CA	San Gabriel Valley (Area 4)	La Puente
1052	09	CA	Watkins-Johnson Co. (Stewart Div)	Scotts Valley
1053	09	CA	Intersil Inc./Siemens Components	Cupertino
1054	09	CA	Modesto Ground Water Contamin	Modesto
1055	10	WA	American Lake Gardens	Tacoma
1056	10	WA	Greenacres Landfill	Spokane County
1057	10	WA	Northside Landfill	Spokane
1058	06	OK	Sand Springs Petrochemical Cmplx	Sand Springs
1059	06	TX	Pesses Chemical Co.	Fort Worth
1060	05	MI	Metal Working Shop	Lake Ann
1061	05	MN	East Bethel Demolition Landfill	East Bethel Township
1062	06	TX	Triangle Chemical Co.	Bridge City
1063	02	NJ	PJP Landfill	Jersey City
1064	03	PA	Craig Farm Drum	Parker
1065	05	IL	Belvidere Municipal Landfill	Belvidere
1066	07	MO	Bee Cee Manufacturing Co.	Malden
1067	03	PA	CryoChem, Inc.	Worman
1068	02	NJ	Kauffman & Minteer, Inc.	Jobstown
1069	03	PA	Lansdowne Radiation Site	Lansdowne
1070	02	NY	Forest Glen Mobile Home Subdivis	Niagara Falls
1071	02	NY	Radium Chemical Co., Inc.	New York City

Number of NPL Sites: 1071

* = State top priority site

National Priorities List,
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NPL Gr[1]	St	Site Name	City/County
1	WA	Hanford 200-Area (USDOE)	Benton County
1	WA	Hanford 300-Area (USDOE)	Benton County
1	CO	Rocky Flats Plant (USDOE)	Golden
1	CA	Riverbank Army Ammunition Plant	Riverbank
1	NM	Cal West Metals (USSBA)	Lemitar
1	MO	Weldon Spring (USDOE/Army)	St.Charles County
2	CO	Rocky Mountain Arsenal	Adams County
2	TN	Milan Army Ammunition Plant	Milan
2	CA	McClellan AFB (Ground Water Cont)	Sacramento
2	PA	Naval Air Develop Center(8 Areas)	Warminster Township
2	OH	Wright-Patterson Air Force Base	Dayton
3	ID	Mountain Home Air Force Base	Mountain Home
3	OH	Feed Materials Prod Cent (USDOE)	Fernald
3	WA	Bangor Naval Submarine Base	Silverdale
3	UT	Tooele Army Depot (North Area)	Tooele
3	WA	Bonneville Power Adm Ross (USDOE)	Vancouver
3	MD	Aber Prov Ground-Edgewood Area	Edgewood
4	ID	Idaho National Engin Lab (USDOE)	Idaho Falls
4	AL	Anniston Army Depot (SE Ind Area)	Anniston
4	GA	Robins AFB (Lndfll #4/Sludge Lag)	Houston County
4	TN	Oak Ridge Reservation (USDOE)	Oak Ridge
4	NE	Cornhusker Army Ammunition Plant	Hall County
4	NJ	Naval Air Engineering Center	Lakehurst
5	UT	Hill Air Force Base	Ogden
5	CA	Treasure Island Nav Sta-Hun Pt An	San Francisco
5	AK	Eielson Air Force Base	Fairbanks N Star Bor
5	SC	Savannah River Site (USDOE)	Aiken
5	WA	Naval Air Sta, Whid Is (Ault)	Whidbey Island
6	NJ	W.R. Grace/Wayne Int Stor (USDOE)	Wayne Township
6	WA	Hanford 100-Area (USDOE)	Benton County
6	AK	Standard Steel&Met Sal Yd (USDOT)	Anchorage
6	MA	Otis Air Nat Guard/Camp Edwards	Falmouth
7	AK	Elmendorf Air Force Base	Greater Anchorage Bo

* State top priority site

1: Sites are placed in groups (Gr) corresponding to groups of 50 on the final NPL

National Priorities List,
Federal Section (by Group)
August 1990

NPL Gr$_1$	St	Site Name	City/County
7	UT	Ogden Defense Depot	Ogden
7	GA	Marine Corps Logistics Base	Albany
7	CA	Sacramento Army Depot	Sacramento
8	IL	Sangamo/Crab Orchard NWR (USDOI)	Carterville
8	ME	Brunswick Naval Air Station	Brunswick
8	CO	Air Force Plant PJKS	Waterton
8	NJ	Picatinny Arsenal	Rockaway Township
8	FL	Homestead Air Force Base	Homestead
8	AK	Fort Wainwright	Fairbanks N Star Bor
8	FL	Pensacola Naval Air Station	Pensacola
9	CA	Sharpe Army Depot	Lathrop
9	MA	Fort Devens	Fort Devens
9	OK	Tinker AFB (Soldier Cr/Bldg 3001)	Oklahoma City
9	CA	Lawrence Livermore Lab (USDOE)	Livermore
9	CA	Fort Ord	Marina
9	WA	McChord AFB (Wash Rack/Treatment)	Tacoma
9	IL	Savanna Army Depot Activity	Savanna
10	NY	Brookhaven National Lab (USDOE)	Upton
10	TX	Air Force Plant #4 Gener Dynamics	Fort Worth
11	TX	Longhorn Army Ammunition Plant	Karnack
11	CA	Norton Air Force Base	San Bernardino
11	NJ	Federal Aviation Admin Tech Cent	Atlantic County
11	WA	Naval Air Sta, Whid Is (Seaplane)	Whidbey Island
11	NH	Pease Air Force Base	Portsmouth/Newington
11	NM	Lee Acres Landfill (USDOI)	Farmington
11	WY	F.E. Warren Air Force Base	Cheyenne
12	CA	Castle Air Force Base	Merced
12	AZ	Luke Air Force Base	Glendale
12	AZ	Williams Air Force Base	Chandler
12	PA	Tobyhanna Army Depot	Tobyhanna
12	CA	Barstow Marine Corps Logist Base	Barstow
13	PA	Letterkenny Army Depot (PDO Area)	Franklin County
13	CA	El Toro Marine Corps Air Station	El Toro
13	NJ	Fort Dix (Landfill Site)	Pemberton Township
13	CA	Tracy Defense Depot	Tracy
13	AL	Alabama Army Ammunition Plant	Childersburg

National Priorities List,
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NPL Gr$_1$	St	Site Name	City/County
13	CT	New London Submarine Base	New London
13	WA	Hanford 1100-Area (USDOE)	Benton County
13	DE	Dover Air Force Base	Dover
13	UT	Monticello Mill Tailings (USDOE)	Monticello
14	MA	Fort Devens-Sudbury Training Ann	Middlesex County
14	NY	Seneca Army Depot	Romulus
14	WA	Fort Lewis Logistics Center	Tillicum
15	IL	Joliet Army Ammu Plant (LAP Area)	Joliet
15	OH	Mound Plant (USDOE)	Miamisburg
15	RI	Davisville Naval Constr Batt Cent	North Kingstown
15	ME	Loring Air Force Base	Limestone
15	PR	Naval Security Group Activity	Sabana Seca
16	PA	Letterkenny Army Depot (SE Area)	Chambersburg
16	NY	Griffiss Air Force Base	Rome
16	VA	Defense General Supply Center	Chesterfield County
16	KS	Fort Riley	Junction City
16	WA	Fort Lewis (Landfill No. 5)	Tacoma
16	CA	Camp Pendleton Marine Corps Base	San Diego County
17	MO	Lake City Army Plant (NW Lagoon)	Independence
17	MN	Twin Cities Air Force(SAR Lndfll)	Minneapolis
17	CA	Edwards Air Force Base	Kern County
17	SD	Ellsworth Air Force Base	Rapid City
17	CA	George Air Force Base	Victorville
17	WA	Naval Undersea Warf Sta (4 Areas)	Keyport
17	NC	Camp Lejeune Military Reservation	Onslow County
18	RI	Newport Naval Educat/Training Cen	Newport
18	AZ	Yuma Marine Corps Air Station	Yuma
18	FL	Jacksonville Naval Air Station	Jacksonville
18	IL	Joliet Army Ammu Plant (Mfg Area)	Joliet
18	FL	Cecil Field Naval Air Station	Jacksonville
18	WA	Fairchild Air Force Base(4 Areas)	Spokane County
19	CA	March Air Force Base	Riverside
19	TX	Lone Star Army Ammunition Plant	Texarkana
19	CA	Lawrence Livermore Lab-300(USDOE)	Livermore
19	OR	Umatilla Army Depot (Lagoons)	Hermiston
19	MD	Aber Prov Ground-Michaelsville Lf	Aberdeen

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NPL Gr[1]	St	Site Name	City/County
20	MN	Naval Industrial Reserve Ordnance	Fridley
20	WA	Bangor Ordnance Disposal	Bremerton
20	NY	Plattsburgh Air Force Base	Plattsburgh
20	LA	Louisiana Army Ammunition Plant	Doyline
20	MO	Weldon Spring Form Army Ord Works	St. Charles County
21	IA	Iowa Army Ammunition Plant	Middletown
21	NJ	Naval Weapons Stat Earle (Site A)	Colts Neck
21	CA	Travis Air Force Base	Solano County
21	CA	Moffett Naval Air Station	Sunnyvale
22	CA	Mather Air Force Base	Sacramento
22	HI	Schofield Barracks	Oahu

Number of NPL Federal Facility Sites: 116

National Priorities List,
Proposed Sites (by State)
August 1990

NPL Gr[1]	St	Site Name	City/County
17	AZ	Mesa Area Ground Water Contamin	Mesa
18	CA	Fairchild Semiconduct (Mt View)	Mountain View
10	CA	Spectra-Physics, Inc.	Mountain View
11	HI	Kunia Wells I	Oahu
11	HI	Kunia Wells II	Oahu
9	HI	Mililani Wells	Oahu
9	HI	Waiawa Shaft	Oahu
11	HI	Waipahu Wells	Oahu
14	HI	Waipio Heights Wells II	Oahu
4	IA	Chemplex Co.	Clinton/Camanche
11	IL	Kerr-McGee (Kress Creek)	DuPage County
12	MD	Anne Arundel County Landfill	Glen Burnie
11	MO	Findett Corp.	St. Charles
22	MO	Quail Run Mobile Manor	Gray Summit
13	MT	Burlington Northern(Somers Plant)	Somers
5	MT	Comet Oil Co.	Billings
19	OK	Kerr-McGee Corp. (Cushing Plant)	Cushing
15	UT	Midvale Slag	Midvale
11	UT	Richardson Flat Tailings	Summit County
1	UT	Wasatch Chemical Co. (Lot 6)	Salt Lake City

Number of Sites Proposed for Listing: 20

*** State top priority site**

1: Sites are placed in groups (Gr) corresponding to groups of 50 on the final NPL

Final Sites Deleted From NPL Because No Further Response Needed
August 1990

St	Site Name	Location	FR Notice: Intent to Delete	FR Notice: Deletion
AR	Cecil Lindsey	Newport	3/28/89 54 FR 12659	9/22/89 54 FR 38994
AS	Taputimu Farm[a]	Island of Tutila	12/31/85 50 FR 53448	3/07/86 51 FR 7935
AZ	Mountain View Mobile Home Estates (once listed as Globe)[a]	Globe	9/03/87 52 FR 33446	4/18/88 53 FR 12680
CM	PCB Warehouse[a]	Saipan	12/31/85 50 FR 53448	3/07/86 51 FR 7935
DE	New Castle Steel	New Castle County	9/22/88 53 FR 36869	3/17/89 54 FR 11203
FL	Parramore Surplus	Mount Pleasant	11/29/88 53 FR 47980	2/21/89 54 FR 7424
FL	Tri-City Oil Conservationist, Inc	Tampa	3/14/88 53 FR 8223	9/01/88 53 FR 33811
FL	Varsol Spill (once listed as part of Biscayne Aquifer)	Miami	3/14/88 53 FR 8223	9/01/88 53 FR 33811
GA	Luminous Processors, Inc.[b]	Athens		12/30/82 47 FR 58476
MD	Chemicals Metals Industries, Inc.[b]	Baltimore		12/30/82 47 FR 58476
MD	Middletown Road Dump	Annapolis	9/03/87 52 FR 33446	4/18/88 53 FR 12680
MI	Gratiot County Golf Course[c]	St. Louis		9/08/83 48 FR 40658
MN	Morris Arsenic Dump	Morris	12/31/85 50 FR 53448	3/07/86 51 FR 7935
MS	Valcotte Chemical Co. Warehouses[b]	Greenville		12/30/82 47 FR 58476
NC	PCB Spills[a]	243 Miles of Roads	12/31/85 50 FR 53448	3/07/86 51 FR 7935
NJ	Cooper Road	Voorhees Township	10/19/88 53 FR 40908	2/22/89 54 FR 7548
NJ	Friedman Property (once listed as Upper Freehold Site)	Upper Freehold Twp	12/31/85 50 FR 53448	3/07/86 51 FR 7935
NJ	Krysowaty Farm	Hillsborough	10/19/88 53 FR 40910	2/22/89 54 FR 7549
OH	Chemical & Minerals Reclamation[b]	Cleveland		12/30/82 47 FR 58476
PA	Enterprise Avenue	Philadelphia	12/31/85 50 FR 53448	3/07/86 51 FR 7935

Final Sites Deleted From NPL Because No Further Response Needed
August 1990

St	Site Name	Location	FR Notice: Intent to Delete	FR Notice: Deletion
PA	Lehigh Electric & Engineering Co.	Old Forge Borough	12/31/85 50 FR 53448	3/07/86 51 FR 7935
PA	Presque Isle	Erie	7/28/88 53 FR 28414	2/13/89 54 FR 6521
PA	Reeser's Landfill	Upper Macungie Twp	3/02/90 55 FR 7507	5/31/90 55 FR 22030
PA	Voortman Farm	Upper Saucon Twp	3/24/89 54 FR 12247	5/31/89 54 FR 23212
PA	Wade (ABM) (once listed as ABM-Wade)	Chester	12/02/88 53 FR 48661	3/23/89 54 FR 11949
TT	PCB Wastes[a]	Pacific Trust Terr	12/31/85 50 FR 53448	3/07/86 51 FR 7935
TX	Harris (Farley Street)	Houston	9/03/87 52 FR 33446	4/18/88 53 FR 12680
VA	Matthews Electroplating[a]	Roanoke County	7/20/88 53 FR 27371	1/19/89 54 FR 2124
WA	Toftdahl Drums	Brush Prairie	8/12/88 53 FR 30452	12/23/88 53 FR 51780

Number of sites deleted: 29

[a]State top-priority site.

[b]On Interim Priorities List (October 23, 1981) or Expanded Eligibility List (July 23, 1982) but response completed before proposal of first NPL (47 FR 58476, December 30, 1982). No Intent Notice.

[c]On first proposed NPL (47 FR 58476, December 30, 1982) but response completed before first NPL promulgated (48 FR 40658, September 8, 1983). No Intent Notice.

NOTE: Butler Mine Tunnel, Pittston, PA, on Interim Priorities List (October 23, 1981) but deleted before proposal of first NPL (47 FR 58476, December 30, 1982); reproposed June 10, 1986 (51 FR 21099); listed July 22, 1987 (52 FR 27620).

SITES WITH INTENT TO DELETE NOTICES

State/Site Name/Location	FR Notice
Alabama (AL)	
Mowbray Engineering Co., Greenville	8/5/88 53 FR 29484
California (CA)	
Jibboom Junkyard, Sacramento	5/24/89 54 FR 22455
Illinois (IL)	
Petersen Sand & Gravel, Libertyville	9/22/89 54 FR 39011
Indiana (IN)	
International Minerals & Chemical Corp. (Terre Haute East Plant), Terre Haute	9/22/89 54 FR 39009
Poer Farm, Hancock County	9/21/89 54 FR 38876
Kentucky (KY)	
A. L. Taylor (Valley of Drums), Brooks	7/11/88 53 FR 26090
Lee's Lane Landfill, Louisville	5/16/88 53 FR 17228
Newport Dump, Newport	5/16/88 53 FR 17228
Tennessee (TN)	
Gallaway Pits, Gallaway	5/16/88 53 FR 17228

Proposed Sites Removed From Consideration for NPL
August 1990

St	Site Name	Location	Date Proposed or Announced	Date Removed: Score[a]	Date Removed: Policy[b]
AR	Crittenden County Landfill	Marion	12/30/82 47 FR 58476	9/08/83 48 FR 40658	
AR	Magnolia City Landfill	Magnolia		8/24/90	
AZ	Kingman Airport Industrial Area	Kingman	12/30/82 47 FR 58476	9/21/84[c] 49 FR 37070	
CA	Concord Naval Weapons Station	Concord		8/24/90	
CA	FMC Corp. (Fresno Plant)	Fresno	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CA	GBF, Inc., Dump	Antioch	6/24/88 53 FR 23988	10/04/89 54 FR 41015	
CA	Hewlett-Packard	Palo Alto	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CA	IBM Corp. (San Jose Plant)	San Jose	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CA	Kaiser Steel Corp.(Fontana Plant)	Fontana	6/24/88 53 FR 23988		10/04/89 54 FR 41000
CA	Kearney-KPF	Stockton			8/24/90
CA	Marley Cooling Tower Co.	Stockton	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CA	Precision Monolithic, Inc.	Santa Clara	10/15/84 49 FR 40320	6/10/86 51 FR 21054	
CA	Rhone-Poulenc, Inc./Zoecon Corp. (once listed as Zoecon Corp./ Rhone-Poulenc, Inc.)	East Palo Alto	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CA	Signetics, Inc.	Sunnyvale	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CA	Solvent Service, Inc.	San Jose			8/24/90
CA	Southern Pacific Transportation	Roseville	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CA	Van Waters & Rogers, Inc.	San Jose	10/15/84 49 FR 40320		10/04/89 54 FR 41000
CO	Martin-Marietta(Denver Aerospace)	Waterton	9/18/85 50 FR 37950		10/04/89 54 FR 41000
DE	Old Brine Sludge Landfill	Delaware City	9/08/83 48 FR 40674	9/21/84 49 FR 37070	
DE	Pigeon Point Landfill	New Castle	1/22/87 52 FR 2492	10/04/89 54 FR 41015	
FL	Davidson Lumber Co.	South Miami	10/15/84 49 FR 40320	6/10/86 51 FR 21054	

Proposed Sites Removed From Consideration for NPL
August 1990

St	Site Name	Location	Date Proposed or Announced	Date Removed: Score[a]	Date Removed: Policy[b]
FL	Montco Research Products, Inc.	Hollister	10/15/84 49 FR 40320	3/31/89 54 FR 13296	
FL	Pratt & Whitney Aircraft/United Technologies Corp.	West Palm Beach	9/18/85 50 FR 37950		10/04/89 54 FR 41000
GA	Olin Corp. (Areas 1,2 & 4)	Augusta	9/08/83 48 FR 40674		10/04/89 54 FR 41000
IA	A.Y. McDonald Industries, Inc.	Dubuque	9/18/85 50 FR 37950		10/04/89 54 FR 41000
IA	Frit Industries (Humboldt Plant)	Humboldt	4/10/85 50 FR 14115		10/04/89 54 FR 41000
IA	John Deere (Dubuque Works)	Dubuque	9/18/85 50 FR 37950		10/04/89 54 FR 41000
IA	U.S. Nameplate Co.	Mount Vernon	10/15/84 49 FR 40320		10/04/89 54 FR 41000
ID	Flynn Lumber Co.	Caldwell	12/30/82 47 FR 58476	9/08/83 48 FR 40658	
IL	Sheffield (US Ecology, Inc.)	Sheffield	10/15/84 49 FR 40320		10/04/89 54 FR 41000
IL	Stauffer Chemical Co. (Chicago Heights Plant)	Chicago Heights	1/22/87 52 FR 2492	10/04/89 54 FR 41015	
IL	Warner Electric Brake & Clutch Co	Roscoe			8/24/90
IN	Firestone Industrial Products Co.	Noblesville	9/18/85 50 FR 37950		10/04/89 54 FR 41000
IN	McCarty's Bald Knob Landfill	Mt. Vernon	1/22/87 52 FR 2492	10/04/89 54 FR 41015	
IN	Parrot Road Dump	New Haven	12/30/82 47 FR 58476	9/08/83 48 FR 40658	
KS	National Industrial Environmental Services	Furley	10/15/84 49 FR 40320		10/04/89 54 FR 41000
MI	E.I. Du Pont de Nemours & Co., Inc. (Montague Plant)	Montague	10/15/84 49 FR 40320	3/31/89 54 FR 13296	
MI	Ford Motor Co. (Sludge Lagoon)	Ypsilanti		8/24/90	
MI	Hooker (Montague Plant)	Montague	9/18/85 50 FR 37950		10/04/89 54 FR 41000
MI	Lacks Industries, Inc.	Grand Rapids	10/15/84 49 FR 40320		10/04/89 54 FR 41000
MI	Lenawee Disposal Service, Inc., Landfill	Adrian	10/15/84 49 FR 40320	6/10/86 51 FR 21054	
MI	Littlefield Township Dump	Oden	12/30/82 47 FR 58476	9/21/84 49 FR 37070	

Proposed Sites Removed From Consideration for NPL
August 1990

St	Site Name	Location	Date Proposed or Announced	Date Removed: Score[a]	Date Removed: Policy[b]
MS	Gautier Oil Co., Inc.	Gautier		8/24/90	
MS	Plastifax, Inc.	Gulfport	7/23/82	9/08/83[d] 48 FR 40658	
NE	Monroe Auto Equipment Co.	Cozad	9/18/85 50 FR 37950		10/04/89 54 FR 41000
NE	Phillips Chemical Co.	Beatrice	12/30/82 47 FR 58476	9/08/83 48 FR 40658	
NJ	Horstmann's Dump	East Hanover	1/22/87 52 FR 2492	3/31/89 54 FR 13296	
NJ	Jame Fine Chemical	Bound Brook	10/15/84 49 FR 40320	6/10/86[e] 51 FR 21054	
NJ	Matlack, Inc.	Woolwich Township	9/18/85 50 FR 37950		10/04/89 54 FR 41000
OH	General Electric Co. (Coshocton Plant)	Coshocton	10/15/84 49 FR 40320		10/04/89 54 FR 41000
OK	Sunray Oil Co. Refinery	Allen		8/24/90	
PA	Keyser Avenue Borehole	Scranton		2/21/90 55 FR 6154	
PA	Rohm and Haas Co. Landfill	Bristol Township	4/10/85 50 FR 14115		10/04/89 54 FR 41000
TX	Pig Road	New Waverly	9/08/83 48 FR 40674	6/10/86 51 FR 21054	
TX	Rio Grande Oil Co. Refinery	Sour Lake		8/24/90	
UT	Mayflower Mountain Tailings Pond	Wasatch County	10/15/84 49 FR 40320	6/10/86 51 FR 21054	
UT	Olson/Neihart Reservoir	Wasatch County	10/15/84 49 FR 40320	3/31/89 54 FR 13296	
UT	Silver Creek Tailings	Park City	9/18/85 50 FR 37950	10/17/86[f]	
VA	IBM Corp. (Manassas Plant Spill)	Manassas	10/15/84 49 FR 40320		10/04/89 54 FR 41000
WA	Quendall Terminal	Renton	10/15/84 49 FR 40320	6/10/86 51 FR 21054	
WA	Rosch Property	Roy	9/08/83 48 FR 40674	9/21/84 49 FR 37070	
WI	Fort Howard Paper Co. Sludge Lagoons	Green Bay		8/24/90	
WV	Mobay Chemical Corp. (New Martinsville Plant)	New Martinsville	10/15/84 49 FR 40320		10/04/89 54 FR 41000

Proposed Sites Removed From Consideration for NPL
August 1990

St	Site Name	Location	Date Proposed or Announced	Date Removed Score[a]	Date Removed Policy[b]
Number of sites removed:	63 (plus 2 additional sites)[g]				

[a]Final HRS score below 28.50, except as noted.

[b]Subject to RCRA Subtitle C.

[c]Contamination occurs naturally.

[d]On Expanded Eligibility List (July 23, 1982) announced before proposal of first NPL (47 FR 58476, December 30, 1982); removed because State withdrew top-priority designation.

[e]Included in Brook Industrial Park, placed on NPL October 4, 1989 (54 FR 41015).

[f]Removed per SARA Section 118(p).

[g]Allen Transformer, Fort Smith, AR, on Interim Priorities List announced October 23, 1981; removed at proposal of first NPL (47 FR 58476, December 30, 1982), HRS score below 28.50.

Fort Lincoln Barrel Site, DC, on Interim Priorities List announced October 23, 1981; removed at proposal of first NPL (47 FR 58476, December 30, 1982), a Federal Facility ineligible at the time.

NOTE: Van Dale Junkyard, Marietta, OH, in first proposed NPL (47 FR 58476, December 30, 1982); removed September 8, 1983 (48 FR 40658); reproposed October 15, 1984 (49 FR 40320); listed June 10, 1986 (51 FR 21054).

National Priorities List,
Final and Proposed Sites Per State/Territory
(by Total Sites)
August 1990

State/Territory	Final		Proposed		Total
	Non-Fed	Fed	Non-Fed	Fed	
New Jersey	103	6	0	0	109
Pennsylvania	91	4	0	0	95
California	66	20	2	0	88
New York	79	4	0	0	83
Michigan	78	0	0	0	78
Florida	47	4	0	0	51
Washington	31	14	0	0	45
Minnesota	40	2	0	0	42
Wisconsin	39	0	0	0	39
Illinois	32	4	1	0	37
Indiana	35	0	0	0	35
Ohio	30	3	0	0	33
Texas	25	3	0	0	28
Massachusetts	22	3	0	0	25
Missouri	19	3	2	0	24
South Carolina	22	1	0	0	23
North Carolina	21	1	0	0	22
Iowa	19	1	1	0	21
Delaware	19	1	0	0	20
Virginia	19	1	0	0	20
Kentucky	17	0	0	0	17
Colorado	13	3	0	0	16
New Hampshire	15	1	0	0	16
Connecticut	14	1	0	0	15
Tennessee	12	2	0	0	14
Georgia	11	2	0	0	13
Alabama	10	2	0	0	12
Utah	5	4	3	0	12
Arizona	7	3	1	0	11
Kansas	10	1	0	0	11
Louisiana	10	1	0	0	11
Oklahoma	9	1	1	0	11
Rhode Island	9	2	0	0	11
Arkansas	10	0	0	0	10
Maryland	7	2	1	0	10
Montana	8	0	2	0	10
New Mexico	8	2	0	0	10
Idaho	7	2	0	0	9
Maine	7	2	0	0	9
Puerto Rico	8	1	0	0	9
Oregon	7	1	0	0	8
Vermont	8	0	0	0	8
Hawaii	0	1	6	0	7
Alaska	2	4	0	0	6
Nebraska	5	1	0	0	6
West Virginia	5	0	0	0	5
South Dakota	2	1	0	0	3
Wyoming	2	1	0	0	3
Mississippi	2	0	0	0	2
North Dakota	2	0	0	0	2
Guam	1	0	0	0	1
Nevada	1	0	0	0	1
American Samoa	0	0	0	0	0
Commonwealth of Marianas	0	0	0	0	0
District of Columbia	0	0	0	0	0
Trust Territories	0	0	0	0	0
Virgin Islands	0	0	0	0	0
Total	1071	116	20	0	1207

National Priorities List,
Final and Proposed Sites (by EPA Region)
August 1990

Reg	State/Territory	Final Non-Fed	Final Fed	Proposed Non-Fed	Proposed Fed	Total
01	Connecticut	14	1	0	0	15
	Massachusetts	22	3	0	0	25
	Maine	7	2	0	0	9
	New Hampshire	15	1	0	0	16
	Rhode Island	9	2	0	0	11
	Vermont	8	0	0	0	8
		75	9	0	0	84
02	New Jersey	103	6	0	0	109
	New York	79	4	0	0	83
	Puerto Rico	8	1	0	0	9
	Virgin Islands	0	0	0	0	0
		190	11	0	0	201
03	District of Columbia	0	0	0	0	0
	Delaware	19	1	0	0	20
	Maryland	7	2	1	0	10
	Pennsylvania	91	4	0	0	95
	Virginia	19	1	0	0	20
	West Virginia	5	0	0	0	5
		141	8	1	0	150
04	Alabama	10	2	0	0	12
	Florida	47	4	0	0	51
	Georgia	11	2	0	0	13
	Kentucky	17	0	0	0	17
	Mississippi	2	0	0	0	2
	North Carolina	21	1	0	0	22
	South Carolina	22	1	0	0	23
	Tennessee	12	2	0	0	14
		142	12	0	0	154

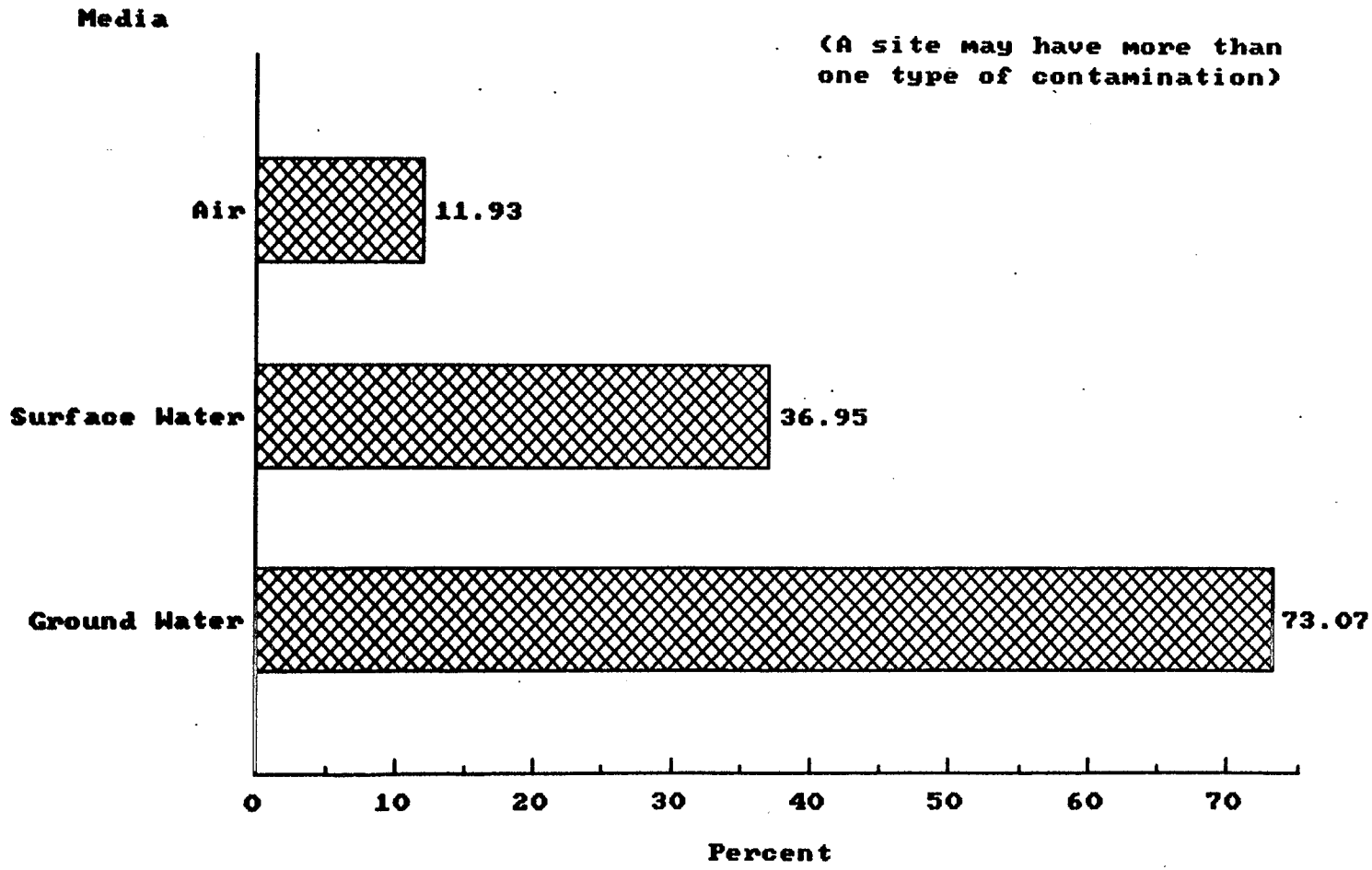
National Priorities List,
Final and Proposed Sites (by EPA Region)
August 1990

Reg	State/Territory	Final Non-Fed	Final Fed	Proposed Non-Fed	Proposed Fed	Total
05	Illinois	32	4	1	0	37
	Indiana	35	0	0	0	35
	Michigan	78	0	0	0	78
	Minnesota	40	2	0	0	42
	Ohio	30	3	0	0	33
	Wisconsin	39	0	0	0	39
		254	9	1	0	264
06	Arkansas	10	0	0	0	10
	Louisiana	10	1	0	0	11
	New Mexico	8	2	0	0	10
	Oklahoma	9	1	1	0	11
	Texas	25	3	0	0	28
		62	7	1	0	70
07	Iowa	19	1	1	0	21
	Kansas	10	1	0	0	11
	Missouri	19	3	2	0	24
	Nebraska	5	1	0	0	6
		53	6	3	0	62
08	Colorado	13	3	0	0	16
	Montana	8	0	2	0	10
	North Dakota	2	0	0	0	2
	South Dakota	2	1	0	0	3
	Utah	5	4	3	0	12
	Wyoming	2	1	0	0	3
		32	9	5	0	46

National Priorities List,
Final and Proposed Sites (by EPA Region)
August 1990

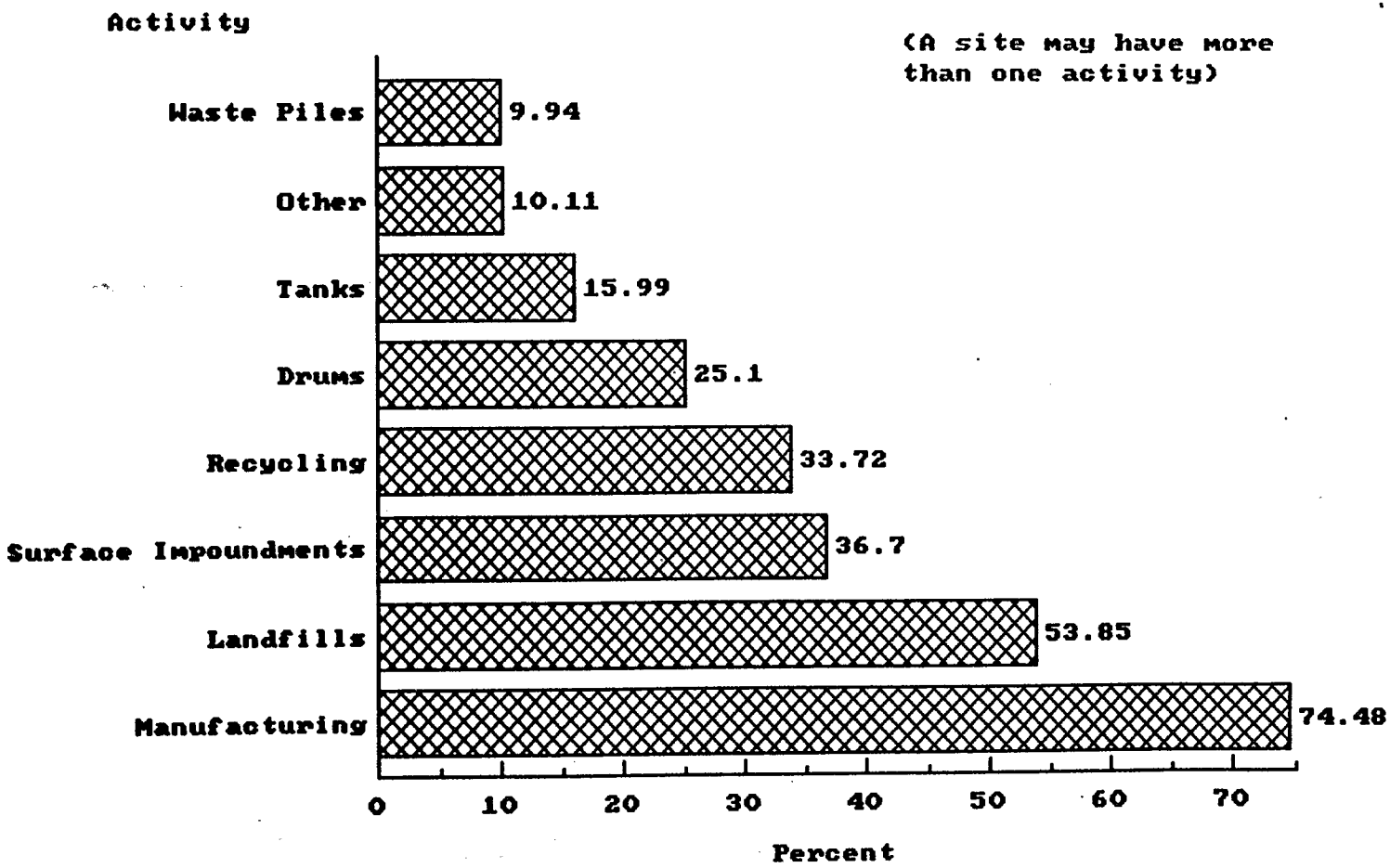
Reg	State/Territory	Final Non-Fed	Final Fed	Proposed Non-Fed	Proposed Fed	Total
09	American Samoa	0	0	0	0	0
	Arizona	7	3	1	0	11
	California	66	20	2	0	88
	Commonwealth of Marianas	0	0	0	0	0
	Guam	1	0	0	0	1
	Hawaii	0	1	6	0	7
	Nevada	1	0	0	0	1
	Trust Territories	0	0	0	0	0
		75	24	9	0	108
10	Alaska	2	4	0	0	6
	Idaho	7	2	0	0	9
	Oregon	7	1	0	0	8
	Washington	31	14	0	0	45
		47	21	0	0	68
	Total	1071	116	20	0	1207

National Priorities List, Observed Contamination at 1207 Final and Proposed Sites



(August 1990)

National Priorities List, Types of Activities at 1207 Final and Proposed Sites



(August 1990)

Types of Activities at 1207 Final and Proposed Sites
Ordered by Total NPL
August 1990

Activity	Final	Proposed	Total
Surface impoundments	437	6	443
Landfills, commercial/industrial	419	0	419
Containers/drums	302	1	303
Other manufacturing/industrial	233	2	235
Landfills, municipal	230	1	231
Spills	196	1	197
Chemical processing/manufacturing	168	4	172
Waste piles	116	4	120
Leaking containers	116	1	117
Tanks, above ground	111	1	112
Tanks, below ground	78	3	81
Ground-water plumes	71	7	78
Electroplating	69	0	69
Military testing & maintenance	62	0	62
Wood-preserving	55	1	56
Open burning	54	0	54
Waste-oil processing	47	2	49
Ore processing/refining/smelting	45	2	47
Military ordnc. prod./stor./disp.	40	0	40
Outfall, surface water	36	2	38
Solvent recovery	34	0	34
Landfarm, land treatment/spreading	33	0	33
Battery recycling	25	0	25
Incinerators	19	0	19
Mining sites, surface	17	0	17
Drum recycling	14	0	14
Underground injection	13	0	13
Sand and gravel pits	11	0	11
Road oiling	9	1	10
Mining sites, subsurface	9	1	10
Explosive disposal/detonation	10	0	10
Laundries/dry cleaners	9	0	9
Sinkholes	7	0	7
Tire storage/recycling	2	0	2
Total Sites*:	1187	20	1207

* Since each site may have more than one activity, the number of activities is greater than the number of sites.

National Priorities List,
Federal Facility Sites (by State)
August 1990

St	Site Name	City/County	Date Proposed	Date Final	NPL Group
AK	Eielson Air Force Base	Fairbanks N Star Bor	7/89	11/89	5
AK	Elmendorf Air Force Base	Greater Anchorage Bo	7/89	8/90	7
AK	Fort Wainwright	Fairbanks N Star Bor	7/89	8/90	8
AK	Standard Steel & Metals Salvage Yard (USDOT)	Anchorage	7/89	8/90	6
	4 Final + 0 Proposed = 4				
AL	Alabama Army Ammunition Plant	Childersburg	10/84	7/87	13
AL	Anniston Army Depot (Southeast Industrial Area)	Anniston	10/84	3/89	4
	2 Final + 0 Proposed = 2				
AZ	Luke Air Force Base	Glendale	7/89	8/90	12
AZ	Williams Air Force Base	Chandler	7/89	11/89	12
AZ	Yuma Marine Corps Air Station	Yuma	6/88	2/90	18
	3 Final + 0 Proposed = 3				
CA	Barstow Marine Corps Logistics Base	Barstow	7/89	11/89	12
CA	Camp Pendleton Marine Corps Base	San Diego County	7/89	11/89	16
CA	Castle Air Force Base	Merced	10/84	7/87	12
CA	Edwards Air Force Base	Kern County	7/89	8/90	17
CA	El Toro Marine Corps Air Station	El Toro	6/88	2/90	13
CA	Fort Ord	Marina	7/89	2/90	9
CA	George Air Force Base	Victorville	7/89	2/90	17
CA	Lawrence Livermore National Laboratory (USDOE)	Livermore	10/84	7/87	9
CA	Lawrence Livermore National Laboratory (Site 300) (USDOE)	Livermore	7/89	8/90	19
CA	March Air Force Base	Riverside	7/89	11/89	19
CA	Mather Air Force Base (once listed as Mather Air Force Base (AC&W Disposal Site))	Sacramento	10/84	11/89	22
CA	McClellan Air Force Base (Ground Water Contamination)	Sacramento	10/84	7/87	2
CA	Moffett Naval Air Station	Sunnyvale	4/85	7/87	21
CA	Norton Air Force Base	San Bernardino	10/84	7/87	11
CA	Riverbank Army Ammunition Plant	Riverbank	6/88	2/90	1
CA	Sacramento Army Depot	Sacramento	10/84	7/87	7
CA	Sharpe Army Depot	Lathrop	10/84	7/87	9
CA	Tracy Defense Depot	Tracy	7/89	8/90	13
CA	Travis Air Force Base	Solano County	7/89	11/89	21
CA	Treasure Island Naval Station-Hunters Point Annex	San Francisco	7/89	11/89	5
	20 Final + 0 Proposed = 20				
CO	Air Force Plant PJKS	Waterton	7/89	11/89	8
CO	Rocky Flats Plant (USDOE)	Golden	10/84	10/89	1
CO	Rocky Mountain Arsenal	Adams County	10/84	7/87	2
	3 Final + 0 Proposed = 3				
CT	New London Submarine Base	New London	10/89	8/90	13
	1 Final + 0 Proposed = 1				
DE	Dover Air Force Base	Dover	10/84	3/89	13
	1 Final + 0 Proposed = 1				
FL	Cecil Field Naval Air Station	Jacksonville	7/89	11/89	18
FL	Homestead Air Force Base	Homestead	7/89	8/90	8
FL	Jacksonville Naval Air Station	Jacksonville	7/89	11/89	18
FL	Pensacola Naval Air Station	Pensacola	7/89	11/89	8
	4 Final + 0 Proposed = 4				

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St	Site Name	City/County	Date Proposed	Date Final	NPL Group
GA	Marine Corps Logistics Base	Albany	7/89	11/89	7
GA	Robins Air Force Base (Landfill #4/Sludge Lagoon) (once listed as Robins Air Force Base)	Houston County	10/84	7/87	4
	2 Final + 0 Proposed = 2				
HI	Schofield Barracks	Oahu	7/89	8/90	22
	1 Final + 0 Proposed = 1				
IA	Iowa Army Ammunition Plant	Middletown	7/89	8/90	21
	1 Final + 0 Proposed = 1				
ID	Idaho National Engineering Laboratory (USDOE)	Idaho Falls	7/89	11/89	4
ID	Mountain Home Air Force Base	Mountain Home	7/89	8/90	3
	2 Final + 0 Proposed = 2				
IL	Joliet Army Ammunition Plant (Load-Assembly-Packing Area)	Joliet	4/85	3/89	15
IL	Joliet Army Ammunition Plant (Manufacturing Area)	Joliet	10/84	7/87	18
IL	Sangamo Electric Dump/Crab Orchard National Wildlife Refuge (USDOI)	Carterville	10/84	7/87	8
IL	Savanna Army Depot Activity	Savanna	10/84	3/89	9
	4 Final + 0 Proposed = 4				
KS	Fort Riley	Junction City	7/89	8/90	16
	1 Final + 0 Proposed = 1				
LA	Louisiana Army Ammunition Plant	Doyline	10/84	3/89	20
	1 Final + 0 Proposed = 1				
MA	Fort Devens	Fort Devens	7/89	11/89	9
MA	Fort Devens-Sudbury Training Annex	Middlesex County	7/89	2/90	14
MA	Otis Air National Guard Base/Camp Edwards	Falmouth	7/89	11/89	6
	3 Final + 0 Proposed = 3				
MD	Aberdeen Proving Ground (Edgewood Area)	Edgewood	4/85	2/90	3
MD	Aberdeen Proving Ground (Michaelsville Landfill)	Aberdeen	4/85	10/89	19
	2 Final + 0 Proposed = 2				
ME	Brunswick Naval Air Station	Brunswick	10/84	7/87	8
ME	Loring Air Force Base	Limestone	7/89	2/90	15
	2 Final + 0 Proposed = 2				
MN	Naval Industrial Reserve Ordnance Plant	Fridley	7/89	11/89	20
MN	Twin Cities Air Force Reserve Base (Small Arms Range Landfill)	Minneapolis	1/87	7/87	17
	2 Final + 0 Proposed = 2				
MO	Lake City Army Ammunition Plant (Northwest Lagoon)	Independence	10/84	7/87	17
MO	Weldon Spring Quarry/Plant/Pits (USDOE/Army) (once listed as Weldon Spring Quarry (USDOE/Army))	St.Charles County	10/84	7/87	1
MO	Weldon Spring Former Army Ordnance Works	St. Charles County	7/89	2/90	20
	3 Final + 0 Proposed = 3				

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St	Site Name	City/County	Date Proposed	Date Final	NPL Group
NC	Camp Lejeune Military Reservation (once listed as Camp Lejeune Marine Corps Base)	Onslow County	6/88	10/89	17
	1 Final + 0 Proposed = 1				
NE	Cornhusker Army Ammunition Plant	Hall County	10/84	7/87	4
	1 Final + 0 Proposed = 1				
NH	Pease Air Force Base	Portsmouth/Newington	7/89	2/90	11
	1 Final + 0 Proposed = 1				
NJ	Federal Aviation Administration Technical Center	Atlantic County	7/89	8/90	11
NJ	Fort Dix (Landfill Site)	Pemberton Township	10/84	7/87	13
NJ	Naval Air Engineering Center	Lakehurst	9/85	7/87	4
NJ	Naval Weapons Station Earle (Site A)	Colts Neck	10/84	8/90	21
NJ	Picatinny Arsenal	Rockaway Township	7/89	2/90	8
NJ	W.R. Grace & Co., Inc./Wayne Interim Storage Site (USDOE) (once listed as W.R. Grace & Co., Inc. (Wayne Plant))	Wayne Township	9/83	9/84	6
	6 Final + 0 Proposed = 6				
NM	Cal West Metals (USSBA)	Lemitar	6/88	3/89	1
NM	Lee Acres Landfill (USDOI)	Farmington	6/88	8/90	11
	2 Final + 0 Proposed = 2				
NY	Brookhaven National Laboratory (USDOE)	Upton	7/89	11/89	10
NY	Griffiss Air Force Base	Rome	10/84	7/87	16
NY	Plattsburgh Air Force Base	Plattsburgh	7/89	11/89	20
NY	Seneca Army Depot	Romulus	7/89	8/90	14
	4 Final + 0 Proposed = 4				
OH	Feed Materials Production Center (USDOE)	Fernald	7/89	11/89	3
OH	Mound Plant (USDOE)	Miamisburg	7/89	11/89	15
OH	Wright-Patterson Air Force Base	Dayton	6/88	10/89	2
	3 Final + 0 Proposed = 3				
OK	Tinker Air Force Base (Soldier Creek/Building 3001)	Oklahoma City	4/85	7/87	9
	1 Final + 0 Proposed = 1				
OR	Umatilla Army Depot (Lagoons)	Hermiston	10/84	7/87	19
	1 Final + 0 Proposed = 1				
PA	Letterkenny Army Depot (Property Disposal Office Area)	Franklin County	4/85	3/89	13
PA	Letterkenny Army Depot (Southeast Area)	Chambersburg	10/84	7/87	16
PA	Naval Air Development Center (8 Waste Areas)	Warminster Township	6/86	10/89	2
PA	Tobyhanna Army Depot	Tobyhanna	7/89	8/90	12
	4 Final + 0 Proposed = 4				
PR	Naval Security Group Activity	Sabana Seca	6/88	10/89	15
	1 Final + 0 Proposed = 1				
RI	Davisville Naval Construction Battalion Center	North Kingstown	7/89	11/89	15

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	Site Name	City/County	Date Proposed	Date Final	NPL Group
RI	Newport Naval Education & Training Center	Newport	7/89	11/89	18
	2 Final + 0 Proposed = 2				
SC	Savannah River Site (USDOE)	Aiken	7/89	11/89	5
	1 Final + 0 Proposed = 1				
SD	Ellsworth Air Force Base	Rapid City	10/89	8/90	17
	1 Final + 0 Proposed = 1				
TN	Milan Army Ammunition Plant	Milan	10/84	7/87	2
TN	Oak Ridge Reservation (USDOE)	Oak Ridge	7/89	11/89	4
	2 Final + 0 Proposed = 2				
TX	Air Force Plant #4 (General Dynamics)	Fort Worth	10/84	8/90	10
TX	Lone Star Army Ammunition Plant	Texarkana	10/84	7/87	19
TX	Longhorn Army Ammunition Plant	Karnack	7/89	8/90	11
	3 Final + 0 Proposed = 3				
UT	Hill Air Force Base	Ogden	10/84	7/87	5
UT	Monticello Mill Tailings (USDOE)	Monticello	7/89	11/89	13
UT	Ogden Defense Depot	Ogden	10/84	7/87	7
UT	Tooele Army Depot (North Area)	Tooele	10/84	8/90	3
	4 Final + 0 Proposed = 4				
VA	Defense General Supply Center	Chesterfield County	10/84	7/87	16
	1 Final + 0 Proposed = 1				
WA	Bangor Naval Submarine Base	Silverdale	7/89	8/90	3
WA	Bangor Ordnance Disposal	Bremerton	10/84	7/87	20
WA	Bonneville Power Administration Ross Complex (USDOE)	Vancouver	7/89	11/89	3
WA	Fairchild Air Force Base (4 Waste Areas)	Spokane County	6/88	3/89	18
WA	Fort Lewis (Landfill No. 5)	Tacoma	10/84	7/87	16
WA	Fort Lewis Logistics Center	Tillicum	7/89	11/89	14
WA	Hanford 100-Area (USDOE)	Benton County	6/88	10/89	6
WA	Hanford 1100-Area (USDOE)	Benton County	6/88	10/89	13
WA	Hanford 200-Area (USDOE)	Benton County	6/88	10/89	1
WA	Hanford 300-Area (USDOE)	Benton County	6/88	10/89	1
WA	McChord Air Force Base (Wash Rack/Treatment Area)	Tacoma	10/84	7/87	9
WA	Naval Air Station, Whidbey Island (Ault Field)	Whidbey Island	9/85	2/90	5
WA	Naval Air Station, Whidbey Island (Seaplane Base)	Whidbey Island	9/85	2/90	11
WA	Naval Undersea Warfare Engineering Station (4 Waste Areas)	Keyport	6/86	10/89	17
	14 Final + 0 Proposed = 14				
WY	F.E. Warren Air Force Base	Cheyenne	7/89	2/90	11
	1 Final + 0 Proposed = 1				
	116 Final + 0 Proposed = 116				

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
AK	Alaska Battery Enterprises	Fairbanks N Star Bor	6/88	3/89	948
AK	Arctic Surplus	Fairbanks	10/89	8/90	436
AK	Eielson Air Force Base	Fairbanks N Star Bor	7/89	11/89	Gr 5F
AK	Elmendorf Air Force Base	Greater Anchorage Bo	7/89	8/90	Gr 7F
AK	Fort Wainwright	Fairbanks N Star Bor	7/89	8/90	Gr 8F
AK	Standard Steel & Metals Salvage Yard (USDOT)	Anchorage	7/89	8/90	Gr 6F
	6 Final + 0 Proposed = 6				
AL	Alabama Army Ammunition Plant	Childersburg	10/84	7/87	Gr 13F
AL	Anniston Army Depot (Southeast Industrial Area)	Anniston	10/84	3/89	Gr 4F
AL	Ciba-Geigy Corp. (McIntosh Plant)	McIntosh	9/83	9/84	136
AL	Interstate Lead Co. (ILCO)	Leeds	9/85	6/86	371
AL	Mowbray Engineering Co.	Greenville	12/82	9/83	129
AL	Olin Corp. (McIntosh Plant)	McIntosh	9/83	9/84	506
AL	Perdido Ground Water Contamination	Perdido	12/82	9/83	981
AL	Redwing Carriers, Inc. (Saraland)	Saraland	6/88	2/90	953
AL	Stauffer Chemical Co. (Cold Creek Plant)	Bucks	9/83	9/84	266
AL	Stauffer Chemical Co. (LeMoyne Plant)	Axis	9/83	9/84	864
AL	T.H. Agriculture & Nutrition Co. (Montgomery Plant)	Montgomery	6/88	8/90	332
AL	Triana/Tennessee River (once listed as Triana (Redstone) Arsenal)	Limestone/Morgan	10/81	9/83	31
	12 Final + 0 Proposed = 12				
AR	Arkwood, Inc.	Omaha	9/85	3/89	1035
AR	Frit Industries	Walnut Ridge	10/81	9/83	5[illegible]
AR	Gurley Pit	Edmondson	12/82	9/83	4[illegible]
AR	Industrial Waste Control	Fort Smith	12/82	9/83	978
AR	Jacksonville Municipal Landfill	Jacksonville	1/87	7/87	1011
AR	Mid-South Wood Products	Mena	10/81	9/83	308
AR	Midland Products	Ola/Birta	10/84	6/86	959
AR	Monroe Auto Equipment Co. (Paragould Pit)	Paragould	10/89	8/90	293
AR	Rogers Road Municipal Landfill	Jacksonville	1/87	7/87	1012
AR	Vertac, Inc.	Jacksonville	10/81	9/83	18
	10 Final + 0 Proposed = 10				
AZ	Apache Powder Co.	St. David	6/86	8/90	521
AZ	Hassayampa Landfill	Hassayampa	6/86	7/87	374
AZ	Indian Bend Wash Area	Scottsdale/Tmpe/Phnx	12/82	9/83	429
AZ	Litchfield Airport Area	Goodyear/Avondale	12/82	9/83	305
AZ	Luke Air Force Base	Glendale	7/89	8/90	Gr 12F
AZ	Mesa Area Ground Water Contamination	Mesa	6/86		Gr 17
AZ	Motorola, Inc.(52nd Street Plant)	Phoenix	10/84	10/89	466
AZ	Nineteenth Avenue Landfill	Phoenix	10/81	9/83	125
AZ	Tucson International Airport Area	Tucson	7/82	9/83	73
AZ	Williams Air Force Base	Chandler	7/89	11/89	Gr 12F
AZ	Yuma Marine Corps Air Station	Yuma	6/88	2/90	Gr 18F
	10 Final + 1 Proposed = 11				
CA	Advanced Micro Devices, Inc. (Building 915)	Sunnyvale	6/88	8/90	901
CA	Advanced Micro Devices, Inc.	Sunnyvale	10/84	6/86	586
CA	Aerojet General Corp.	Rancho Cordova	10/81	9/83	118
CA	Applied Materials	Santa Clara	10/84	7/87	896

* State top priority site

1: Date first eligible for Superfund action. First NPL proposed 12/82. Sites announced earlier in the Interim Priorities List (10/81) and Expanded Eligibility List (7/82) were included in the first proposed NPL.

2: Sites on the final NPL are numbered. Proposed NPL sites and all Federal Facility sites (F) are placed into groups (Gr) corresponding to groups of 50 on the final NPL.

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
CA	Atlas Asbestos Mine	Fresno County	9/83	9/84	310
CA	Barstow Marine Corps Logistics Base	Barstow	7/89	11/89	Gr 12F
CA	Beckman Instruments (Porterville Plant)	Porterville	10/84	6/86	755
CA	Brown & Bryant, Inc.(Arvin Plant)	Arvin	6/88	10/89	144
CA	Camp Pendleton Marine Corps Base	San Diego County	7/89	11/89	Gr 16F
CA	Castle Air Force Base	Merced	10/84	7/87	Gr 12F
CA	Celtor Chemical Works	Hoopa	12/82	9/83	979
CA	Coalinga Asbestos Mine	Coalinga	9/83	9/84	311
CA	Coast Wood Preserving	Ukiah	12/82	9/83	327
CA	Crazy Horse Sanitary Landfill	Salinas	6/88	8/90	588
CA	CTS Printex, Inc.	Mountain View	6/88	2/90	822
CA	Del Norte Pesticide Storage	Crescent City	9/83	9/84	650
CA	Edwards Air Force Base	Kern County	7/89	8/90	Gr 17F
CA	El Toro Marine Corps Air Station	El Toro	6/88	2/90	Gr 13F
CA	Fairchild Semiconductor Corp. (Mountain View Plant) (once listed as Fairchild Camera & Instrument Corp. (Mountain View Plant))	Mountain View	10/84		Gr 18
CA	Fairchild Semiconductor Corp. (South San Jose Plant) (once listed as Fairchild Camera & Instrument Corp. (South San Jose Plant))	South San Jose	10/84	10/89	333
CA	Firestone Tire & Rubber Co. (Salinas Plant)	Salinas	10/84	7/87	306
CA	Fort Ord	Marina	7/89	2/90	Gr 9F
CA	Fresno Municipal Sanitary Landfill	Fresno	6/88	10/89	682
CA	George Air Force Base	Victorville	7/89	2/90	Gr 17F
CA	Hewlett-Packard (620-640 Page Mill Road)	Palo Alto	6/88	2/90	1008
CA	Hexcel Corp.	Livermore	6/88	8/90	587
CA	Industrial Waste Processing	Fresno	10/89	8/90	188
CA	Intel Corp. (Mountain View Plant)	Mountain View	10/84	6/86	1006
CA	Intel Corp. (Santa Clara III)	Santa Clara	10/84	6/86	898
CA	Intel Magnetics	Santa Clara	10/84	6/86	897
CA	Intersil Inc./Siemens Components	Cupertino	6/88	8/90	1053
CA	Iron Mountain Mine	Redding	10/81	9/83	104
CA	J.H. Baxter & Co.	Weed	10/84	10/89	725
CA	Jasco Chemical Corp.	Mountain View	6/88	10/89	697
CA	Jibboom Junkyard	Sacramento	12/82	9/83	1036
CA	Koppers Co., Inc. (Oroville Plant)	Oroville	9/83	9/84	800
CA	Lawrence Livermore National Laboratory (USDOE)	Livermore	10/84	7/87	Gr 9F
CA	Lawrence Livermore National Laboratory (Site 300) (USDOE)	Livermore	7/89	8/90	Gr 19F
CA	Liquid Gold Oil Corp.	Richmond	12/82	9/83	357
CA	Lorentz Barrel & Drum Co.	San Jose	10/84	10/89	771
CA	Louisiana-Pacific Corp.	Oroville	10/84	6/86	801
CA	March Air Force Base	Riverside	7/89	11/89	Gr 19F
CA	Mather Air Force Base (once listed as Mather Air Force Base (AC&W Disposal Site))	Sacramento	10/84	11/89	Gr 22F
CA	McClellan Air Force Base (Ground Water Contamination)	Sacramento	10/84	7/87	Gr 2F
CA	McColl	Fullerton	12/82	9/83	448
CA	MGM Brakes	Cloverdale	12/82	9/83	729
CA	Modesto Ground Water Contamination	Modesto	6/88	3/89	1054
CA	Moffett Naval Air Station	Sunnyvale	4/85	7/87	Gr 21F
CA	Monolithic Memories	Sunnyvale	10/84	7/87	680
CA	Montrose Chemical Corp.	Torrance	10/84	10/89	875
CA	National Semiconductor Corp.	Santa Clara	10/84	7/87	681
CA	Newmark Ground Water Contamination	San Bernardino	6/88	3/89	683
CA	Norton Air Force Base	San Bernardino	10/84	7/87	Gr 11F
CA	Operating Industries, Inc., Landfill	Monterey Park	10/84	6/86	102
CA	Pacific Coast Pipe Lines	Fillmore	6/88	10/89	296
CA	Purity Oil Sales, Inc.	Malaga	12/82	9/83	358
CA	Raytheon Corp.	Mountain View	10/84	6/86	1007
CA	Riverbank Army Ammunition Plant	Riverbank	6/88	2/90	Gr 1F
CA	Sacramento Army Depot	Sacramento	10/84	7/87	Gr 7F
CA	San Fernando Valley (Area 1)	Los Angeles	10/84	6/86	432

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
CA	San Fernando Valley (Area 2)	Los Angeles/Glendale	10/84	6/86	433
CA	San Fernando Valley (Area 3)	Glendale	10/84	6/86	434
CA	San Fernando Valley (Area 4)	Los Angeles	10/84	6/86	679
CA	San Gabriel Valley (Area 1)	El Monte	9/83	5/84	430
CA	San Gabriel Valley (Area 2)	Baldwin Park Area	9/83	5/84	431
CA	San Gabriel Valley (Area 3)	Alhambra	9/83	5/84	1050
CA	San Gabriel Valley (Area 4)	La Puente	9/83	5/84	1051
CA	Selma Treating Co.	Selma	12/82	9/83	228
CA	Sharpe Army Depot	Lathrop	10/84	7/87	Gr 9F
CA	Sola Optical USA, Inc.	Petaluma	6/88	2/90	832
CA	South Bay Asbestos Area (once listed as Alviso Dumping Area)	Alviso	10/84	6/86	328
CA	Southern California Edison Co. (Visalia Poleyard)	Visalia	1/87	3/89	224
CA	Spectra-Physics, Inc.	Mountain View	6/88		Gr 10
CA	Stringfellow *	Glen Avon Heights	10/81	9/83	32
CA	Sulphur Bank Mercury Mine	Clear Lake	6/88	8/90	335
CA	Synertek, Inc. (Building 1)	Santa Clara	6/88	10/89	900
CA	T.H. Agriculture & Nutrition Co. (once listed as Thompson-Haywood Chemical Co.)	Fresno	10/84	6/86	435
CA	Teledyne Semiconductor	Mountain View	10/84	7/87	701
CA	Tracy Defense Depot	Tracy	7/89	8/90	Gr 13F
CA	Travis Air Force Base	Solano County	7/89	11/89	Gr 21F
CA	Treasure Island Naval Station-Hunters Point Annex	San Francisco	7/89	11/89	Gr 5F
CA	TRW Microwave, Inc (Building 825)	Sunnyvale	6/88	2/90	899
CA	United Heckathorn Co.	Richmond	10/89	3/90	537
CA	Valley Wood Preserving, Inc.	Turlock	6/88	3/89	883
CA	Waste Disposal, Inc.	Santa Fe Springs	6/86	7/87	736
CA	Watkins-Johnson Co. (Stewart Division)	Scotts Valley	1/87	8/90	10[illegible]
CA	Western Pacific Railroad Co.	Oroville	10/89	8/90	[illegible]
CA	Westinghouse Electric Corp. (Sunnyvale Plant)	Sunnyvale	10/84	6/86	49[illegible]
	86 Final + 2 Proposed = 88				
CO	Air Force Plant PJKS	Waterton	7/89	11/89	Gr 8F
CO	Broderick Wood Products	Denver	9/83	9/84	710
CO	California Gulch	Leadville	12/82	9/83	106
CO	Central City-Clear Creek	Idaho Springs	7/82	9/83	179
CO	Chemical Sales Co.	Denver	6/88	8/90	584
CO	Denver Radium Site	Denver	10/81	9/83	340
CO	Eagle Mine	Minturn/Redcliff	10/84	6/86	258
CO	Lincoln Park	Canon City	9/83	9/84	927
CO	Lowry Landfill	Arapahoe County	9/83	9/84	235
CO	Marshall Landfill *	Boulder County	7/82	9/83	86
CO	Rocky Flats Plant (USDOE)	Golden	10/84	10/89	Gr 1F
CO	Rocky Mountain Arsenal	Adams County	10/84	7/87	Gr 2F
CO	Sand Creek Industrial	Commerce City	12/82	9/83	36
CO	Smuggler Mountain	Pitkin County	10/84	6/86	928
CO	Uravan Uranium Project (Union Carbide Corp.)	Uravan	10/84	6/86	352
CO	Woodbury Chemical Co.	Commerce City	7/82	9/83	322
	16 Final + 0 Proposed = 16				
CT	Barkhamsted-New Hartford Landfill	Barkhamsted	6/88	10/89	563
CT	Beacon Heights Landfill	Beacon Falls	12/82	9/83	265
CT	Cheshire Ground Water Contamination (once listed as Cheshire Associates Property)	Cheshire	6/88	8/90	662
CT	Durham Meadows	Durham	6/88	10/89	768
CT	Gallup's Quarry	Plainfield	6/88	10/89	282
CT	Kellogg-Deering Well Field	Norwalk	9/83	9/84	498
CT	Laurel Park, Inc. (once listed as Laurel Park Landfill) *	Naugatuck Borough	10/81	9/83	85

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
CT	Linemaster Switch Corp.	Woodstock	6/88	2/90	802
CT	New London Submarine Base	New London	10/89	8/90	Gr 13F
CT	Nutmeg Valley Road	Wolcott	1/87	3/89	379
CT	Old Southington Landfill	Southington	9/83	9/84	122
CT	Precision Plating Corp.	Vernon	6/88	10/89	214
CT	Revere Textile Prints Corp.	Sterling	6/86	7/87	459
CT	Solvents Recovery Service of New England	Southington	12/82	9/83	321
CT	Yaworski Waste Lagoon	Canterbury	12/82	9/83	624
	15 Final + 0 Proposed = 15				
DE	Army Creek Landfill (once listed as Delaware Sand & Gravel-Llangollen Army Creek Landfills)	New Castle County	10/81	9/83	9
DE	Chem-Solv, Inc.	Cheswold	1/87	8/90	573
DE	Coker's Sanitation Service Landfills	Kent County	4/85	7/87	160
DE	Delaware City PVC Plant (once listed as Stauffer Chemical Co.)	Delaware City	10/81	9/83	971
DE	Delaware Sand & Gravel Landfill (once listed as Delaware Sand & Gravel-Llangollen Army Creek Landfills)	New Castle County	10/81	9/83	272
DE	Dover Air Force Base	Dover	10/84	3/89	Gr 13F
DE	Dover Gas Light Co.	Dover	1/87	10/89	665
DE	E.I. Du Pont de Nemours & Co., Inc. (Newport Pigment Plant Landfill)	Newport	1/87	2/90	170
DE	Halby Chemical Co.	New Castle	9/85	6/86	951
DE	Harvey & Knott Drum, Inc.	Kirkwood	7/82	9/83	956
DE	Kent County Landfill (Houston)	Houston	6/88	8/90	814
DE	Koppers Co., Inc. (Newport Plant)	Newport	10/89	8/90	826
DE	NCR Corp. (Millsboro Plant)	Millsboro	4/85	7/87	547
DE	New Castle Spill (once listed as TRIS Spill)	New Castle County	12/82	9/83	544
DE	Sealand Limited	Mount Pleasant	6/88	8/90	838
DE	Standard Chlorine of Delaware,Inc	Delaware City	9/85	7/87	689
DE	Sussex County Landfill No. 5	Laurel	6/88	10/89	1043
DE	Tybouts Corner Landfill *	New Castle County	10/81	9/83	2
DE	Tyler Refrigeration Pit	Smyrna	6/86	2/90	769
DE	Wildcat Landfill	Dover	12/82	9/83	966
	20 Final + 0 Proposed = 20				
FL	Agrico Chemical Co.	Pensacola	6/88	10/89	319
FL	Airco Plating Co.	Miami	6/88	2/90	391
FL	Alpha Chemical Corp.	Galloway	10/81	9/83	360
FL	American Creosote Works, Inc. (Pensacola Plant) (once listed as American Creosote Works)	Pensacola	10/81	9/83	51
FL	Anaconda Aluminum Co./Milgo Electronics Corp.	Miami	10/89	8/90	942
FL	Anodyne, Inc.	North Miami Beach	6/88	2/90	941
FL	B&B Chemical Co., Inc.	Hialeah	6/88	8/90	699
FL	Beulah Landfill	Pensacola	6/88	2/90	552
FL	BMI-Textron	Lake Park	6/88	8/90	703
FL	Brown Wood Preserving	Live Oak	12/82	9/83	312
FL	Cabot/Koppers	Gainesville	9/83	9/84	627
FL	Cecil Field Naval Air Station	Jacksonville	7/89	11/89	Gr 18F
FL	Chemform, Inc.	Pompano Beach	6/88	10/89	576
FL	City Industries, Inc.	Orlando	10/84	10/89	885
FL	Coleman-Evans Wood Preserving Co.	Whitehouse	10/81	9/83	286
FL	Davie Landfill (once listed as Broward County Solid Waste Disposal Facility)	Davie	10/81	9/83	69
FL	Dubose Oil Products Co.	Cantonment	10/84	6/86	757
FL	Florida Steel Corp.	Indiantown	12/82	9/83	298
FL	Gold Coast Oil Corp.	Miami	10/81	9/83	77
FL	Harris Corp. (Palm Bay Plant) (once listed as Harris Corp./General Development Utilities)	Palm Bay	4/85	7/87	672

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FL	Hippe Road Landfill	Duval County	9/83	9/84	892
FL	Hollingsworth Solderless Terminal	Fort Lauderdale	10/81	9/83	330
FL	Homestead Air Force Base	Homestead	7/89	8/90	Gr 8F
FL	Jacksonville Naval Air Station	Jacksonville	7/89	11/89	Gr 18F
FL	Kassauf-Kimerling Battery Disposal (once listed as Timber Lake Battery Disposal)	Tampa	10/81	9/83	137
FL	Madison County Sanitary Landfill	Madison	6/88	8/90	575
FL	Miami Drum Services (once listed as part of Biscayne Aquifer)	Miami	10/81	9/83	131
FL	Munisport Landfill	North Miami	12/82	9/83	862
FL	Northwest 58th Street Landfill (once listed as part of Biscayne Aquifer)	Hialeah	10/81	9/83	209
FL	Peak Oil Co./Bay Drum Co.	Tampa	10/84	6/86	55
FL	Pensacola Naval Air Station	Pensacola	7/89	11/89	Gr 8F
FL	Pepper Steel & Alloys, Inc.	Medley	9/83	9/84	902
FL	Petroleum Products Corp.	Pembroke Park	4/85	7/87	490
FL	Pickettville Road Landfill	Jacksonville	10/81	9/83	365
FL	Pioneer Sand Co.	Warrington	10/81	9/83	166
FL	Piper Aircraft/Vero Beach Water & Sewer Department	Vero Beach	6/86	2/90	937
FL	Reeves Southeast Galvanizing Corp	Tampa	10/81	9/83	46
FL	Sapp Battery Salvage	Cottondale	10/81	9/83	247
FL	Schuylkill Metals Corp.	Plant City	12/82	9/83	43
FL	Sherwood Medical Industries	Deland	12/82	9/83	504
FL	Sixty-Second Street Dump	Tampa	12/82	9/83	215
FL	Standard Auto Bumper Corp.	Hialeah	6/88	10/89	372
FL	Sydney Mine Sludge Ponds	Brandon	6/86	10/89	527
FL	Taylor Road Landfill	Seffner	10/81	9/83	181
FL	Tower Chemical Co.	Clermont	10/81	9/83	343
FL	Whitehouse Oil Pits	Whitehouse	10/81	9/83	152
FL	Wilson Concepts of Florida, Inc.	Pompano Beach	6/88	3/89	577
FL	Wingate Road Municipal Incinerator Dump	Fort Lauderdale	6/88	10/89	9[illegible]
FL	Woodbury Chemical Co. (Princeton Plant)	Princeton	6/88	8/90	5[illegible]
FL	Yellow Water Road Dump	Baldwin	9/85	6/86	984
FL	Zellwood Ground Water Contamination	Zellwood	10/81	9/83	172
	51 Final + 0 Proposed = 51				
GA	Cedartown Industries, Inc.	Cedartown	6/88	2/90	440
GA	Cedartown Municipal Landfill	Cedartown	6/88	3/89	816
GA	Diamond Shamrock Corp. Landfill	Cedartown	1/87	8/90	660
GA	Firestone Tire & Rubber Co. (Albany Plant)	Albany	6/88	10/89	995
GA	Hercules 009 Landfill	Brunswick	9/83	9/84	153
GA	Marine Corps Logistics Base	Albany	7/89	11/89	Gr 7F
GA	Marzone Inc./Chevron Chemical Co.	Tifton	6/88	10/89	985
GA	Mathis Brothers Landfill (South Marble Top Road)	Kensington	1/87	3/89	955
GA	Monsanto Corp. (Augusta Plant)	Augusta	9/83	9/84	656
GA	Powersville Site	Peach County	9/83	9/84	684
GA	Robins Air Force Base (Landfill #4/Sludge Lagoon) (once listed as Robins Air Force Base)	Houston County	10/84	7/87	Gr 4F
GA	T.H. Agriculture & Nutrition Co. (Albany Plant)	Albany	6/88	3/89	463
GA	Woolfolk Chemical Works, Inc.	Fort Valley	6/88	8/90	414
	13 Final + 0 Proposed = 13				
GU	Ordot Landfill *	Guam	10/81	9/83	97
	1 Final + 0 Proposed = 1				
HI	Kunia Wells I	Oahu	10/84		Gr 11
HI	Kunia Wells II	Oahu	10/84		Gr 11

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HI	Mililani Wells	Oahu	10/84		Gr 9
HI	Schofield Barracks	Oahu	7/89	8/90	Gr 22F
HI	Waiawa Shaft	Oahu	10/84		Gr 9
HI	Waipahu Wells	Oahu	10/84		Gr 11
HI	Waipio Heights Wells II	Oahu	10/84		Gr 14
	1 Final + 6 Proposed = 7				
IA	Aidex Corp. *	Council Bluffs	10/81	9/83	93
IA	Chemplex Co.	Clinton/Camanche	10/84		Gr 4
IA	Des Moines TCE (once listed as DICO)	Des Moines	12/82	9/83	407
IA	E.I. Du Pont de Nemours & Co., Inc. (County Road X23)	West Point	6/88	8/90	295
IA	Electro-Coatings, Inc.	Cedar Rapids	6/88	10/89	426
IA	Fairfield Coal Gasification Plant	Fairfield	6/88	8/90	564
IA	Farmers' Mutual Cooperative	Hospers	6/88	8/90	799
IA	Iowa Army Ammunition Plant	Middletown	7/89	8/90	Gr 21F
IA	John Deere (Ottumwa Works Landfills)	Ottumwa	6/88	2/90	402
IA	LaBounty Site	Charles City	12/82	9/83	8
IA	Lawrence Todtz Farm	Camanche	9/85	6/86	163
IA	Lehigh Portland Cement Co.	Mason City	6/88	8/90	68
IA	Mid-America Tanning Co.	Sergeant Bluff	6/88	3/89	240
IA	Midwest Manufacturing/North Farm	Kellogg	9/85	6/86	881
IA	Northwestern States Portland Cement Co.	Mason City	6/88	8/90	74
IA	Peoples Natural Gas Co.	Dubuque	6/88	8/90	284
IA	Red Oak City Landfill	Red Oak	6/86	3/89	760
IA	Shaw Avenue Dump	Charles City	9/85	7/87	996
IA	Sheller-Globe Corp. Disposal	Keokuk	5/89	8/90	806
IA	Vogel Paint & Wax Co.	Orange City	10/84	6/86	920
IA	White Farm Equipment Co. Dump	Charles City	6/88	8/90	356
	20 Final + 1 Proposed = 21				
ID	Arrcom (Drexler Enterprises)	Rathdrum	12/82	9/83	1027
ID	Bunker Hill Mining & Metallurgical	Smelterville	12/82	9/83	115
ID	Eastern Michaud Flats Contamination	Pocatello	5/89	8/90	72
ID	Idaho National Engineering Laboratory (USDOE)	Idaho Falls	7/89	11/89	Gr 4F
ID	Kerr-McGee Chemical Corp. (Soda Springs Plant)	Soda Springs	5/89	10/89	175
ID	Monsanto Chemical Co. (Soda Springs Plant)	Soda Springs	5/89	8/90	114
ID	Mountain Home Air Force Base	Mountain Home	7/89	8/90	Gr 3F
ID	Pacific Hide & Fur Recycling Co.	Pocatello	9/83	9/84	406
ID	Union Pacific Railroad Co.	Pocatello	9/83	9/84	133
	9 Final + 0 Proposed = 9				
IL	A & F Material Reclaiming, Inc.	Greenup	7/82	9/83	110
IL	Acme Solvent Reclaiming, Inc. (Morristown Plant)	Morristown	7/82	9/83	887
IL	Adams County Quincy Landfills 2&3	Quincy	6/88	8/90	750
IL	Amoco Chemicals (Joliet Landfill)	Joliet	6/88	2/90	515
IL	Beloit Corp.	Rockton	6/88	8/90	164
IL	Belvidere Municipal Landfill	Belvidere	12/82	9/83	1065
IL	Byron Salvage Yard	Byron	12/82	9/83	776
IL	Central Illinois Public Service Co.	Taylorville	6/88	8/90	1034
IL	Cross Brothers Pail Recycling (Pembroke)	Pembroke Township	12/82	9/83	439
IL	DuPage County Landfill/Blackwell Forest Preserve	Warrenville	6/88	2/90	673
IL	Galesburg/Koppers Co.	Galesburg	12/82	9/83	724
IL	H.O.D. Landfill	Antioch	9/85	2/90	731
IL	Ilada Energy Co.	East Cape Girardeau	6/88	10/89	749
IL	Interstate Pollution Control, Inc.	Rockford	6/88	3/89	292
IL	Johns-Manville Corp.	Waukegan	12/82	9/83	549

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IL	Joliet Army Ammunition Plant (Load-Assembly-Packing Area)	Joliet	4/85	3/89	Gr 15F
IL	Joliet Army Ammunition Plant (Manufacturing Area)	Joliet	10/84	7/87	Gr 18F
IL	Kerr-McGee (Kress Creek/West Branch of DuPage River)	DuPage County	10/84		Gr 11
IL	Kerr-McGee (Reed-Keppler Park)	West Chicago	10/84	8/90	513
IL	Kerr-McGee (Residential Areas)	W Chic/DuPage Cnty	10/84	8/90	554
IL	Kerr-McGee (Sewage Treatment Plant)	West Chicago	10/84	8/90	709
IL	LaSalle Electric Utilities	LaSalle	12/82	9/83	438
IL	Lenz Oil Service, Inc.	Lemont	6/88	10/89	399
IL	MIG/Dewane Landfill	Belvidere	10/89	8/90	205
IL	NL Industries/Taracorp Lead Smelter	Granite City	10/84	6/86	557
IL	Outboard Marine Corp. *	Waukegan	10/81	9/83	87
IL	Pagel's Pit	Rockford	10/84	6/86	301
IL	Parsons Casket Hardware Co.	Belvidere	1/87	7/87	109
IL	Petersen Sand & Gravel	Libertyville	10/84	6/86	540
IL	Sangamo Electric Dump/Crab Orchard National Wildlife Refuge (USDOI)	Carterville	10/84	7/87	Gr 8F
IL	Savanna Army Depot Activity	Savanna	10/84	3/89	Gr 9F
IL	Southeast Rockford Ground Water Contamination	Rockford	6/88	3/89	415
IL	Tri-County Landfill Co./Waste Management of Illinois, Inc.	South Elgin	6/86	3/89	376
IL	Velsicol Chemical Corp. (Illinois)	Marshall	12/82	9/83	230
IL	Wauconda Sand & Gravel	Wauconda	7/82	9/83	138
IL	Woodstock Municipal Landfill	Woodstock	6/88	10/89	203
IL	Yeoman Creek Landfill	Waukegan	6/88	3/89	835
	36 Final + 1 Proposed = 37				
IN	American Chemical Service, Inc.	Griffith	9/83	9/84	717
IN	Bennett Stone Quarry	Bloomington	9/83	9/84	858
IN	Carter Lee Lumber Co.	Indianapolis	6/88	3/89	692
IN	Columbus Old Municipal Landfill #1	Columbus	9/85	6/86	314
IN	Conrail Rail Yard (Elkhart)	Elkhart	6/88	8/90	417
IN	Continental Steel Corp.	Kokomo	6/88	3/89	906
IN	Douglass Road/Uniroyal, Inc., Landfill	Mishawaka	6/86	3/89	630
IN	Envirochem Corp.	Zionsville	12/82	9/83	278
IN	Fisher-Calo	LaPorte	12/82	9/83	165
IN	Fort Wayne Reduction Dump	Fort Wayne	10/84	6/86	392
IN	Galen Myers Dump/Drum Salvage	Osceola	6/88	3/89	418
IN	Himco Dump	Elkhart	6/88	2/90	405
IN	International Minerals & Chemical Corp. (Terre Haute East Plant)	Terre Haute	10/84	6/86	76
IN	Lake Sandy Jo (M&M Landfill) (once listed as Lake Sandy Jo)	Gary	12/82	9/83	548
IN	Lakeland Disposal Service, Inc.	Claypool	6/88	3/89	761
IN	Lemon Lane Landfill	Bloomington	12/82	9/83	1025
IN	Main Street Well Field	Elkhart	12/82	9/83	387
IN	Marion (Bragg) Dump	Marion	12/82	9/83	705
IN	MIDCO I	Gary	12/82	9/83	279
IN	MIDCO II	Gary	10/84	6/86	989
IN	Neal's Dump (Spencer)	Spencer	10/84	6/86	634
IN	Neal's Landfill (Bloomington)	Bloomington	10/81	9/83	369
IN	Ninth Avenue Dump	Gary	12/82	9/83	484
IN	Northside Sanitary Landfill, Inc	Zionsville	9/83	9/84	291
IN	Poer Farm	Hancock County	9/83	9/84	603
IN	Prestolite Battery Division	Vincennes	9/85	10/89	475
IN	Reilly Tar & Chemical Corp. (Indianapolis Plant)	Indianapolis	9/83	9/84	766
IN	Seymour Recycling Corp. *	Seymour	10/81	9/83	54
IN	Southside Sanitary Landfill	Indianapolis	6/86	3/89	442
IN	Tippecanoe Sanitary Landfill, Inc	Lafayette	6/88	8/90	416
IN	Tri-State Plating	Columbus	9/85	6/86	1026
IN	Waste, Inc., Landfill	Michigan City	4/85	7/87	194
IN	Wayne Waste Oil	Columbia City	12/82	9/83	400
IN	Wedzeb Enterprises, Inc.	Lebanon	12/82	9/83	929

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IN	Whiteford Sales & Service Inc./NationaLease	South Bend	6/88	8/90	176
	35 Final + 0 Proposed = 35				
KS	29th & Mead Ground Water Contamination	Wichita	6/88	2/90	700
KS	Arkansas City Dump *	Arkansas City	10/81	9/83	100
KS	Big River Sand Co.	Wichita	10/84	6/86	857
KS	Cherokee County (once listed as Tar Creek, Cherokee County)	Cherokee County	12/82	9/83	57
KS	Doepke Disposal (Holliday)	Johnson County	12/82	9/83	251
KS	Fort Riley	Junction City	7/89	8/90	Gr 16F
KS	Hydro-Flex Inc.	Topeka	6/88	3/89	373
KS	Johns' Sludge Pond	Wichita	12/82	9/83	648
KS	Obee Road	Hutchinson	1/87	7/87	821
KS	Pester Refinery Co.	El Dorado	6/88	3/89	992
KS	Strother Field Industrial Park	Cowley County	10/84	6/86	820
	11 Final + 0 Proposed = 11				
KY	A.L. Taylor (Valley of Drums) *	Brooks	10/81	9/83	96
KY	Airco	Calvert City	9/83	9/84	833
KY	B.F. Goodrich	Calvert City	12/82	9/83	843
KY	Brantley Landfill	Island	6/88	2/90	148
KY	Caldwell Lace Leather Co., Inc.	Auburn	6/88	8/90	748
KY	Distler Brickyard	West Point	12/82	9/83	325
KY	Distler Farm	Jefferson County	7/82	9/83	735
KY	Fort Hartford Coal Co. Stone Quarry	Olaton	6/88	8/90	347
KY	General Tire & Rubber Co. (Mayfield Landfill)	Mayfield	6/88	2/90	844
KY	Green River Disposal, Inc.	Maceo	6/88	8/90	1030
KY	Howe Valley Landfill	Howe Valley	6/86	7/87	623
KY	Lee's Lane Landfill	Louisville	7/82	9/83	512
KY	Maxey Flats Nuclear Disposal	Hillsboro	10/84	6/86	911
KY	Newport Dump	Newport	12/82	9/83	598
KY	Red Penn Sanitation Co. Landfill	Peewee Valley	6/88	3/89	558
KY	Smith's Farm	Brooks	10/84	6/86	852
KY	Tri-City Disposal Co.	Shepherdsville	6/88	3/89	786
	17 Final + 0 Proposed = 17				
LA	Bayou Bonfouca	Slidell	12/82	9/83	1005
LA	Bayou Sorrel Site	Bayou Sorrel	7/82	9/84	730
LA	Cleve Reber	Sorrento	12/82	9/83	229
LA	Combustion, Inc.	Denham Springs	6/86	8/90	791
LA	D.L. Mud, Inc.	Abbeville	6/88	10/89	863
LA	Dutchtown Treatment Plant	Ascension Parish	1/87	7/87	638
LA	Gulf Coast Vacuum Services	Abbeville	6/88	3/89	375
LA	Louisiana Army Ammunition Plant	Doyline	10/84	3/89	Gr 20F
LA	Old Inger Oil Refinery *	Darrow	7/82	9/83	82
LA	PAB Oil & Chemical Service, Inc.	Abbeville	6/88	3/89	526
LA	Petro-Processors of Louisiana Inc	Scotlandville	9/83	9/84	452
	11 Final + 0 Proposed = 11				
MA	Atlas Tack Corp.	Fairhaven	6/88	2/90	384
MA	Baird & McGuire	Holbrook	12/82	9/83	14
MA	Cannon Engineering Corp. (CEC)	Bridgewater	12/82	9/83	500
MA	Charles-George Reclamation Trust Landfill	Tyngsborough	10/81	9/83	254
MA	Fort Devens	Fort Devens	7/89	11/89	Gr 9F
MA	Fort Devens-Sudbury Training Annex	Middlesex County	7/89	2/90	Gr 14F
MA	Groveland Wells	Groveland	12/82	9/83	467

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MA	Haverhill Municipal Landfill	Haverhill	10/84	6/86	980
MA	Hocomonco Pond	Westborough	12/82	9/83	324
MA	Industri-Plex (once listed as Mark Phillip Trust)	Woburn	10/81	9/83	5
MA	Iron Horse Park	Billerica	9/83	9/84	367
MA	New Bedford Site *	New Bedford	7/82	9/83	81
MA	Norwood PCBs	Norwood	10/84	6/86	1019
MA	Nyanza Chemical Waste Dump	Ashland	10/81	9/83	11
MA	Otis Air National Guard Base/Camp Edwards	Falmouth	7/89	11/89	Gr 6F
MA	Plymouth Harbor/Cannon Engineering Corp. (once listed as Plymouth Harbor/Cordage)	Plymouth	12/82	9/83	113
MA	PSC Resources	Palmer	12/82	9/83	534
MA	Re-Solve, Inc.	Dartmouth	10/81	9/83	243
MA	Rose Disposal Pit	Lanesboro	10/84	6/86	839
MA	Salem Acres	Salem	10/84	6/86	718
MA	Shpack Landfill	Norton/Attleboro	10/84	6/86	1016
MA	Silresim Chemical Corp.	Lowell	7/82	9/83	377
MA	Sullivan's Ledge	New Bedford	9/83	9/84	851
MA	W.R. Grace & Co Inc (Acton Plant)	Acton	12/82	9/83	38
MA	Wells G&H	Woburn	12/82	9/83	378
	25 Final + 0 Proposed = 25				
MD	Aberdeen Proving Ground (Edgewood Area)	Edgewood	4/85	2/90	Gr 3F
MD	Aberdeen Proving Ground (Michaelsville Landfill)	Aberdeen	4/85	10/89	Gr 19F
MD	Anne Arundel County Landfill	Glen Burnie	6/88		Gr 12
MD	Bush Valley Landfill	Abingdon	6/88	3/89	485
MD	Kane & Lombard Street Drums	Baltimore	10/84	6/86	993
MD	Limestone Road	Cumberland	12/82	9/83	[illegible]
MD	Mid-Atlantic Wood Preservers, Inc	Harmans	10/84	6/86	[illegible]
MD	Sand, Gravel & Stone	Elkton	12/82	9/83	[illegible]
MD	Southern Maryland Wood Treating	Hollywood	10/84	6/86	747
MD	Woodlawn County Landfill	Woodlawn	1/87	7/87	238
	9 Final + 1 Proposed = 10				
ME	Brunswick Naval Air Station	Brunswick	10/84	7/87	Gr 8F
ME	Loring Air Force Base	Limestone	7/89	2/90	Gr 15F
ME	McKin Co.	Gray	12/82	9/83	33
ME	O'Connor Co.	Augusta	12/82	9/83	904
ME	Pinette's Salvage Yard	Washburn	12/82	9/83	767
ME	Saco Municipal Landfill	Saco	6/88	2/90	1014
ME	Saco Tannery Waste Pits	Saco	12/82	9/83	362
ME	Union Chemical Co., Inc.	South Hope	4/85	10/89	872
ME	Winthrop Landfill	Winthrop	10/81	9/83	658
	9 Final + 0 Proposed = 9				
MI	Adam's Plating	Lansing	6/88	3/89	1010
MI	Albion-Sheridan Township Landfill	Albion	6/88	10/89	789
MI	Allied Paper, Inc./Portage Creek/Kalamazoo River	Kalamazoo	5/89	8/90	637
MI	American Anodco, Inc.	Ionia	6/86	3/89	61
MI	Anderson Development Co.	Adrian	12/82	9/83	944
MI	Auto Ion Chemicals, Inc.	Kalamazoo	12/82	9/83	877
MI	Avenue "E" Ground Water Contamination	Traverse City	10/84	6/86	932
MI	Barrels, Inc.	Lansing	1/87	10/89	420
MI	Bendix Corp./Allied Automotive	St. Joseph	6/88	2/90	609
MI	Berlin & Farro	Swartz Creek	7/82	9/83	13
MI	Bofors Nobel, Inc.	Muskegon	6/88	3/89	139
MI	Burrows Sanitation	Hartford	9/83	9/84	967

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MI	Butterworth #2 Landfill	Grand Rapids	12/82	9/83	198
MI	Cannelton Industries, Inc.	Sault Sainte Marie	6/88	8/90	990
MI	Carter Industrials, Inc.	Detroit	6/88	3/89	594
MI	Cemetery Dump	Rose Center	12/82	9/83	759
MI	Charlevoix Municipal Well	Charlevoix	12/82	9/83	566
MI	Chem Central	Wyoming Township	12/82	9/83	550
MI	Clare Water Supply	Clare	9/83	9/84	541
MI	Cliff/Dow Dump	Marquette	12/82	9/83	740
MI	Duell & Gardner Landfill	Dalton Township	12/82	9/83	732
MI	Electrovoice	Buchanan	9/83	9/84	696
MI	Folkertsma Refuse	Grand Rapids	6/86	3/89	837
MI	Forest Waste Products	Otisville	12/82	9/83	535
MI	G&H Landfill	Utica	7/82	9/83	216
MI	Grand Traverse Overall Supply Co.	Greilickville	12/82	9/83	685
MI	Gratiot County Landfill *	St. Louis	10/81	9/83	79
MI	H. Brown Co., Inc.	Grand Rapids	4/85	6/86	501
MI	Hedblum Industries	Oscoda	12/82	9/83	606
MI	Hi-Mill Manufacturing Co.	Highland	6/88	2/90	207
MI	Ionia City Landfill	Ionia	12/82	9/83	925
MI	J & L Landfill	Rochester Hills	6/86	3/89	914
MI	K&L Avenue Landfill	Oshtemo Township	12/82	9/83	559
MI	Kaydon Corp.	Muskegon	6/88	2/90	751
MI	Kent City Mobile Home Park	Kent City	9/85	7/87	817
MI	Kentwood Landfill	Kentwood	12/82	9/83	695
MI	Kysor Industrial Corp.	Cadillac	9/85	10/89	770
MI	Liquid Disposal, Inc.	Utica	7/82	9/83	23
MI	Mason County Landfill	Pere Marquette Twp	12/82	9/83	758
MI	McGraw Edison Corp.	Albion	12/82	9/83	828
MI	Metal Working Shop	Lake Ann	1/87	2/90	1060
MI	Metamora Landfill	Metamora	9/83	9/84	686
MI	Michigan Disposal Service (Cork Street Landfill)	Kalamazoo	10/84	2/90	581
MI	Motor Wheel, Inc.	Lansing	10/84	6/86	222
MI	Muskegon Chemical Co.	Whitehall	6/88	2/90	756
MI	North Bronson Industrial Area	Bronson	10/84	6/86	777
MI	Northernaire Plating	Cadillac	7/82	9/83	64
MI	Novaco Industries	Temperance	12/82	9/83	551
MI	Organic Chemicals, Inc.	Grandville	12/82	9/83	846
MI	Ossineke Ground Water Contamination	Ossineke	12/82	9/83	792
MI	Ott/Story/Cordova Chemical Co.	Dalton Township	7/82	9/83	142
MI	Packaging Corp. of America	Filer City	12/82	9/83	173
MI	Parsons Chemical Works, Inc.	Grand Ledge	6/88	3/89	923
MI	Peerless Plating Co.	Muskegon	6/88	8/90	344
MI	Petoskey Municipal Well Field	Petoskey	12/82	9/83	382
MI	Rasmussen's Dump	Green Oak Township	12/82	9/83	907
MI	Rockwell International Corp. (Allegan Plant)	Allegan	4/85	7/87	161
MI	Rose Township Dump	Rose Township	7/82	9/83	190
MI	Roto-Finish Co., Inc.	Kalamazoo	10/84	6/86	472
MI	SCA Independent Landfill	Muskegon Heights	12/82	9/83	727
MI	Shiawassee River	Howell	12/82	9/83	946
MI	South Macomb Disposal Authority (Landfills #9 and #9a)	Macomb Township	10/84	6/86	804
MI	Southwest Ottawa County Landfill	Park Township	12/82	9/83	507
MI	Sparta Landfill	Sparta Township	12/82	9/83	886
MI	Spartan Chemical Co.	Wyoming	12/82	9/83	460
MI	Spiegelberg Landfill	Green Oak Township	12/82	9/83	130
MI	Springfield Township Dump	Davisburg	12/82	9/83	167
MI	State Disposal Landfill, Inc.	Grand Rapids	6/88	2/90	421
MI	Sturgis Municipal Wells	Sturgis	9/83	9/84	419
MI	Tar Lake	Mancelona Township	12/82	9/83	232
MI	Thermo-Chem, Inc.	Muskegon	10/84	6/86	143

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
MI	Torch Lake	Houghton County	10/84	6/86	268
MI	U.S. Aviex	Howard Township	12/82	9/83	805
MI	Velsicol Chemical Corp. (Michigan)	St. Louis	12/82	9/83	156
MI	Verona Well Field	Battle Creek	7/82	9/83	263
MI	Wash King Laundry	Pleasant Plains Twp	12/82	9/83	493
MI	Waste Management of Michigan (Holland Lagoons)	Holland	10/84	6/86	612
MI	Whitehall Municipal Wells	Whitehall	9/83	9/84	688
	78 Final + 0 Proposed = 78				
MN	Adrian Municipal Well Field	Adrian	10/84	6/86	818
MN	Agate Lake Scrapyard	Fairview Township	10/84	6/86	1009
MN	Arrowhead Refinery Co.	Hermantown	9/83	9/84	350
MN	Boise Cascade/Onan Corp./Medtronics, Inc.	Fridley	9/83	9/84	204
MN	Burlington Northern (Brainerd/Baxter Plant)	Brainerd/Baxter	7/82	9/83	267
MN	Dakhue Sanitary Landfill	Cannon Falls	10/89	8/90	423
MN	East Bethel Demolition Landfill	East Bethel Township	9/85	6/86	1061
MN	FMC Corp. (Fridley Plant)	Fridley	7/82	9/83	17
MN	Freeway Sanitary Landfill	Burnsville	9/85	6/86	303
MN	General Mills/Henkel Corp.	Minneapolis	9/83	9/84	643
MN	Joslyn Manufacturing & Supply Co.	Brooklyn Center	9/83	9/84	336
MN	Koch Refining Co./N-Ren Corp.	Pine Bend	10/84	6/86	936
MN	Koppers Coke	St. Paul	10/81	9/83	112
MN	Kummer Sanitary Landfill	Bemidji	10/84	6/86	674
MN	Kurt Manufacturing Co.	Fridley	10/84	6/86	921
MN	LaGrand Sanitary Landfill	LaGrand Township	6/86	7/87	602
MN	Lehillier/Mankato Site	Lehillier/Mankato	7/82	9/83	388
MN	Long Prairie Ground Water Contamination	Long Prairie	10/84	6/86	893
MN	MacGillis & Gibbs Co./Bell Lumber & Pole Co.	New Brighton	9/83	9/84	[illegible]
MN	Naval Industrial Reserve Ordnance Plant	Fridley	7/89	11/89	Gr[illegible]
MN	New Brighton/Arden Hills	New Brighton	7/82	9/83	[illegible]
MN	NL Industries/Taracorp/Golden Auto (once listed as National Lead Taracorp)	St. Louis Park	10/81	9/83	496
MN	Nutting Truck & Caster Co.	Faribault	9/83	9/84	592
MN	Oak Grove Sanitary Landfill	Oak Grove Township	10/84	6/86	355
MN	Oakdale Dump	Oakdale	10/81	9/83	108
MN	Olmsted County Sanitary Landfill	Oronoco	10/84	6/86	473
MN	Perham Arsenic Site	Perham	9/83	9/84	565
MN	Pine Bend Sanitary Landfill (once listed as Pine Bend Sanitary Landfill/Crosby American Demolition Landfill)	Dakota County	10/84	6/86	162
MN	Reilly Tar & Chemical Corp. (St. Louis Park Plant) *	St. Louis Park	10/81	9/83	40
MN	Ritari Post & Pole	Sebeka	1/87	7/87	1004
MN	South Andover Site (once listed as Andover Sites)	Andover	10/81	9/83	690
MN	St. Augusta Sanitary Landfill/Engen Dump (once listed as St. Augusta Sanitary Landfill/St. Cloud Dump)	St. Augusta Township	9/85	7/87	783
MN	St. Louis River Site	St. Louis County	9/83	9/84	876
MN	St. Regis Paper Co.	Cass Lake	9/83	9/84	147
MN	Twin Cities Air Force Reserve Base (Small Arms Range Landfill)	Minneapolis	1/87	7/87	Gr 17F
MN	Union Scrap Iron & Metal Co.	Minneapolis	9/83	9/84	383
MN	University of Minnesota (Rosemount Research Center)	Rosemount	10/84	6/86	302
MN	Waite Park Wells	Waite Park	9/85	6/86	894
MN	Washington County Landfill	Lake Elmo	9/83	9/84	422
MN	Waste Disposal Engineering	Andover	7/82	9/83	191
MN	Whittaker Corp.	Minneapolis	9/83	9/84	494
MN	Windom Dump	Windom	10/84	6/86	553
	42 Final + 0 Proposed = 42				
MO	Bee Cee Manufacturing Co.	Malden	10/84	6/86	1066

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
MO	Conservation Chemical Co.	Kansas City	4/85	10/89	1002
MO	Ellisville Site *	Ellisville	10/81	9/83	91
MO	Findett Corp.	St. Charles	10/84		Gr 11
MO	Fulbright Landfill	Springfield	10/81	9/83	476
MO	Kem-Pest Laboratories	Cape Girardeau	1/87	10/89	780
MO	Lake City Army Ammunition Plant (Northwest Lagoon)	Independence	10/84	7/87	Gr 17F
MO	Lee Chemical	Liberty	10/84	6/86	264
MO	Minker/Stout/Romaine Creek (once listed as Arena 2: Fills 1 and 2)	Imperial	12/82	9/83	622
MO	Missouri Electric Works	Cape Girardeau	6/88	2/90	931
MO	North-U Drive Well Contamination	Springfield	10/84	6/86	1048
MO	Oronogo-Duenweg Mining Belt	Jasper County	6/88	8/90	285
MO	Quail Run Mobile Manor	Gray Summit	9/83		Gr 22
MO	Quality Plating	Sikeston	10/84	6/86	474
MO	Shenandoah Stables (once listed as Arena 1: Shenandoah Stables)	Moscow Mills	12/82	9/83	994
MO	Solid State Circuits, Inc.	Republic	10/84	6/86	582
MO	St. Louis Airport/Hazelwood Interim Storage/Futura Coatings Co.	St. Louis County	5/89	10/89	545
MO	Syntex Facility	Verona	12/82	9/83	348
MO	Times Beach Site	Times Beach	3/83	9/83	492
MO	Valley Park TCE	Valley Park	4/85	6/86	678
MO	Weldon Spring Quarry/Plant/Pits (USDOE/Army) (once listed as Weldon Spring Quarry (USDOE/Army))	St.Charles County	10/84	7/87	Gr 1F
MO	Weldon Spring Former Army Ordnance Works	St. Charles County	7/89	2/90	Gr 20F
MO	Westlake Landfill	Bridgeton	10/89	8/90	1003
MO	Wheeling Disposal Service Co. Landfill	Amazonia	1/87	10/89	231
	22 Final + 2 Proposed = 24				
MS	Flowood Site *	Flowood	9/83	9/84	98
MS	Newsom Brothers/Old Reichhold Chemicals, Inc.	Columbia	10/84	6/86	309
	2 Final + 0 Proposed = 2				
MT	Anaconda Co. Smelter	Anaconda	12/82	9/83	48
MT	Burlington Northern Railroad (Somers Tie-Treating Plant)	Somers	10/84		Gr 13
MT	Comet Oil Co.	Billings	6/88		Gr 5
MT	East Helena Site (once listed as East Helena Smelter)	East Helena	9/83	9/84	29
MT	Idaho Pole Co.	Bozeman	10/84	6/86	546
MT	Libby Ground Water Contamination	Libby	12/82	9/83	597
MT	Milltown Reservoir Sediments	Milltown	12/82	9/83	349
MT	Montana Pole and Treating	Butte	6/86	7/87	841
MT	Mouat Industries	Columbus	10/84	6/86	913
MT	Silver Bow Creek/Butte Area (once listed as Silver Bow Creek)	Sil Bow/Deer Lodge	12/82	9/83	20
	8 Final + 2 Proposed = 10				
NC	ABC One Hour Cleaners	Jacksonville	6/88	3/89	1031
NC	Aberdeen Pesticide Dumps	Aberdeen	1/87	3/89	149
NC	Benfield Industries, Inc.	Hazelwood	6/88	10/89	912
NC	Bypass 601 Ground Water Contamination	Concord	10/84	6/86	578
NC	Camp Lejeune Military Reservation (once listed as Camp Lejeune Marine Corps Base)	Onslow County	6/88	10/89	Gr 17F
NC	Cape Fear Wood Preserving	Fayetteville	6/86	7/87	763
NC	Carolina Transformer Co.	Fayetteville	1/87	7/87	795
NC	Celanese Corp. (Shelby Fiber Operations)	Shelby	10/84	6/86	218
NC	Charles Macon Lagoon & Drum Storage	Cordova	1/87	7/87	260
NC	Chemtronics, Inc.	Swannanoa	12/82	9/83	988
NC	FCX, Inc. (Statesville Plant)	Statesville	6/88	2/90	579
NC	FCX, Inc. (Washington Plant)	Washington	6/88	3/89	479
NC	Geigy Chemical Corp. (Aberdeen Plant)	Aberdeen	6/88	10/89	842

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NC	Hevi-Duty Electric Co.	Goldsboro	5/89	8/90	1000
NC	Jadco-Hughes Facility	Belmont	10/84	6/86	441
NC	JFD Electronics/Channel Master	Oxford	6/88	10/89	524
NC	Koppers Co., Inc. (Morrisville Plant)	Morrisville	6/88	3/89	446
NC	Martin-Marietta, Sodyeco, Inc.	Charlotte	12/82	9/83	169
NC	National Starch & Chemical Corp.	Salisbury	4/85	10/89	274
NC	North Carolina State University (Lot 86, Farm Unit #1)	Raleigh	10/84	6/86	234
NC	New Hanover County Airport Burn Pit	Wilmington	6/88	3/89	518
NC	Potter's Septic Tank Service Pits	Maco	6/88	3/89	1029
	22 Final + 0 Proposed = 22				
ND	Arsenic Trioxide Site *	Southeastern ND	10/81	9/83	92
ND	Minot Landfill	Minot	6/88	3/89	825
	2 Final + 0 Proposed = 2				
NE	10th Street Site	Columbus	10/89	8/90	1049
NE	Cornhusker Army Ammunition Plant	Hall County	10/84	7/87	Gr 4F
NE	Hastings Ground Water Contamination	Hastings	10/84	6/86	427
NE	Lindsay Manufacturing Co.	Lindsay	10/84	10/89	241
NE	Nebraska Ordnance Plant (Former)	Mead	10/89	8/90	895
NE	Waverly Ground Water Contamination	Waverly	10/84	6/86	583
	6 Final + 0 Proposed = 6				
NH	Auburn Road Landfill	Londonderry	12/82	9/83	641
NH	Coakley Landfill	North Hampton	10/84	6/86	1028
NH	Dover Municipal Landfill	Dover	12/82	9/83	617
NH	Fletcher's Paint Works & Storage	Milford	6/88	3/89	69[illegible]
NH	Holton Circle Ground Water Contamination	Londonderry	6/88	3/89	88[illegible]
NH	Kearsarge Metallurgical Corp. (once listed as Kearsage Metallurgical Corp.)	Conway	9/83	9/84	538
NH	Keefe Environmental Services (once listed as KES)	Epping	10/81	9/83	19
NH	Mottolo Pig Farm	Raymond	4/85	7/87	469
NH	Ottati & Goss/Kingston Steel Drum (once listed as Ottati & Goss)	Kingston	10/81	9/83	141
NH	Pease Air Force Base	Portsmouth/Newington	7/89	2/90	Gr 11F
NH	Savage Municipal Water Supply	Milford	9/83	9/84	601
NH	Somersworth Sanitary Landfill	Somersworth	12/82	9/83	16
NH	South Municipal Water Supply Well	Peterborough	9/83	9/84	657
NH	Sylvester *	Nashua	10/81	9/83	24
NH	Tibbets Road	Barrington	4/85	6/86	456
NH	Tinkham Garage	Londonderry	12/82	9/83	359
	16 Final + 0 Proposed = 16				
NJ	A. O. Polymer	Sparta Township	12/82	9/83	1037
NJ	American Cyanamid Co.	Bound Brook	12/82	9/83	199
NJ	Asbestos Dump	Millington	12/82	9/83	511
NJ	Beachwood/Berkley Wells	Berkley Township	12/82	9/83	408
NJ	Bog Creek Farm	Howell Township	12/82	9/83	361
NJ	Brick Township Landfill	Brick Township	12/82	9/83	59
NJ	Bridgeport Rental & Oil Services	Bridgeport	10/81	9/83	35
NJ	Brook Industrial Park	Bound Brook	6/88	10/89	60
NJ	Burnt Fly Bog	Marlboro Township	10/81	9/83	42
NJ	Caldwell Trucking Co.	Fairfield	12/82	9/83	52
NJ	Chemical Control	Elizabeth	10/81	9/83	259
NJ	Chemical Insecticide Corp.	Edison Township	10/89	8/90	570
NJ	Chemical Leaman Tank Lines, Inc. (once listed as Chemical Leaman Tank Liners, Inc.)	Bridgeport	9/83	9/84	249

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
NJ	Chemsol, Inc.	Piscataway	12/82	9/83	380
NJ	Ciba-Geigy Corp. (once listed as Toms River Chemical)	Toms River	12/82	9/83	197
NJ	Cinnaminson Township (Block 702) Ground Water Contamination	Cinnaminson Township	10/84	6/86	569
NJ	Combe Fill North Landfill	Mount Olive Twp	12/82	9/83	242
NJ	Combe Fill South Landfill	Chester Township	12/82	9/83	315
NJ	Cosden Chemical Coatings Corp.	Beverly	1/87	7/87	782
NJ	CPS/Madison Industries	Old Bridge Township	12/82	9/83	10
NJ	Curcio Scrap Metal, Inc.	Saddle Brook Twp	1/87	7/87	744
NJ	D'Imperio Property	Hamilton Township	10/81	9/83	107
NJ	Dayco Corp./L.E Carpenter Co.	Wharton Borough	4/85	7/87	287
NJ	De Rewal Chemical Co.	Kingwood Township	9/83	9/84	653
NJ	Delilah Road	Egg Harbor Township	9/83	9/84	210
NJ	Denzer & Schafer X-Ray Co.	Bayville	12/82	9/83	482
NJ	Diamond Alkali Co.	Newark	9/83	9/84	691
NJ	Dover Municipal Well 4	Dover Township	12/82	9/83	1039
NJ	Ellis Property	Evesham Township	12/82	9/83	734
NJ	Evor Phillips Leasing	Old Bridge Township	12/82	9/83	628
NJ	Ewan Property	Shamong Township	9/83	9/84	201
NJ	Fair Lawn Well Field	Fair Lawn	12/82	9/83	386
NJ	Federal Aviation Administration Technical Center	Atlantic County	7/89	8/90	Gr 11F
NJ	Florence Land Recontouring Landfill	Florence Township	9/83	9/84	252
NJ	Fort Dix (Landfill Site)	Pemberton Township	10/84	7/87	Gr 13F
NJ	Fried Industries	East Brunswick Twp	10/84	6/86	823
NJ	Garden State Cleaners Co.	Minotola	6/88	3/89	1042
NJ	GEMS Landfill	Gloucester Township	7/82	9/83	12
NJ	Glen Ridge Radium Site	Glen Ridge	10/84	2/85	212
NJ	Global Sanitary Landfill	Old Bridge Township	6/88	3/89	297
NJ	Goose Farm	Plumstead Township	10/81	9/83	244
NJ	Helen Kramer Landfill	Mantua Township	7/82	9/83	4
NJ	Hercules, Inc. (Gibbstown Plant)	Gibbstown	12/82	9/83	483
NJ	Higgins Disposal	Kingston	6/88	8/90	952
NJ	Higgins Farm	Franklin Township	6/88	3/89	974
NJ	Hopkins Farm	Plumstead Township	9/83	9/84	762
NJ	Imperial Oil Co., Inc./Champion Chemicals	Morganville	12/82	9/83	781
NJ	Industrial Latex Corp.	Wallington Borough	6/88	3/89	861
NJ	Jackson Township Landfill	Jackson Township	12/82	9/83	556
NJ	JIS Landfill	Jamesburg/S. Brnswck	12/82	9/83	316
NJ	Kauffman & Minteer, Inc.	Jobstown	6/88	3/89	1068
NJ	Kin-Buc Landfill	Edison Township	10/81	9/83	193
NJ	King of Prussia	Winslow Township	12/82	9/83	255
NJ	Landfill & Development Co.	Mount Holly	9/83	9/84	808
NJ	Lang Property	Pemberton Township	12/82	9/83	225
NJ	Lipari Landfill	Pitman	10/81	9/83	1
NJ	Lodi Municipal Well	Lodi	10/84	8/90	829
NJ	Lone Pine Landfill	Freehold Township	10/81	9/83	15
NJ	M&T Delisa Landfill	Asbury Park	12/82	9/83	865
NJ	Mannheim Avenue Dump	Galloway Township	12/82	9/83	633
NJ	Maywood Chemical Co.	Maywood/Rochelle Pk	12/82	9/83	185
NJ	Metaltec/Aerosystems	Franklin Borough	12/82	9/83	219
NJ	Monitor Devices/Intercircuits Inc	Wall Township	4/85	6/86	443
NJ	Monroe Township Landfill	Monroe Township	12/82	9/83	396
NJ	Montclair/West Orange Radium Site	Montclair/W Orange	10/84	2/85	213
NJ	Montgomery Township Housing Development	Montgomery Township	12/82	9/83	567
NJ	Myers Property	Franklin Township	12/82	9/83	784
NJ	Nascolite Corp.	Millville	9/83	9/84	186
NJ	Naval Air Engineering Center	Lakehurst	9/85	7/87	Gr 4F
NJ	Naval Weapons Station Earle (Site A)	Colts Neck	10/84	8/90	Gr 21F
NJ	NL Industries	Pedricktown	12/82	9/83	146
NJ	Pepe Field	Boonton	12/82	9/83	785

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NJ	Picatinny Arsenal	Rockaway Township	7/89	2/90	Gr 8F
NJ	Pijak Farm	Plumstead Township	10/81	9/83	353
NJ	PJP Landfill	Jersey City	12/82	9/83	1063
NJ	Pohatcong Valley Ground Water Contamination	Warren County	6/88	3/89	1041
NJ	Pomona Oaks Residential Wells	Galloway Township	10/84	6/86	889
NJ	Price Landfill *	Pleasantville	10/81	9/83	6
NJ	Radiation Technology, Inc.	Rockaway Township	9/83	9/84	385
NJ	Reich Farms	Pleasant Plains	12/82	9/83	132
NJ	Renora, Inc.	Edison Township	12/82	9/83	478
NJ	Ringwood Mines/Landfill	Ringwood Borough	12/82	9/83	151
NJ	Rockaway Borough Well Field	Rockaway Township	12/82	9/83	398
NJ	Rockaway Township Wells	Rockaway	12/82	9/83	1040
NJ	Rocky Hill Municipal Well	Rocky Hill Borough	12/82	9/83	568
NJ	Roebling Steel Co.	Florence	12/82	9/83	461
NJ	Sayreville Landfill	Sayreville	12/82	9/83	616
NJ	Scientific Chemical Processing	Carlstadt	12/82	9/83	105
NJ	Sharkey Landfill	Parsippany/Troy Hls	12/82	9/83	227
NJ	Shieldalloy Corp.	Newfield Borough	9/83	9/84	47
NJ	South Brunswick Landfill	South Brunswick	12/82	9/83	134
NJ	South Jersey Clothing Co.	Minotola	6/88	10/89	409
NJ	Spence Farm	Plumstead Township	10/81	9/83	307
NJ	Swope Oil & Chemical Co.	Pennsauken	7/82	9/83	655
NJ	Syncon Resins	South Kearny	7/82	9/83	354
NJ	Tabernacle Drum Dump	Tabernacle Township	9/83	9/84	621
NJ	U.S. Radium Corp.	Orange	12/82	9/83	593
NJ	Universal Oil Products (Chemical Division)	East Rutherford	12/82	9/83	117
NJ	Upper Deerfield Township Sanitary Landfill	Upper Deerfield Twp	9/83	9/84	809
NJ	Ventron/Velsicol	Wood Ridge Borough	9/83	9/84	180
NJ	Vineland Chemical Co., Inc.	Vineland	9/83	9/84	41
NJ	Vineland State School	Vineland	12/82	9/83	465
NJ	W.R. Grace & Co., Inc./Wayne Interim Storage Site (USDOE) (once listed as W.R. Grace & Co., Inc. (Wayne Plant))	Wayne Township	9/83	9/84	Gr 6F
NJ	Waldick Aerospace Devices, Inc.	Wall Township	10/84	6/86	323
NJ	Williams Property	Swainton	12/82	9/83	477
NJ	Wilson Farm	Plumstead Township	9/83	9/84	772
NJ	Witco Chemical Corp. (Oakland Plant)	Oakland	6/88	10/89	964
NJ	Woodland Route 532 Dump	Woodland Township	9/83	9/84	716
NJ	Woodland Route 72 Dump	Woodland Township	9/83	9/84	934
	109 Final + 0 Proposed = 109				
NM	AT & SF (Clovis)	Clovis	10/81	9/83	819
NM	Cal West Metals (USSBA)	Lemitar	6/88	3/89	Gr 1F
NM	Cimarron Mining Corp.	Carrizozo	6/88	10/89	528
NM	Cleveland Mill	Silver City	6/88	3/89	481
NM	Homestake Mining Co.	Milan	10/81	9/83	753
NM	Lee Acres Landfill (USDOI)	Farmington	6/88	8/90	Gr 11F
NM	Pagano Salvage	Los Lunas	6/88	10/89	677
NM	Prewitt Abandoned Refinery	Prewitt	6/88	8/90	339
NM	South Valley *	Albuquerque	7/82	9/83	88
NM	United Nuclear Corp.	Church Rock	10/81	9/83	976
	10 Final + 0 Proposed = 10				
NV	Carson River Mercury Site	Lyon/Churchill Cnty	10/89	8/90	522
	1 Final + 0 Proposed = 1				
NY	Action Anodizing, Plating, & Polishing Corp.	Copiague	6/88	3/89	728

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NY	American Thermostat Co.	South Cairo	12/82	9/83	824
NY	Anchor Chemicals	Hicksville	10/84	6/86	611
NY	Applied Environmental Services	Glenwood Landing	10/84	6/86	454
NY	Batavia Landfill	Batavia	10/81	9/83	202
NY	BEC Trucking	Town of Vestal	10/84	6/86	961
NY	BioClinical Laboratories, Inc.	Bohemia	6/86	3/89	847
NY	Brewster Well Field	Putnam County	12/82	9/83	571
NY	Brookhaven National Laboratory (USDOE)	Upton	7/89	11/89	Gr 10F
NY	Byron Barrel & Drum	Byron	10/84	6/86	608
NY	C & J Disposal Leasing Co. Dump	Hamilton	6/88	3/89	711
NY	Carroll & Dubies Sewage Disposal	Port Jervis	6/88	2/90	796
NY	Circuitron Corp.	East Farmingdale	6/88	3/89	124
NY	Claremont Polychemical	Old Bethpage	10/84	6/86	915
NY	Clothier Disposal	Town of Granby	10/84	6/86	741
NY	Colesville Municipal Landfill	Town of Colesville	10/84	6/86	983
NY	Conklin Dumps	Conklin	6/86	3/89	773
NY	Cortese Landfill	Vil of Narrowsburg	10/84	6/86	873
NY	Endicott Village Well Field	Village of Endicott	10/84	6/86	664
NY	Facet Enterprises, Inc.	Elmira	10/81	9/83	271
NY	FMC Corp. (Dublin Road Landfill)	Town of Shelby	10/84	6/86	849
NY	Forest Glen Mobile Home Subdivision	Niagara Falls	8/89	11/89	1070
NY	Fulton Terminals	Fulton	12/82	9/83	636
NY	GE Moreau	South Glen Falls	12/82	9/83	53
NY	General Motors (Central Foundry Division)	Massena	9/83	9/84	468
NY	Genzale Plating Co.	Franklin Square	6/86	7/87	788
NY	Goldisc Recordings, Inc.	Holbrook	10/84	6/86	830
NY	Griffiss Air Force Base	Rome	10/84	7/87	Gr 16F
NY	Haviland Complex	Town of Hyde Park	10/84	6/86	811
NY	Hertel Landfill	Plattekill	10/84	6/86	810
NY	Hooker (102nd Street)	Niagara Falls	12/82	9/83	973
NY	Hooker (Hyde Park)	Niagara Falls	12/82	9/83	726
NY	Hooker (S Area)	Niagara Falls	12/82	9/83	177
NY	Hooker Chemical/Ruco Polymer Corp	Hicksville	10/84	6/86	450
NY	Hudson River PCBs	Hudson River	9/83	9/84	116
NY	Islip Municipal Sanitary Landfill	Islip	1/87	3/89	831
NY	Johnstown City Landfill	Town of Johnstown	10/84	6/86	233
NY	Jones Chemicals, Inc.	Caledonia	6/88	2/90	813
NY	Jones Sanitation	Hyde Park	1/87	7/87	154
NY	Katonah Municipal Well	Town of Bedford	10/84	6/86	698
NY	Kenmark Textile Corp.	Farmingdale	10/84	6/86	908
NY	Kentucky Avenue Well Field	Horseheads	7/82	9/83	508
NY	Liberty Industrial Finishing	Farmingdale	10/84	6/86	192
NY	Love Canal	Niagara Falls	10/81	9/83	158
NY	Ludlow Sand & Gravel	Clayville	12/82	9/83	618
NY	Malta Rocket Fuel Area	Malta	6/86	7/87	812
NY	Marathon Battery Corp.	Cold Springs	10/81	9/83	982
NY	Mattiace Petrochemical Co., Inc.	Glen Cove	6/88	3/89	903
NY	Mercury Refining, Inc.	Colonie	12/82	9/83	329
NY	Nepera Chemical Co., Inc.	Maybrook	10/84	6/86	502
NY	Niagara County Refuse	Wheatfield	10/81	9/83	503
NY	Niagara Mohawk Power Corp. (Saratoga Springs Plant)	Saratoga Springs	6/88	2/90	687
NY	North Sea Municipal Landfill	North Sea	10/84	6/86	797
NY	Old Bethpage Landfill	Oyster Bay	10/81	9/83	45
NY	Olean Well Field	Olean	10/81	9/83	331
NY	Pasley Solvents & Chemicals, Inc.	Hempstead	10/84	6/86	509
NY	Plattsburgh Air Force Base	Plattsburgh	7/89	11/89	Gr 20F
NY	Pollution Abatement Services *	Oswego	10/81	9/83	7
NY	Port Washington Landfill	Port Washington	12/82	9/83	313
NY	Preferred Plating Corp.	Farmingdale	10/84	6/86	713

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
NY	Radium Chemical Co., Inc.	New York City	8/89	11/89	1071
NY	Ramapo Landfill	Ramapo	12/82	9/83	326
NY	Richardson Hill Road Landfill/Pond	Sidney Center	6/86	7/87	719
NY	Robintech, Inc./National Pipe Co.	Town of Vestal	10/84	6/86	960
NY	Rosen Brothers Scrap Yard/Dump	Cortland	6/88	3/89	183
NY	Rowe Industries Ground Water Contamination	Noyack/Sag Harbor	6/86	7/87	890
NY	Sarney Farm	Amenia	10/84	6/86	836
NY	Sealand Restoration, Inc.	Lisbon	10/89	8/90	1022
NY	Seneca Army Depot	Romulus	7/89	8/90	Gr 14F
NY	Sidney Landfill	Sidney	6/88	3/89	1021
NY	Sinclair Refinery	Wellsville	7/82	9/83	128
NY	SHS Instruments, Inc.	Deer Park	10/84	6/86	605
NY	Solvent Savers	Lincklaen	12/82	9/83	722
NY	Suffern Village Well Field	Village of Suffern	10/84	6/86	663
NY	Syosset Landfill	Oyster Bay	12/82	9/83	123
NY	Tri-Cities Barrel Co., Inc.	Port Crane	5/89	10/89	341
NY	Tronic Plating Co., Inc.	Farmingdale	10/84	6/86	317
NY	Vestal Water Supply Well 1-1 (once listed with Well 4-2 as one site)	Vestal	12/82	9/83	572
NY	Vestal Water Supply Well 4-2 (once listed with Well 1-1 as one site)	Vestal	12/82	9/83	410
NY	Volney Municipal Landfill	Town of Volney	10/84	6/86	848
NY	Warwick Landfill	Warwick	9/85	3/89	1020
NY	Wide Beach Development	Brant	12/82	9/83	103
NY	York Oil Co.	Moira	7/82	9/83	246
	83 Final + 0 Proposed = 83				
OH	Allied Chemical & Ironton Coke	Ironton	12/82	9/83	262
OH	Alsco Anaconda	Gnadenhutten	10/84	6/86	366
OH	Arcanum Iron & Metal	Darke County	12/82	9/83	28
OH	Big D Campground	Kingsville	12/82	9/83	958
OH	Bowers Landfill	Circleville	12/82	9/83	195
OH	Buckeye Reclamation	St. Clairsville	12/82	9/83	712
OH	Chem-Dyne *	Hamilton	10/81	9/83	83
OH	Coshocton Landfill	Franklin Township	12/82	9/83	520
OH	E.H. Schilling Landfill	Hamilton Township	12/82	9/83	739
OH	Feed Materials Production Center (USDOE)	Fernald	7/89	11/89	Gr 3F
OH	Fields Brook	Ashtabula	10/81	9/83	320
OH	Fultz Landfill	Jackson Township	12/82	9/83	517
OH	Industrial Excess Landfill	Uniontown	10/84	6/86	187
OH	Laskin/Poplar Oil Co. (once listed as Poplar Oil Co.)	Jefferson Township	7/82	9/83	645
OH	Miami County Incinerator	Troy	9/83	9/84	70
OH	Mound Plant (USDOE)	Miamisburg	7/89	11/89	Gr 15F
OH	Nease Chemical	Salem	12/82	9/83	257
OH	New Lyme Landfill	New Lyme	12/82	9/83	933
OH	Old Mill (once listed as Rock Creek/Jack Webb)	Rock Creek	12/82	9/83	646
OH	Ormet Corp.	Hannibal	9/85	7/87	280
OH	Powell Road Landfill	Dayton	9/83	9/84	916
OH	Pristine, Inc.	Reading	12/82	9/83	706
OH	Reilly Tar & Chemical Corp. (Dover Plant)	Dover	6/88	8/90	922
OH	Republic Steel Corp. Quarry	Elyria	10/84	6/86	1001
OH	Sanitary Landfill Co. (Industrial Waste Disposal Co., Inc.)	Dayton	10/84	6/86	675
OH	Skinner Landfill	West Chester	12/82	9/83	986
OH	South Point Plant	South Point	9/83	9/84	281
OH	Summit National	Deerfield Township	10/81	9/83	157
OH	TRW, Inc. (Minerva Plant)	Minerva	6/86	3/89	560
OH	United Scrap Lead Co., Inc.	Troy	9/83	9/84	56
OH	Van Dale Junkyard	Marietta	10/84	6/86	840
OH	Wright-Patterson Air Force Base	Dayton	6/88	10/89	Gr 2F
OH	Zanesville Well Field	Zanesville	12/82	9/83	661
	33 Final + 0 Proposed = 33				

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
OK	Compass Industries (Avery Drive) (once listed as Compass Industries)	Tulsa	9/83	9/84	632
OK	Double Eagle Refinery Co.	Oklahoma City	6/88	3/89	954
OK	Fourth Street Abandoned Refinery	Oklahoma City	6/88	3/89	963
OK	Hardage/Criner (once listed as Criner/Hardage Waste Disposal)	Criner	10/81	9/83	189
OK	Kerr-McGee Corp. (Cushing Plant)	Cushing	10/89		Gr 19
OK	Mosley Road Sanitary Landfill	Oklahoma City	6/88	2/90	562
OK	Oklahoma Refining Co.	Cyril	6/88	2/90	294
OK	Sand Springs Petrochemical Complex	Sand Springs	10/84	6/86	1058
OK	Tar Creek (Ottawa County)	Ottawa County	10/81	9/83	58
OK	Tenth Street Dump/Junkyard	Oklahoma City	1/87	7/87	947
OK	Tinker Air Force Base (Soldier Creek/Building 3001)	Oklahoma City	4/85	7/87	Gr 9F
	10 Final + 1 Proposed = 11				
OR	Allied Plating, Inc.	Portland	1/87	2/90	519
OR	Gould, Inc.	Portland	12/82	9/83	871
OR	Joseph Forest Products	Joseph	6/88	3/89	855
OR	Martin-Marietta Aluminum Co.	The Dalles	10/84	6/86	351
OR	Teledyne Wah Chang	Albany	12/82	9/83	126
OR	Umatilla Army Depot (Lagoons)	Hermiston	10/84	7/87	Gr 19F
OR	Union Pacific Railroad Co. Tie Treating Plant	The Dalles	10/89	8/90	589
OR	United Chrome Products, Inc.	Corvallis	9/83	9/84	940
	8 Final + 0 Proposed = 8				
PA	A.I.W. Frank/Mid-County Mustang	Exton	6/88	10/89	394
PA	Aladdin Plating	Scott Township	1/87	7/87	666
PA	Ambler Asbestos Piles	Ambler	10/84	6/86	742
PA	AMP, Inc. (Glen Rock Facility)	Glen Rock	6/88	10/89	523
PA	Avco Lycoming (Williamsport Division)	Williamsport	1/87	2/90	412
PA	Bally Ground Water Contamination	Bally Borough	6/86	7/87	574
PA	Bell Landfill	Terry Township	6/88	10/89	721
PA	Bendix Flight Systems Division	Bridgewater Township	9/85	7/87	798
PA	Berkley Products Co. Dump	Denver	6/88	3/89	997
PA	Berks Landfill	Spring Township	6/88	10/89	290
PA	Berks Sand Pit	Longswamp Township	9/83	9/84	882
PA	Blosenski Landfill	West Caln Township	12/82	9/83	968
PA	Boarhead Farms	Bridgeton Township	6/88	3/89	499
PA	Brodhead Creek	Stroudsburg	12/82	9/83	938
PA	Brown's Battery Breaking	Shoemakersville	10/84	6/86	604
PA	Bruin Lagoon	Bruin Borough	10/81	9/83	3
PA	Butler Mine Tunnel	Pittston	6/86	7/87	208
PA	Butz Landfill	Stroudsburg	6/88	3/89	884
PA	C & D Recycling	Foster Township	9/85	7/87	346
PA	Centre County Kepone	State College Boro	12/82	9/83	318
PA	Commodore Semiconductor Group	Lower Providence Twp	1/87	10/89	397
PA	Craig Farm Drum	Parker	12/82	9/83	1064
PA	Croydon TCE	Croydon	9/85	6/86	917
PA	CryoChem, Inc.	Worman	6/86	10/89	1067
PA	Delta Quarries & Disposal, Inc./Stotler Landfill	Antis/Logan Twps	6/86	3/89	458
PA	Dorney Road Landfill	Upper Macungie Twp	9/83	9/84	289
PA	Douglassville Disposal	Douglassville	12/82	9/83	111
PA	Drake Chemical	Lock Haven	7/82	9/83	536
PA	Dublin TCE Site	Dublin Borough	10/89	8/90	1045
PA	East Mount Zion	Springettsbury Twp	9/83	9/84	462
PA	Eastern Diversified Metals	Hometown	6/86	10/89	943
PA	Elizabethtown Landfill	Elizabethtown	6/88	3/89	1033
PA	Fischer & Porter Co.	Warminster	12/82	9/83	1032
PA	Havertown PCP	Haverford	12/82	9/83	543

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
PA	Hebelka Auto Salvage Yard	Weisenberg Township	6/86	7/87	891
PA	Heleva Landfill	North Whitehall Twp	12/82	9/83	200
PA	Hellertown Manufacturing Co.	Hellertown	1/87	3/89	171
PA	Henderson Road	Upper Merion Twp	9/83	9/84	449
PA	Hranica Landfill	Buffalo Township	10/81	9/83	168
PA	Hunterstown Road	Straban Township	10/84	6/86	237
PA	Industrial Lane	Williams Township	9/83	9/84	390
PA	Jacks Creek/Sitkin Smelting & Refining, Inc.	Maitland	6/88	10/89	480
PA	Keystone Sanitation Landfill	Union Township	4/85	7/87	794
PA	Kimberton Site	Kimberton Borough	12/82	9/83	1017
PA	Lackawanna Refuse	Old Forge Borough	12/82	9/83	631
PA	Lansdowne Radiation Site	Lansdowne	4/85	9/85	1069
PA	Letterkenny Army Depot (Property Disposal Office Area)	Franklin County	4/85	3/89	Gr 13F
PA	Letterkenny Army Depot (Southeast Area)	Chambersburg	10/84	7/87	Gr 16F
PA	Lindane Dump	Harrison Township	10/81	9/83	178
PA	Lord-Shope Landfill	Girard Township	10/81	9/83	530
PA	Malvern TCE	Malvern	12/82	9/83	270
PA	McAdoo Associates *	McAdoo Borough	10/81	9/83	26
PA	Metal Banks	Philadelphia	12/82	9/83	834
PA	Middletown Air Field	Middletown	10/84	6/86	65[illegible]
PA	Mill Creek Dump	Erie	9/83	9/84	211
PA	Modern Sanitation Landfill	Lower Windsor Twp	10/84	6/86	775
PA	Moyers Landfill	Eagleville	12/82	9/83	600
PA	MW Manufacturing (once listed as Domino Salvage Yard)	Valley Township	10/84	6/86	275
PA	Naval Air Development Center (8 Waste Areas)	Warminster Township	6/86	10/89	Gr 2F
PA	North Penn - Area 1 (once listed as Gentle Cleaners, Inc./Granite Knitting Mills, Inc.)	Souderton	1/87	3/89	667
PA	North Penn - Area 12 (once listed as Transicoil, Inc.)	Worcester	1/87	2/90	1044
PA	North Penn - Area 2 (once listed as Ametek, Inc. (Hunter Spring Division))	Hatfield	1/87	10/89	67[illegible]
PA	North Penn - Area 5 (once listed as American Electronics Laboratories)	Montgomery Township	1/87	3/89	67[illegible]
PA	North Penn - Area 6 (once listed as J.W. Rex Co./Allied Paint Manufacturing Co., Inc./Keystone Hydraulics)	Lansdale	1/87	3/89	669
PA	North Penn - Area 7 (once listed as Spra-Fin, Inc.)	North Wales	1/87	3/89	668
PA	Novak Sanitary Landfill	South Whitehall Twp	1/87	10/89	404
PA	Occidental Chemical Corp./Firestone Tire & Rubber Co.	Lower Pottsgrove Twp	6/88	10/89	299
PA	Ohio River Park	Neville Island	10/89	8/90	413
PA	Old City of York Landfill	Seven Valleys	12/82	9/83	774
PA	Osborne Landfill	Grove City	7/82	9/83	120
PA	Palmerton Zinc Pile	Palmerton	12/82	9/83	368
PA	Paoli Rail Yard	Paoli	1/87	8/90	868
PA	Publicker Industries Inc.	Philadephia	5/89	10/89	44
PA	Raymark	Hatboro	6/88	10/89	135
PA	Recticon/Allied Steel Corp.	East Coventry Twp	6/88	10/89	878
PA	Resin Disposal	Jefferson Borough	12/82	9/83	596
PA	Revere Chemical Co.	Nockamixon Township	9/85	7/87	924
PA	River Road Landfill (Waste Management, Inc.)	Hermitage	1/87	10/89	363
PA	Route 940 Drum Dump (once listed as Pocono Summit)	Pocono Summit	9/85	7/87	342
PA	Saegertown Industrial Area	Saegertown	6/88	2/90	815
PA	Salford Quarry	Salford Township	1/87	8/90	78
PA	Shriver's Corner	Straban Township	10/84	6/86	288
PA	Stanley Kessler	King of Prussia	12/82	9/83	778
PA	Strasburg Landfill	Newlin Township	6/88	3/89	962
PA	Taylor Borough Dump	Taylor Borough	9/83	9/84	949
PA	Tobyhanna Army Depot	Tobyhanna	7/89	8/90	Gr 12F
PA	Tonolli Corp.	Nesquehoning	6/88	10/89	273
PA	Tysons Dump	Upper Merion Twp	9/83	9/84	25
PA	Walsh Landfill	Honeybrook Township	9/83	9/84	807
PA	Westinghouse Electric Corp. (Sharon Plant)	Sharon	6/88	8/90	453

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PA	Westinghouse Elevator Co. Plant	Gettysburg	10/84	6/86	639
PA	Westline Site	Westline	12/82	9/83	910
PA	Whitmoyer Laboratories	Jackson Township	10/84	6/86	283
PA	William Dick Lagoons	West Caln Township	1/87	7/87	629
PA	York County Solid Waste and Refuse Authority Landfill	Hopewell Township	4/85	7/87	337
	95 Final + 0 Proposed = 95				
PR	Barceloneta Landfill	Florida Afuera	12/82	9/83	455
PR	Fibers Public Supply Wells	Jobos	9/83	9/84	702
PR	Frontera Creek	Rio Abajo	12/82	9/83	364
PR	GE Wiring Devices	Juana Diaz	12/82	9/83	930
PR	Juncos Landfill	Juncos	12/82	9/83	856
PR	Naval Security Group Activity	Sabana Seca	6/88	10/89	Gr 15F
PR	RCA Del Caribe	Barceloneta	12/82	9/83	935
PR	Upjohn Facility	Barceloneta	9/83	9/84	445
PR	Vega Alta Public Supply Wells	Vega Alta	9/83	9/84	411
	9 Final + 0 Proposed = 9				
RI	Central Landfill	Johnston	10/84	6/86	269
RI	Davis (GSR) Landfill	Glocester	4/85	6/86	529
RI	Davis Liquid Waste	Smithfield	10/81	9/83	253
RI	Davisville Naval Construction Battalion Center	North Kingstown	7/89	11/89	Gr 15F
RI	Landfill & Resource Recovery, Inc. (L&RR)	North Smithfield	12/82	9/83	206
RI	Newport Naval Education & Training Center	Newport	7/89	11/89	Gr 18F
RI	Peterson/Puritan, Inc.	Lincoln/Cumberland	12/82	9/83	491
RI	Picillo Farm *	Coventry	10/81	9/83	80
RI	Rose Hill Regional Landfill	South Kingstown	6/88	10/89	555
RI	Stamina Mills, Inc. (once listed as Forestdale-Stamina Mills, Inc.)	North Smithfield	12/82	9/83	764
RI	Western Sand & Gravel	Burrillville	10/81	9/83	182
	11 Final + 0 Proposed = 11				
SC	Beaunit Corp. (Circular Knit & Dyeing Plant)	Fountain Inn	6/88	2/90	860
SC	Carolawn, Inc.	Fort Lawn	12/82	9/83	880
SC	Elmore Waste Disposal	Greer	6/88	3/89	919
SC	Geiger (C & M Oil)	Rantoules	9/83	9/84	867
SC	Golden Strip Septic Tank Service	Simpsonville	1/87	7/87	486
SC	Helena Chemical Co. Landfill	Fairfax	6/88	2/90	779
SC	Independent Nail Co.	Beaufort	9/83	9/84	65
SC	Kalama Specialty Chemicals	Beaufort	9/83	9/84	67
SC	Koppers Co., Inc. (Florence Plant)	Florence	9/83	9/84	184
SC	Leonard Chemical Co., Inc.	Rock Hill	9/83	9/84	261
SC	Lexington County Landfill Area	Cayce	6/88	10/89	580
SC	Medley Farm Drum Dump	Gaffney	6/86	3/89	918
SC	Palmetto Recycling, Inc.	Columbia	1/87	7/87	1015
SC	Palmetto Wood Preserving	Dixiana	9/83	9/84	539
SC	Para-Chem Southern, Inc.	Simpsonville	10/89	8/90	845
SC	Rochester Property	Travelers Rest	6/86	10/89	626
SC	Rock Hill Chemical Co.	Rock Hill	6/88	2/90	487
SC	Sangamo Weston, Inc./Twelve-Mile Creek/Lake Hartwell PCB Contamination	Pickens	1/87	2/90	599
SC	Savannah River Site (USDOE)	Aiken	7/89	11/89	Gr 5F
SC	SCRDI Bluff Road *	Columbia	10/81	9/83	84
SC	SCRDI Dixiana	Cayce	7/82	9/83	471
SC	Townsend Saw Chain Co.	Pontiac	6/88	2/90	647
SC	Wamchem, Inc.	Burton	9/83	9/84	248
	23 Final + 0 Proposed = 23				

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St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
SD	Ellsworth Air Force Base	Rapid City	10/89	8/90	Gr 17F
SD	Whitewood Creek *	Whitewood	10/81	9/83	21
SD	Williams Pipe Line Co. Disposal Pit	Sioux Falls	10/89	8/90	428
	3 Final + 0 Proposed = 3				
TN	American Creosote Works, Inc. (Jackson Plant) (once listed as American Creosote Works)	Jackson	10/84	6/86	708
TN	Annicola Dump	Chattanooga	12/82	9/83	464
TN	Arlington Blending & Packaging	Arlington	1/87	7/87	525
TN	Carrier Air Conditioning Co.	Collierville	6/88	2/90	221
TN	Gallaway Pits	Gallaway	12/82	9/83	957
TN	Lewisburg Dump	Lewisburg	12/82	9/83	827
TN	Mallory Capacitor Co.	Waynesboro	1/87	10/89	1018
TN	Milan Army Ammunition Plant	Milan	10/84	7/87	Gr 2F
TN	Murray-Ohio Dump	Lawrenceburg	12/82	9/83	277
TN	Murray-Ohio Manufacturing Co. (Horseshoe Bend Dump)	Lawrenceburg	6/88	8/90	950
TN	North Hollywood Dump *	Memphis	10/81	9/83	95
TN	Oak Ridge Reservation (USDOE)	Oak Ridge	7/89	11/89	Gr 4F
TN	Velsicol Chemical Corp. (Hardeman County)	Toone	12/82	9/83	245
TN	Wrigley Charcoal Plant	Wrigley	6/88	3/89	644
	14 Final + 0 Proposed = 14				
TX	Air Force Plant #4 (General Dynamics)	Fort Worth	10/84	8/90	Gr 10F
TX	Bailey Waste Disposal	Bridge City	10/84	6/86	140
TX	Bio-Ecology Systems, Inc.	Grand Prairie	10/81	9/83	714
TX	Brio Refining, Inc.	Friendswood	10/84	3/89	196
TX	Crystal Chemical Co.	Houston	7/82	9/83	34
TX	Crystal City Airport	Crystal City	10/84	6/86	866
TX	Dixie Oil Processors, Inc.	Friendswood	6/88	10/89	754
TX	French, Ltd.	Crosby	10/81	9/83	22
TX	Geneva Industries/Fuhrmann Energy	Houston	9/83	9/84	37
TX	Highlands Acid Pit	Highlands	7/82	9/83	595
TX	Koppers Co., Inc. (Texarkana Plant)	Texarkana	10/84	6/86	926
TX	Lone Star Army Ammunition Plant	Texarkana	10/84	7/87	Gr 19F
TX	Longhorn Army Ammunition Plant	Karnack	7/89	8/90	Gr 11F
TX	Motco, Inc. *	La Marque	10/81	9/83	27
TX	North Cavalcade Street	Houston	10/84	6/86	615
TX	Odessa Chromium #1	Odessa	10/84	6/86	424
TX	Odessa Chromium #2 (Andrews Highway)	Odessa	10/84	6/86	425
TX	Pesses Chemical Co.	Fort Worth	10/84	6/86	1059
TX	Petro-Chemical Systems, Inc. (Turtle Bayou)	Liberty County	10/84	6/86	999
TX	Sheridan Disposal Services	Hempstead	6/86	3/89	991
TX	Sikes Disposal Pits	Crosby	10/81	9/83	30
TX	Sol Lynn/Industrial Transformers	Houston	10/84	3/89	510
TX	South Cavalcade Street	Houston	10/84	6/86	533
TX	Stewco, Inc.	Waskom	10/84	6/86	226
TX	Tex-Tin Corp.	Texas City	6/88	8/90	542
TX	Texarkana Wood Preserving Co.	Texarkana	4/85	6/86	488
TX	Triangle Chemical Co.	Bridge City	12/82	9/83	1062
TX	United Creosoting Co.	Conroe	9/83	9/84	607
	28 Final + 0 Proposed = 28				
UT	Hill Air Force Base	Ogden	10/84	7/87	Gr 5F
UT	Midvale Slag	Midvale	6/86		Gr 15
UT	Monticello Mill Tailings (USDOE)	Monticello	7/89	11/89	Gr 13F
UT	Monticello Radioactively Contaminated Properties	Monticello	10/84	6/86	715

National Priorities List,
Final and Proposed Sites (by State)
August 1990

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
UT	Ogden Defense Depot	Ogden	10/84	7/87	Gr 7F
UT	Portland Cement (Kiln Dust 2 & 3)	Salt Lake City	10/84	6/86	121
UT	Richardson Flat Tailings	Summit County	6/88		Gr 11
UT	Rose Park Sludge Pit *	Salt Lake City	10/81	9/83	99
UT	Sharon Steel Corp. (Midvale Tailings) (once listed as Sharon Steel Corp. (Midvale Smelter))	Midvale	10/84	8/90	447
UT	Tooele Army Depot (North Area)	Tooele	10/84	8/90	Gr 3F
UT	Utah Power & Light/American Barrel Co.	Salt Lake City	5/89	10/89	585
UT	Wasatch Chemical Co. (Lot 6)	Salt Lake City	1/87		Gr 1
	9 Final + 3 Proposed = 12				
VA	Abex Corp.	Portsmouth	6/88	8/90	635
VA	Arrowhead Associates/Scovill Corp.	Montross	6/88	2/90	613
VA	Atlantic Wood Industries, Inc.	Portsmouth	6/86	2/90	614
VA	Avtex Fibers, Inc.	Front Royal	10/84	6/86	694
VA	Buckingham County Landfill (once listed as Love's Container Service Landfill)	Buckingham	4/85	10/89	470
VA	C & R Battery Co., Inc.	Chesterfield County	1/87	7/87	276
VA	Chisman Creek	York County	10/81	9/83	256
VA	Culpeper Wood Preservers, Inc.	Culpeper	10/84	10/89	300
VA	Defense General Supply Center	Chesterfield County	10/84	7/87	Gr 16F
VA	Dixie Caverns County Landfill	Salem	1/87	10/89	704
VA	First Piedmont Corp. Rock Quarry (Route 719) (once listed as First Piedmont Corp. Rock Quarry)	Pittsylvania County	4/85	7/87	987
VA	Greenwood Chemical Co.	Newtown	1/87	7/87	145
VA	H & H Inc., Burn Pit	Farrington	1/87	3/89	803
VA	L.A. Clarke & Son	Spotsylvania County	10/84	6/86	745
VA	Rentokil, Inc. (Virginia Wood Preserving Division)	Richmond	1/87	3/89	977
VA	Rhinehart Tire Fire Dump	Frederick County	10/84	6/86	969
VA	Saltville Waste Disposal Ponds	Saltville	12/82	9/83	1013
VA	Saunders Supply Co.	Chuckatuck	1/87	10/89	619
VA	Suffolk City Landfill	Suffolk	6/88	2/90	651
VA	U.S. Titanium	Piney River	12/82	9/83	723
	20 Final + 0 Proposed = 20				
VT	Bennington Municipal Sanitary Landfill	Bennington	6/88	3/89	217
VT	BFI Sanitary Landfill(Rockingham)	Rockingham	6/88	10/89	444
VT	Burgess Brothers Landfill	Woodford	6/88	3/89	150
VT	Darling Hill Dump	Lyndon	6/88	10/89	345
VT	Old Springfield Landfill	Springfield	12/82	9/83	720
VT	Parker Sanitary Landfill	Lyndon	6/88	2/90	155
VT	Pine Street Canal *	Burlington	10/81	9/83	89
VT	Tansitor Electronics, Inc.	Bennington	6/88	10/89	652
	8 Final + 0 Proposed = 8				
WA	ALCOA (Vancouver Smelter)	Vancouver	6/88	2/90	71
WA	American Crossarm & Conduit Co.	Chehalis	6/88	10/89	975
WA	American Lake Gardens	Tacoma	9/83	9/84	1055
WA	Bangor Naval Submarine Base	Silverdale	7/89	8/90	Gr 3F
WA	Bangor Ordnance Disposal	Bremerton	10/84	7/87	Gr 20F
WA	Bonneville Power Administration Ross Complex (USDOE)	Vancouver	7/89	11/89	Gr 3F
WA	Centralia Municipal Landfill	Centralia	6/88	8/90	640
WA	Colbert Landfill	Colbert	12/82	9/83	451
WA	Commencement Bay, Near Shore/Tide Flats	Pierce County	10/81	9/83	437
WA	Commencement Bay, South Tacoma Channel	Tacoma	10/81	9/83	119
WA	Fairchild Air Force Base (4 Waste Areas)	Spokane County	6/88	3/89	Gr 18F

National Priorities List,
Final and Proposed Sites (by State)
August 1990

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
WA	FMC Corp. (Yakima Pit)	Yakima	12/82	9/83	531
WA	Fort Lewis (Landfill No. 5)	Tacoma	10/84	7/87	Gr 16F
WA	Fort Lewis Logistics Center	Tillicum	7/89	11/89	Gr 14F
WA	Frontier Hard Chrome, Inc.	Vancouver	12/82	9/83	62
WA	General Electric Co. (Spokane Shop)	Spokane	6/88	10/89	101
WA	Greenacres Landfill	Spokane County	9/83	9/84	1056
WA	Hanford 100-Area (USDOE)	Benton County	6/88	10/89	Gr 6F
WA	Hanford 1100-Area (USDOE)	Benton County	6/88	10/89	Gr 13F
WA	Hanford 200-Area (USDOE)	Benton County	6/88	10/89	Gr 1F
WA	Hanford 300-Area (USDOE)	Benton County	6/88	10/89	Gr 1F
WA	Harbor Island (Lead)	Seattle	12/82	9/83	737
WA	Hidden Valley Landfill (Thun Field)	Pierce County	6/86	3/89	590
WA	Kaiser Aluminum Mead Works	Mead	12/82	9/83	561
WA	Lakewood Site	Lakewood	12/82	9/83	389
WA	McChord Air Force Base (Wash Rack/Treatment Area)	Tacoma	10/84	7/87	Gr 9F
WA	Mica Landfill	Mica	10/84	6/86	733
WA	Midway Landfill	Kent	10/84	6/86	127
WA	Naval Air Station, Whidbey Island (Ault Field)	Whidbey Island	9/85	2/90	Gr 5F
WA	Naval Air Station, Whidbey Island (Seaplane Base)	Whidbey Island	9/85	2/90	Gr 11F
WA	Naval Undersea Warfare Engineering Station (4 Waste Areas)	Keyport	6/86	10/89	Gr 17F
WA	North Market Street (once listed as Tosco Corp. (Spokane Terminal))	Spokane	6/88	8/90	854
WA	Northside Landfill	Spokane	10/84	6/86	1057
WA	Northwest Transformer	Everson	10/84	6/86	787
WA	Northwest Transformer (South Harkness Street)	Everson	6/88	2/90	970
WA	Old Inland Pit	Spokane	6/86	2/90	1023
WA	Pacific Car & Foundry Co.	Renton	6/88	2/90	401
WA	Pasco Sanitary Landfill	Pasco	6/88	2/90	334
WA	Pesticide Lab (Yakima)	Yakima	12/82	9/83	1[illegible]
WA	Queen City Farms	Maple Valley	9/83	9/84	[illegible]
WA	Seattle Municipal Landfill (Kent Highlands)	Kent	6/88	8/90	159
WA	Silver Mountain Mine	Loomis	10/84	6/86	998
WA	Western Processing Co., Inc.	Kent	7/82	9/83	49
WA	Wyckoff Co./Eagle Harbor	Bainbridge Island	9/85	7/87	859
WA	Yakima Plating Co.	Yakima	6/88	3/89	591
	45 Final + 0 Proposed = 45				
WI	Algoma Municipal Landfill	Algoma	6/86	7/87	495
WI	Better Brite Plating Co. Chrome & Zinc Shops	DePere	10/89	8/90	223
WI	City Disposal Corp. Landfill	Dunn	9/83	9/84	620
WI	Delavan Municipal Well #4	Delavan	9/83	9/84	1046
WI	Eau Claire Municipal Well Field	Eau Claire	9/83	9/84	676
WI	Fadrowski Drum Disposal	Franklin	10/84	6/86	939
WI	Hagen Farm	Stoughton	9/85	7/87	879
WI	Hechimovich Sanitary Landfill	Williamstown	6/88	3/89	239
WI	Hunts Disposal Landfill	Caledonia	6/86	7/87	945
WI	Janesville Ash Beds	Janesville	9/83	9/84	66
WI	Janesville Old Landfill	Janesville	9/83	9/84	63
WI	Kohler Co. Landfill	Kohler	9/83	9/84	370
WI	Lauer I Sanitary Landfill	Menomonee Falls	9/83	9/84	381
WI	Lemberger Landfill, Inc. (once listed as Lemberger Fly Ash Landfill)	Whitelaw	9/85	6/86	765
WI	Lemberger Transport & Recycling	Franklin Township	9/83	9/84	738
WI	Madison Metropolitan Sewerage District Lagoons	Blooming Grove	6/88	2/90	853
WI	Master Disposal Service Landfill	Brookfield	9/83	9/84	250
WI	Mid-State Disposal, Inc. Landfill	Cleveland Township	9/83	9/84	707
WI	Moss-American(Kerr-McGee Oil Co.)	Milwaukee	9/83	9/84	869
WI	Muskego Sanitary Landfill	Muskego	9/83	9/84	174
WI	N.W. Mauthe Co., Inc. *	Appleton	6/88	3/89	94
WI	National Presto Industries, Inc.	Eau Claire	10/84	6/86	395

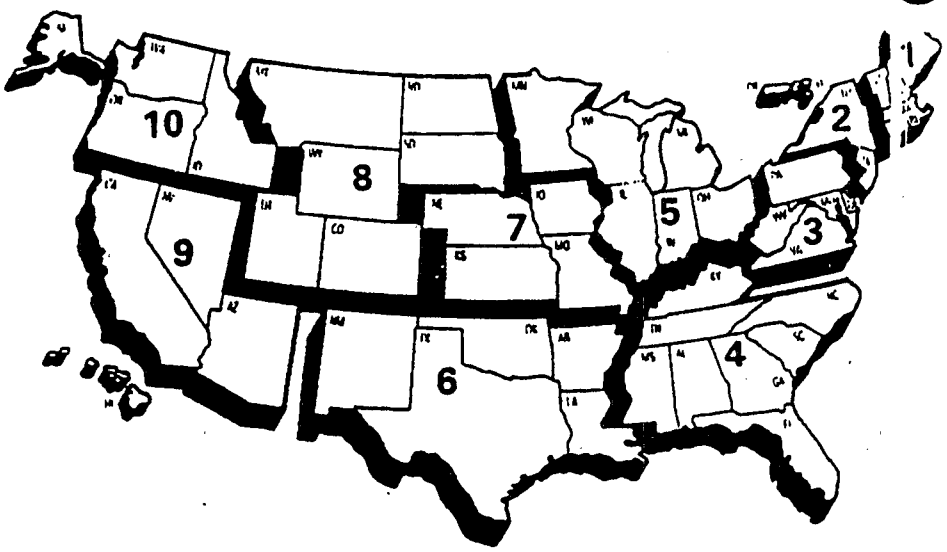
National Priorities List,
Final and Proposed Sites (by State)
August 1990

St	Site Name	City/County	Date Proposed or Announced[1]	Date Final	Rank/ Group[2]
WI	Northern Engraving Co.	Sparta	9/83	9/84	532
WI	Oconomowoc Electroplating Co. Inc	Ashippin	9/83	9/84	905
WI	Omega Hills North Landfill	Germantown	9/83	9/84	50
WI	Onalaska Municipal Landfill	Onalaska	9/83	9/84	393
WI	Sauk County Landfill	Excelsior	6/88	10/89	752
WI	Schmalz Dump	Harrison	9/83	9/84	220
WI	Scrap Processing Co., Inc.	Medford	9/83	9/84	746
WI	Sheboygan Harbor & River	Sheboygan	9/85	6/86	790
WI	Spickler Landfill	Spencer	1/87	7/87	338
WI	Stoughton City Landfill	Stoughton	10/84	6/86	649
WI	Tomah Armory	Tomah	1/87	7/87	965
WI	Tomah Fairgrounds	Tomah	1/87	7/87	850
WI	Tomah Municipal Sanitary Landfill	Tomah	6/86	3/89	304
WI	Waste Management of Wisconsin, Inc. (Brookfield Sanitary Landfill)	Brookfield	6/88	8/90	1047
WI	Waste Research & Reclamation Co.	Eau Claire	9/83	9/84	870
WI	Wausau Ground Water Contamination	Wausau	4/85	6/86	1038
WI	Wheeler Pit	La Prairie Township	9/83	9/84	75
	39 Final + 0 Proposed = 39				
WV	Fike Chemical, Inc.	Nitro	12/82	9/83	642
WV	Follansbee Site	Follansbee	12/82	9/83	793
WV	Leetown Pesticide	Leetown	12/82	9/83	625
WV	Ordnance Works Disposal Areas	Morgantown	10/84	6/86	659
WV	West Virginia Ordnance *	Point Pleasant	10/81	9/83	90
	5 Final + 0 Proposed = 5				
	Baxter/Union Pacific Tie Treating	Laramie	12/82	9/83	610
WY	F.E. Warren Air Force Base	Cheyenne	7/89	2/90	Gr 11F
WY	Mystery Bridge Rd/U.S. Highway 20	Evansville	6/88	8/90	874
	3 Final + 0 Proposed = 3				
	1187 Final + 20 Proposed = 1207				

United States Environmental Protection Agency

For further information, call the Superfund Hotline, toll-free at 1-800-424-9346 or 703-920-9810 in Washington, DC, metropolitan area, or the U. S. EPA Superfund Offices listed below

For publications, contact
Public Information Center, PM-211B
401 M Street SW.
Washington DC 20460
CML:(202) 382-2080
FTS: 382-2080



Office of Emergency and Remedial Response, OS-230
401 M Street, SW
Washington, DC 20460
CML: (202) 475-8103
FTS: 475-8103

Region 1
Superfund Branch, HSL-CAN 2
John F. Kennedy Building
Boston, MA 02203
CML: (617) 573-9610
FTS: 833-1610

Region 2
Emergency & Remedial Response Division
26 Federal Plaza
New York, NY 10278
CML: (212) 264-8672
FTS: 264-8672

Region 3
Site Assessment Section, 3HW13
841 Chestnut Building
Philadelphia, PA 19107
CML: (215) 597-3437
FTS: 597-3437

Region 4
Waste Management Division
345 Courtland Street, NE
Atlanta, GA 30365
CML: (404) 347-3454
FTS: 257-3454

Region 5
Remedial Response Branch, 5HS-11
230 South Dearborn Street, 12th Floor
Chicago, IL 60604
CML: (312) 886-5877
FTS: 886-5877

Region 6
Superfund Management Branch Division, 6H-M
1445 Ross Avenue
Dallas, TX 75202-2733
CML: (214) 655-6740
FTS: 255-6740

Region 7
Superfund Branch
726 Minnesota Avenue
Kansas City, KS 66101
CML: (913) 551-7052
FTS: 276-7052

Region 8
Superfund Remedial Branch, 8HV M-SR
999 18th Street, Suite 500
Denver, CO 80202-2405
CML: (303) 294-7630
FTS: 330-7630

Region 9
Waste Management Division, H-
75 Hawthorne Street
San Francisco, CA 94105
CML: (415) 744-1730
FTS: 484-1730

Region 10
Superfund Branch, HW-113
1200 6th Avenue
Seattle, WA 98101
CML: (206) 442-1987
FTS: 399-1987

NATIONAL PRIORITIES LIST, SUPPLEMENTARY LISTS AND SUPPORTING MATERIALS

United States
Environmental Protection
Agency

Office of Emergency &
Remedial Response
Washington, DC 20460

HW-10.15S
February 1991

NATIONAL PRIORITIES LIST, SUPPLEMENTARY LISTS AND SUPPORTING MATERIALS, FEBRUARY 1991

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1,189 Final NPL Sites

LISTING CRITERIA/POLICIES

Sites are placed on the National Priorities List (NPL) primarily on the basis of their scores on the Hazard Ranking System (HRS), a numerically based system designed to evaluate the relative risks posed by a site to human health or the environment. An HRS score of 28.50 was selected as the cut-off point for the first proposed NPL to identify at least 400 sites, the minimum specified by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), enacted on December 11, 1980. On December 23, 1988 (53 FR 51962), EPA proposed revisions to the HRS in response to CERCLA Section 105(c) (i), added by the Superfund Amendments and Reauthorization Act (SARA), enacted on October 17, 1986. EPA anticipates making final decisions on all sites proposed under the current HRS before the effective date of the revised HRS.

CERCLA also allows States or Territories to designate one top-priority site regardless of score and requires those sites to be included in the first 100 sites on the NPL. Of the 57 States and Territories, 38 have designated top-priority sites. Six of these sites have been deleted from the NPL. Of the remaining top-priority sites, 10 are included in the first 100 on the basis of their scores. The remaining 22 have scores that would not place them in the top 100. They are included at the bottom of the first 100 sites. Of the 22, 7 have scores below 28.50.

Under Section 300.425(c)(3) of the National Contingency Plan (NCP), the Federal regulation by which CERCLA is implemented (55 FR 8845, March 8, 1990), a site can be included in the NPL if it meets these three requirements:

- The Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Centers for Disease Control has issued a health advisory that recommends removing people from the site.

- EPA determines the site poses a significant threat to public health.

- EPA anticipates it will be more cost-effective to use its remedial authority (available only at NPL sites) than to use its emergency removal authority to respond to the site.

Three sites have been placed on the NPL on the basis of ATSDR advisories -- one on September 16, 1985 (FR 37630) and two on November 21, 1989 (54 FR 48184). All three have HRS scores below 28.50 and are at the end of the NPL.

CERCLA restricts EPA's authority to respond to certain sites by expressly excluding some substances -- petroleum, for example -- from the definition of "release." In addition, as a matter of policy, EPA may choose not to use CERCLA because the Federal government can undertake or enforce cleanup under other laws, thus preserving CERCLA funds for sites where no other law is available. However, if EPA later determines that sites not listed as a matter of policy are not being properly responded to, it may consider placing them on the NPL.

DELETION OF SITES

EPA may delete a final NPL site if it determines that no further response is required to protect human health or the environment. Under Section 300.425(e) of the NCP (55 FR 8845, March 8, 1990), a site may be deleted where no further response is appropriate if EPA determines that one of the following criteria has been met:

- o EPA, in consultation with the State, has determined that responsible or other parties have implemented all appropriate response action required.
- o EPA, in consultation with the State, has determined that all appropriate Superfund-financed response under CERCLA has been implemented, and that no further response by responsible parties is appropriate.
- o Based on a remedial investigation, EPA, in consultation with the State, has determined that the release poses no significant threat to public health or the environment, and, therefore, remedial measures are not appropriate.

Since 1986, EPA has followed these procedures for deleting a site from the NPL:

- o The Regional Administrator approves a "close-out report" which establishes that all appropriate response action has been taken or that no action is required.
- o The Regional Office obtains State concurrence.
- o EPA publishes a notice of intent to delete in the Federal Register and in a major newspaper near the community involved. A public comment period is provided.
- o EPA responds to the comments and, if the site continues to warrant deletion, publishes a deletion notice in the Federal Register.

Sites that have been deleted from the NPL remain eligible for further Superfund-financed remedial action in the unlikely event that conditions in the future warrant such action.

As of August 1990, 29 sites have been deleted from the NPL (see page 44). The first five were deleted as follows:

- o December 30, 1982 (47 FR 58476): 5 sites previously announced were not included in first proposed NPL, 1 of which (Butler Mine Tunnel, Pittston, PA) was later reproposed and added to the NPL.

- o September 8, 1983 (48 FR 40658): 1 site in first proposed NPL was not included in the original NPL.

The remaining 24 sites were deleted in subsequent final rules.

In addition, EPA has published notices of intent to delete a number of sites (see page 46).

REMOVAL OF PROPOSED SITES

As of August 1990, 65 sites (see page 47) have been proposed for the NPL but subsequently removed from further consideration, most of them because their final HRS scores were below the 28.50 cut-off or the sites are subject to Subtitle C of the Resource Conservation and Recovery Act (RCRA). The first seven were removed as follows:

- o December 30, 1982 (47 FR 58476): 2

- o September 8, 1983 (48 FR 40658): 6, 1 of which (Van Dale Junkyard, Marietta, OH) was later reproposed and added to the NPL

DESCRIPTIONS OF LISTS

Sites on the NPL are ordered according to their scores on the HRS, except for top-priority sites and sites involving an ATSDR advisory. The Federal facility sites are in a separate section. The HRS is a screening tool designed to take into account a standard set of factors related to risks from potential or actual migration of substances through ground water, surface water, and air. Ordering by HRS scores serves primarily informational purposes. EPA and the States use the scores along with other information to determine priorities for conducting detailed investigations to determine if further response actions are needed.

The sites on the NPL are in groups of 50 (except for the last group). The range within most of the groups is 1 to 4 points. EPA considers sites within a group to represent approximately the same potential threat to public health, welfare, or the environment. For convenience, the sites are numbered. In the Federal section of the NPL, the sites are ordered by groups corresponding to the groups of 50 on the NPL. That is, a Federal facility site designated as Gr 12 would have an HRS score within the range of scores covered by the 12th group of 50 sites on the final NPL. Proposed sites are assigned to groups in the same way.

Each entry on the NPL contains the name of the site, the State and city or county in which it is located, and the corresponding EPA Region. In cases where a site name has been condensed for lack of space, complete names are given in the list (see page 62) of all proposed and final NPL sites arranged alphabetically by State. Each entry on the State list includes the date the site was proposed or announced and, when appropriate, the date the site was placed on the final NPL. NPL ranking is given for final sites and group number for proposed sites and Federal facility sites. In cases where a site name has been condensed in other lists for lack of space, complete names are provided. Also noted are instances where a site name has been changed subsequent to proposal. The list of all Federal Facility sites (see page 58) contains similar information.

PREVIOUS NPL PROPOSALS/PROMULGATIONS

EPA promulgated the first NPL of 406 hazardous waste sites on September 8, 1983 (48 FR 40658). It was the result of EPA's consideration of comments received on the 419 sites proposed in December 1982 and March 1983. Before formal rulemaking was instituted, EPA had announced two preliminary lists -- the Interim Priorities List (IPL) in October 1981 and the Expanded Eligibility List (EEL) in July 1982. CERCLA requires the NPL to be updated annually. Except for the IPL and EEL, all NPL actions have been published in the Federal Register (see page 16).

Proposed Update #10 (October 1989)

NPL Update #10, proposed on October 26, 1989 (54 FR 43778), consisted of 25 sites, including 2 Federal facility sites. Nevada proposed its first site.

Subsequent actions:

o March 14, 1990 (55 FR 9688)

- 1 site was added to the final NPL
- 24, including 2 Federal facility sites, remained proposed

o August 1990

- 22 sites, including 2 Federal facility sites, were added to the final NPL
- 1 was removed from further consideration because its final HRS score was below 28.50, the cut-off
- 1 remained proposed

Special Proposed ATSDR Update (August 1989)

A special update, proposed on August 16, 1989 (54 FR 33846), consisted of two sites involving health advisories issued by ATSDR.

Subsequent actions:

o November 21, 1989 (54 FR 48184)

- 2 sites were added to the final NPL
- 0 remained proposed

Proposed Update #9 (July 1989)

NPL Update #9, proposed on July 14, 1989 (54 FR 29820), consisted of 52 Federal facility sites.

Subsequent actions:

o November 21, 1989 (54 FR 48184)

- 27 sites were added to the final NPL
- 25 remained proposed

o February 21, 1990 (55 FR 6154)

- 8 sites were added to the final NPL
- 17 remained proposed

o August 1990

- 17 sites were added to the final NPL
- 0 remained proposed

Proposed Update #8 (May 1989)

NPL Update #8, proposed on May 5, 1989 (54 FR 19526), consisted of 10 sites.

Subsequent actions:

o October 4, 1989 (54 FR 41000/41015)

- 4 sites were added to the final NPL
- 1 was removed from further consideration because it is subject to Subtitle C of the Resource Conservation and Recovery Act (RCRA)
- 5 remained proposed

o August 1990

- 5 sites were added to the final NPL
- 0 sites remained proposed

RCRA FR Notices (June-August 1988)

In mid-1988, EPA published two Federal Register notices involving the listing of sites subject to RCRA Subtitle C, which regulates facilities involved in hazardous waste activities. On June 24, 1988 (53 FR 23978), EPA:

- o Reproposed 13 sites previously proposed for the NPL during 1983-85 in the first 4 NPL updates
- o Proposed to drop 30 previously proposed RCRA sites from the NPL
- o Expanded and clarified the categories of RCRA sites that should be placed on the NPL

On August 9, 1988 (53 FR 30002/30005), EPA published two NPL/RCRA policy notices that:

- o Expanded and clarified how EPA determines that the owner/operator of a RCRA facility is unwilling to perform corrective action, and therefore the facility should be placed on the NPL
- o Requested comments on additional criteria for EPA to determine when an owner/operator of a RCRA facility is unable to pay for corrective action, and therefore the facility should be placed on the NPL

Subsequent actions:

- o October 4, 1989 (54 FR 41000)

- 13 reproposed sites were added to the final NPL
- 26 of 30 reproposed sites were removed from further consideration because they are subject to RCRA Subtitle C
- 4 remained proposed

Proposed Update #7 (June 1988)

NPL Update #7, proposed on June 24, 1988 (53 FR 23988), consisted of 229 sites, including 14 Federal facility sites. Alaska proposed its first site.

Subsequent actions:

- o March 13, 1989 (54 FR 10512) (Federal facility sites only) and March 31, 1989 (54 FR 13296)

- 64 sites, including 2 Federal facility sites, received no comments and were added to the final NPL
- 165, including 12 Federal facility sites, remained proposed

o October 4, 1989 (54 FR 41000/41015)

- 55 sites, including 7 Federal facility sites, were added to the final NPL
- 2 were removed from further consideration because their final HRS scores were below 28.50, the cut-off
- 108, including 5 Federal facility sites, remained proposed

o February 21,1990 (55 FR 6154)

- 52 sites, including 3 Federal facility sites, were added to the final NPL
- 56, including 2 Federal facility sites, remained proposed

o August 1990

- 44 sites, including 1 Federal facility site, were added to the final NPL
- 5, including 1 Federal facility site, were removed from further consideration because their final HRS scores were below the 28.50 cut-off
- 3 were removed from further consideration because they are subject to RCRA Subtitle C
- 4 remained proposed

Proposed Rule (July 1987)

On July 22, 1987 (52 FR 27643), EPA reproposed seven Federal facility sites because it appeared that the areas evaluated for the NPL included areas subject to the corrective action authorities of RCRA Subtitle C. The RCRA units can still be included in calculation of the HRS scores for these sites, which is consistent with the RCRA/Federal facilities policy proposed on May 13, 1987 (52 FR 17991). The seven reproposed Federal facility sites are:

o Anniston Army Depot (Southeast Industrial Area), Anniston, AL

o Dover Air Force Base, Dover, DE

o Joliet Army Ammunition Plant (Load-Assembly-Packing Area), Joliet, IL

o Savanna Army Depot Activity, Savanna, IL

o Louisiana Army Ammunition Plant, Doyline, LA

o Letterkenny Army Depot (Property Disposal Office Area), Franklin County, PA

o Air Force Plant #4 (General Dynamics), Fort Worth, TX

EPA also proposed to expand the Rocky Mountain Arsenal Site in Adams County, CO, to include a lagoon known as "Basin F."

Subsequent actions:

o March 13, 1989 (54 FR 10512)

- 6 reproposed sites were added to the final NPL; Air Force Plant #4 (General Dynamics) in Fort Worth, TX, remained proposed
- Rocky Mountain Arsenal was expanded

o August 1990

- Air Force Plant #4 (General Dynamics), Fort Worth, TX, was added to the final NPL
- 0 remained proposed

Proposed Update #6 (January 1987)

NPL Update #6, proposed on January 22, 1987 (52 FR 2492), consisted of 64 sites, including 1 Federal facility site.

Subsequent actions:

o July 22, 1987 (52 FR 27620)

- 24 sites, including the Federal facility site, received no comments and were added to the final NPL
- 40 remained proposed

o March 31, 1989 (54 FR 13296)

- 12 sites were added to the final NPL
- 1 was removed from further consideration because its final HRS score was below 28.50, the cut-off
- 27 remained proposed

o October 4, 1989 (54 FR 41015)

- 11 sites were added to the final NPL
- 3 were removed from further consideration because their final HRS scores were below 28.50, the cut-off
- 13 remained proposed

o February 21, 1990 (55 FR 6154)

- 6 sites were added to the final NPL
- 7 sites remained proposed

o August 1990

- 5 sites were added to the final NPL
- 1 was dropped from further consideration because its final HRS score was below 28.50, the cut-off
- 1 remained proposed

Proposed Update #5 (June 1986)

NPL Update #5, proposed on June 10, 1986 (51 FR 21099), consisted of 45 sites, including 2 Federal facility sites.

Subsequent actions:

o July 22, 1987 (52 FR 27620)

- 16 sites received no comments and were added to the final NPL
- 29, including the 2 Federal facility sites, remained proposed

o March 31, 1989 (54 FR 13296)

- 15 sites were added to the final NPL
- 14, including the 2 Federal facility sites, remained proposed

o October 4, 1989 (54 FR 41015)

- 6 sites, including the 2 Federal facility sites, were added to the final NPL
- 8 remained proposed

o February 21, 1990 (55 FR 6154)

- 4 sites were added to the final NPL
- 4 remained proposed

o August 1990

- 2 sites were added to the final NPL
- 2 remained proposed

Proposed Update #4 (September 1985)

NPL Update #4, proposed on September 18, 1985 (50 FR 37950), consisted of 41 sites, including 3 Federal facility sites.

Subsequent actions:

o June 10, 1986 (51 FR 21054)

- 13 sites received no comments and were added to the final NPL
- 28, including the 3 Federal facility sites, remained proposed

o October 17, 1986: as required by Section 118(p) of SARA, the Silver Creek Tailings Site, Park City, UT, was removed from the proposed NPL

o July 22, 1987 (52 FR 27620)

- 12 sites, including 1 Federal facility site, were added to the final NPL
- 15, including 2 Federal facility sites, remained proposed

o June 24, 1988 (53 FR 23978)

- 10 RCRA sites were reproposed

o March 31, 1989 (54 FR 13296)

- 2 sites were added to the final NPL
- 13, including 2 Federal facility sites, remained proposed

o October 4, 1989 (54 FR 41000)

- 2 sites were added to the final NPL
- 8 were removed from further consideration because they are subject to RCRA Subtitle C
- 3, including 2 Federal facility sites, remained proposed

o February 21, 1990 (55 FR 6154)

- 3 sites, included 2 Federal facility sites, were added to the final NPL
- 0 remained proposed

Proposed Update #3 (April 1985)

NPL Update #3, proposed on April 10, 1985 (50 FR 14115), consisted of 32 sites, including 6 Federal facility sites.

Subsequent actions:

o September 16, 1985 (50 FR 37630)

- The Lansdowne Radiation Site in Lansdowne, PA, was added to the NPL on the basis of a health advisory issued by ATSDR

o June 10, 1986 (51 FR 21054)

- 7 sites received no comments and were added to the final NPL
- 24, including 6 Federal facility sites, remained proposed

o July 22, 1987 (52 FR 27620)

- 14 sites, including 2 Federal facility sites, were added to the final NPL
- 10, including 4 Federal facility sites, remained proposed

o June 24, 1988 (53 FR 23978)

- 5 RCRA sites were reproposed

o March 13, 1989 (54 FR 10512)

- 2 Federal facility sites were added to the final NPL
- 8, including 2 Federal facility sites, remained proposed

o October 4, 1989 (54 FR 41000/41015)

- 5 sites, including 1 Federal facility site, were added to the final NPL
- 2 were removed from further consideration because they are subject to RCRA Subtitle C
- 1 Federal facility site remained proposed

o February 21, 1990 (55 FR 6154)

- 1 Federal facility site was added to the final NPL
- 0 remained proposed

Proposed Update #2 (October 1984)

NPL Update #2, proposed on October 15, 1984 (49 FR 40320), consisted of 244 sites, including 36 Federal facility sites.

Subsequent actions:

o February 14, 1985 (50 FR 6320)

- Two New Jersey sites (Glen Ridge Radium and Montclair/West Orange Radium) were added to the final NPL in a separate rulemaking because serious problems existed that required EPA to take immediate remedial action
- 242 sites remained proposed

o September 18, 1985 (50 FR 37950)

- Pratt & Whitney Aircraft in West Palm Beach, FL, was reproposed as part of Update #4

o June 10, 1986 (51 FR 21054)

- 149 sites were added to the final NPL
- 6 were removed from further consideration because their final HRS scores were below 28.50, the cut-off
- 86 remained proposed, including 36 Federal facility sites and extension of comment periods on 5 sites

o July 22, 1987 (52 FR 27620)

- 33 sites, including 28 Federal facility sites, were added to the final NPL
- 53, including 8 Federal facility sites, remained proposed

o June 24, 1988 (53 FR 23978)

- 27 RCRA sites were reproposed

o March 13, 1989 (54 FR 10512)(Federal facility sites only) and March 31, 1989 (54 FR 13296)

- 6 sites, including 4 Federal facility sites, were added to the final NPL
- 3 were removed from further consideration because their final HRS scores were below 28.50, the cut-off
- Weldon Springs Quarry (USDOE/Army), St Charles County, MO, was expanded and renamed Weldon Springs Quarry/Plant/Pits (USDOE/Army)
- 44, including 4 Federal facility sites, remained proposed

o October 4, 1989 (54 FR 41000/41015)

- 9 sites, including 1 Federal facility site, were added to the final NPL
- 15 were removed from further consideration because they are subject to RCRA Subtitle C
- 20, including 3 Federal facility sites, remained proposed

o November 21, 1989 (54 FR 48184)

- Mather Air Force Base (AC&W Disposal Area), Sacramento, CA, was expanded and renamed Mather Air Force Base

o February 21, 1990 (55 FR 6154)

- 1 site was added to the final NPL
- 19, including 3 Federal facility sites, remained proposed

o August 1990

- 8 sites were added to the final NPL
- 11 remained proposed

Proposed Update #1 (September 1983)

NPL Update #1, proposed on September 8, 1983 (48 FR 40674), consisted of 133 sites.

Subsequent actions:

o May 8, 1984 (49 FR 19480)

- 4 sites in San Gabriel Valley, CA, were added to the final NPL
- 129 remained proposed

o September 21, 1984 (49 FR 37070)

- 123 sites were added to the final NPL
- 2 were removed from further consideration because their final HRS scores were below 28.50, the cut-off
- 4 remained proposed

o June 10, 1986 (51 FR 21054)

- 1 site was added to the final NPL
- 1 was removed from further consideration because its final HRS score was below 28.50, the cut-off
- 2 remained proposed

o June 24, 1988 (53 FR 23978)

- 1 RCRA site was reproposed

o March 13, 1989 (54 FR 10512)

- W.R. Grace & Co., Inc. (Wayne Plant), Wayne, NJ, was reclassified as a Federal facility site and renamed W.R. Grace & Co. Inc./Wayne Interim Storage Site (USDOE)

o October 4, 1989 (54 FR 41000)

- 1 site was removed from further consideration because it is subject to RCRA Subtitle C
- 1 remained proposed

Original Proposed NPL (December 1982)

The original NPL, proposed on December 30, 1982 (47 FR 58476), consisted of 418 sites, including 153 sites of the 160 sites announced previously before formal rulemaking -- the 115 sites announced on October 23, 1981 as the Interim Priorities List and 45 announced on July 23, 1982 as the Expanded Eligibility List.

Subsequent actions:

o September 8, 1983 (48 FR 40658)
- 406 sites comprised the original NPL. Among the sites were Times Beach, MO, proposed in a special rule on March 4, 1983 (48 FR 9311) and Vestal Water Supply Well 1-1 and Vestal Water Supply Well 4-2, proposed as one site under the name Vestal Water Supply
- 6 were removed from further consideration:
  5 had final HRS scores below 28.50, the cut-off
  1 had its top-priority designation withdrawn by the State, and its HRS score was below 28.50
  1 was deleted because the responsible party had implemented all appropriate response action
- 7 remained proposed

o September 21, 1984 (49 FR 37070)

- 5 sites were added to the final NPL
- 2 were removed from further consideration:
  1 had a final HRS score below 28.50, the cut-off
  1 had contamination that occurred naturally

o July 22, 1987 (52 FR 27620)

- Silver Bow Creek, Silver Bow/Deer Lodge Counties, MT, was expanded and renamed Silver Bow Creek/Butte Area

SECTION IX

OTHER DOCUMENTS

OSWER Dir. No. 9833.4-1a

COMPENDIUM OF CERCLA RESPONSE SELECTION GUIDANCE DOCUMENTS

USERS MANUAL

U. S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF WASTE PROGRAMS ENFORCEMENT

MAY 1989

(Revised: March 1991)

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A REGIONAL COMPENDIUM LOCATIONS AND ADMINISTRATIVE RECORD COORDINATORS

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1.0 INTRODUCTION

This manual describes how to use the "Compendium of CERCLA Response Selection Guidance Documents" (Compendium). Each U.S. Environmental Protection Agency (EPA) Regional Office maintains a compendium of guidance documents frequently used during development and selection of response actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

EPA Headquarters used several sources to develop the initial Compendium. These sources included a pamphlet titled "Selected Technical Guidance for Superfund Projects" (OSWER Directive 9200.7-01); the OSWER Directive System; the Superfund, Resource Conservation and Recovery Act (RCRA), and Enforcement dockets; the Hazardous Waste Collection Database; and any existing regional compendiums. The documents in the Compendium are frequently referenced in administrative records for decisions on selection of response actions.

The administrative record described here is the body of documents that form the basis for selection of a CERCLA response action. Establishment of the administrative record is required by §113(k) of CERCLA. An administrative record is the compilation of documents considered or relied on by EPA in making a decision. Documents that EPA anticipates will be included in the administrative record when the decision on a response action selection is made, are referred to as the "administrative record file." Guidance documents, or portions of guidance documents, that are considered or relied on in selecting a CERCLA response action should be part of an administrative record file.

In accordance with regulations (40CFR §300.805(a)(2)), and EPA guidance (OSWER Directive 9833.3A-1), certain frequently used guidance documents may be referenced in the index to an administrative record and not physically included in the administrative record file. The reference should indicate the title and location of any documents included in the administrative record but maintained in the Compendium, which is kept at a central regional location. If a guidance document that is not listed in the Compendium is considered or relied on in selecting the response action, the document must be physically included in the administrative record file. When used as a reference, the Compendium helps reduce the burden of copying and storing multiple copies of frequently used guidance documents.

Section 2.0 of this manual briefly discusses use of the Compendium by EPA personnel and the public. Section 3.0 discusses the Compendium's file and index structure. Documents in the Compendium are filed in three-ring binders and listed on an index which is generated by and maintained on a computer database. Procedures for updating the Compendium are presented in

Section 4.0. This manual also includes three appendices: Appendix A, "Regional Compendium Locations and Administrative Record Coordinators;" Appendix B, Compendium index; and Appendix C, Compendium abstracts. Appendix B also includes data element definitions and a list of acronyms and organizational abbreviations identified in the index.

2.0 OVERVIEW OF COMPENDIUM USE

The Compendium is intended for use by two groups: EPA personnel, during the process of response action selection and administrative record development, and the public, for review of documents referenced in the index to an administrative record.

The user should note that although the term "guidance" is often used in discussing the Compendium, it does not imply that only guidance documents are included. The documents may also be policies, memoranda, clarifications, case studies, manuals, handbooks, reports, and other documents frequently used in the selection of CERCLA response actions.

2.1 USE BY EPA PERSONNEL

EPA personnel use the Compendium primarily to reference guidance documents that may be maintained in the Compendium rather than physically included in each administrative record file. The index must indicate which documents are physically located in the Compendium and must specify the location and accessibility of the Compendium. The index should also reference only the specific documents that were considered or relied on for the site for which the record is being compiled. The index should not reference the entire Compendium.

2.2 USE BY THE PUBLIC

As with any unrestricted document included in a record, the Compendium documents are accessible for public review. When EPA publishes a notice of availability of an administrative record file, that notice will include the location of the Compendium. The Compendium will be available for public viewing at a central regional establishment (for example, the EPA Regional Office), and not at or near the site for which the record is being compiled. (See Appendix A for a list of the location of each regional copy of the Compendium and the names of the Regional Administrative Record Coordinators.)

3.0 STRUCTURE OF THE COMPENDIUM

Currently, the Compendium is organized into 10 categories. An overview of the file structure is presented below, as well as a discussion of the index that identifies the documents included in the Compendium. This section also discusses the data elements identified in the index. The data elements provide vital information on the documents included in the Compendium and are contained in a database used to compile the Compendium and generate the index.

3.1 FILE STRUCTURE

The Compendium is structured according to 10 major categories that generally reflect the various components of a response action selection under CERCLA. Table 3-1 lists the current Compendium categories. The documents are further grouped into subcategories that indicate their more specific nature, when applicable. For example, the remedial investigation/feasibility study (RI/FS) section of the Compendium is broken down into more specific subcategories to identify the wide range of RI/FS documents available. When the documents apply to multiple categories, secondary references are provided in the Compendium index.

Each document has been assigned a unique four-digit document number. The bound documents contained in each category are arranged numerically. When a user wants to access a document, he or she will find the document filed according to the assigned number. The four-digit number series assigned to each category are also listed in Table 3-1.

3.2 INDEX STRUCTURE

When an administrative record index refers to a document contained in the Compendium, that document is also identified in the Compendium index. The index, contained as the first document in the Compendium, provides the information necessary to identify and locate the desired document. (For a copy of the current Compendium index, see Appendix B.)

Because in most cases the user will know the title of the document rather than the number assigned, the index lists the documents under each category in alphabetical order. An alphabetical listing of secondary references follows the primary documents listed under each category.

The Compendium index is maintained on a database using dBASE III Plus software. This database contains numerous data elements that store the information distinguishing and grouping

TABLE 3-1

COMPENDIUM CATEGORIES AND NUMBER SERIES

CATEGORIES	NUMBER SERIES
Index	**0000**
Pre-Remedial	**0001-0999**
Removal Action	**1000-1999**
Remedial Investigation/ Feasibility Study	**2000-2999**
General	2000-2099
RI Data Quality/Site & Waste Assessment	2100-2199
Land Disposal Facility Technology	2200-2299
Other Technologies	2300-2399
Groundwater Monitoring & Protection	2400-2499
ARARs[1]	**3000-3999**
Water Quality	**4000-4999**
Risk Assessment	**5000-5999**
Cost Analysis	**6000-6999**
Community Relations	**7000-7999**
Enforcement	**8000-8999**
Selection of Remedy/Decision Documents	**9000-9999**

[1] Applicable or Relevant and Appropriate Requirements

each document into the appropriate categories. The database is currently maintained by EPA Headquarters.

4.0 UPDATING THE COMPENDIUM

The Compendium is designed to allow for the periodic addition of newly developed policy or guidance documents. Updates to the Compendium are necessary in the following cases: (1) EPA releases relevant new guidance, policy, reports, etc.; (2) regional staff find additional documents that should be included in the Compendium; and (3) existing documents are revised or superseded. EPA Headquarters will continue to monitor the information sources used to develop the initial Compendium for new or revised documents that may qualify for inclusion in the Compendium.

Guidance documents identified for addition to the Compendium will be reviewed and relevant information will be entered into the existing database. After the database is updated, a new index will be generated and sent to each Regional Office. This new index will replace any previous indices. The revised index will indicate the category for each new document.

Documents added to the Compendium will be placed in 3-ring binders distinguished by new volume numbers, and the date the additional documents were added, on the spine of the binders. The binder volume numbers will continue in successive order from the last number used for the previous update. Bound hard copies of the additional documents will be sent to each Regional Office on completion of each update.

4.1 REGIONAL INPUT

Parties involved in the response action selection process, as well as Administrative Record Coordinators, may find documents that are frequently included in administrative records but are not referenced in the Compendium. In such cases it may be desirable to include the documents in the Compendium as part of the updating process. However, since the Compendium is designed to be nationally applicable, only documents used frequently in different regions will be included.

4.2 KEEPING THE COMPENDIUM CURRENT

Once a document is included in the Compendium, it will remain in the Compendium to maintain the integrity of any record that refers to it. However, documents contained in the Compendium may be revised in the future to reflect changes, for example, changes in policy,

technology, or law. The most current version of these documents will be added to the Compendium, as appropriate, so that they will be available for the administrative record process.

Although no document included in the Compendium will ever be replaced or removed once an administrative record index refers to it, those documents that are superseded will be flagged and identified on the Compendium's main index. The index will identify the corresponding revised version added to the Compendium to indicate the new document that should be used. In addition, EPA Headquarters will generate a cover sheet to insert in front of superseded documents to indicate those documents that should no longer be relied on and the revised version included in a Compendium update.

APPENDIX A

REGIONAL COMPENDIUM LOCATIONS AND ADMINISTRATIVE RECORD COORDINATORS
(As of February 1991)

Region	Address	Coordinator/PH # 1. Remedial 2. Removal
I	USEPA - Region I HES-6 John F. Kennedy Federal Bldg. Boston, MA 02203	1. Brenda Haslett (617) 573-9640 (FTS) 833-1640
	USEPA - Region I 60 Westview Street Lexington, MA 02173	2. Pam Bruno (617) 860-4309 (FTS) 828-6309
II	USEPA - Region II Rm. # 759 26 Federal Plaza New York, NY 10278	1. Jenny Delcimento (212) 264-8676 (FTS) 264-8676
	USEPA - Region II 2890 Woodbridge Ave. Raritan Depot - Bldg. #209 Edison, NJ 08837	2. Norman Vogelsang (908) 321-4346 (FTS) 340-4346
III	USEPA - Region III 3HW-16 841 Chestnut Bldg. Philadelphia, PA 19107	1. Margaret Leva (215) 597-3037 (FTS) 597-3037
	USEPA - Region III - 3HW-31 Superfund Removal Branch 841 Chestnut Bldg. Philadelphia, PA 19107	2. Joan Henry (215) 597-2711 (FTS) 597-2711
IV	USEPA - Region IV 345 Courtland Street, N.E. Atlanta, GA 30365	1. Debbie Jourdan (404) 347-5242 (FTS) 257-5242
	USEPA - Region IV 345 Courtland Street, N.E. Atlanta, GA 30365	2. Vera Bowers (404) 347-3931 (FTS) 257-3931
V	USEPA - Region V 5HSM-TUB7 230 South Dearborn Street Chicago, IL 60604	1. Jamie Bell (312) 353-7446 (FTS) 353-7446
	USEPA - Region V 230 South Dearborn Street Chicago, IL 60604	2. Jan Pfundheller (312) 353-5821 (FTS) 353-5821

APPENDIX A

REGIONAL COMPENDIUM LOCATIONS AND ADMINISTRATIVE RECORD COORDINATORS
(As of February 1991)

Region	Address	Coordinator/PH # 1. Remedial 2. Removal
VI	USEPA - Region VI 5HSM 1445 Ross Ave. 12th Floor, Suite 1200 Dallas, TX 75270-2733	1. Karen Witten (214) 655-6720 (FTS) 255-6720
	USEPA - Region VI 6E-EO 1445 Ross Ave. 9th Floor, Suite 1200 Dallas, TX 75270-2733	2. JoAnn Woods (214) 655-2270 (FTS) 655-2270
VII	USEPA - Region VII 726 Minnesota Ave. Kansas City, KS 66101	1. Barry Thierer (913) 551-7515 (FTS) 276-7515
	USEPA - Region VII 25 Funston Road Kansas City, KS 66115	2. Helen Bennett (913) 236-3881 (FTS) 757-3881
VIII	USEPA - Region VIII 999 18th Street Suite 500 Denver, CO 80202	1. Carol Macy (303) 294-7038 (FTS) 330-7038
	USEPA - Region VIII 999 18th Street Suit 500 Denver, CO 80202	2. Tina Artemis (303) 294-7039 (FTS) 330-7039
IX	USEPA - Region IX (H-6-1) 75 Hawthorne Street San Francisco, CA 94105	1. Holly Hadlock (415) 744-2244 (FTS) 484-2244
	USEPA - Region IX (H-8-3) 75 Hawthorne Street San Francisco, CA 94105	2. Carita Hall-Reynolds (415) 744-2295 (FTS) 484-2295
X	USEPA - Region IX (HW-113) 1200 Sixth Avenue Seattle, WA 98101	1. Lynn Williams (206) 553-2121 (FTS) 553-2121
		2. Same

APPENDIX B

COMPENDIUM OF CERCLA RESPONSE SELECTION GUIDANCE DOCUMENTS

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Category - Subcategory	Number Series*	Page
Pre-Remedial	0001-0002	1
Removal Action	1000-1008	1
RI/FS - General	2000-2020	2
RI/FS - RI Data Quality/Site & Waste Assessment	2100-2119	4
RI/FS - Land Disposal Facility Technology	2200-2220	7
RI/FS - Other Technologies	2300-2328	9
RI/FS - Ground-Water Monitoring & Protection	2400-2413	12
ARARs	3000-3018	14
Water Quality	4000-4003	18
Risk Assessment	5000-5041	18
Cost Analysis	6000-6001	23
Community Relations	7000-7000	23
Enforcement	8000-8001	23
Selection of Remedy/Decision Documents	9000-9002	24

Data Element Definitions

List of Organizational Abbreviations and Acronyms Identified in the Index

*The range for each number series identified represents the numbers assigned to those documents currently in the Compendium.

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Doc No	Vol	Title/ID Number	Date	Authors	Super No.	Pages
**** Index						
0000	1	INDEX TO COMPENDIUM OF CERCLA RESPONSE SELECTION GUIDANCE DOCUMENTS	05/01/89	OWPE PRC-ENVIRONMENTAL MANAGEMENT, INC.		8
**** Pre-Remedial						
0001	1	EXPANDED SITE INSPECTION (ESI) TRANSITIONAL GUIDANCE FOR FY-88; OSWER #9345.1-02	10/01/87	OERR		74
0002	1	PRELIMINARY ASSESSMENT (PA) GUIDANCE FISCAL YEAR 1988; OSWER #9345.0-01	01/01/88	OERR/HSCD		83
**** Removal Action						
1000	1	CERCLA REMOVAL ACTIONS AT METHANE RELEASE SITES; OSWER #9360.0-8	01/23/86	LONGEST, H.L./OERR		2
1001	1	COSTS OF REMEDIAL RESPONSE ACTIONS AT UNCONTROLLED HAZARDOUS WASTE SITES	01/01/81	RISHEL, H.L., ET.AL./SCS ENGINEERS ALBRECHT, O.W./MERL		164
1002	1	EMERGENCY RESPONSE PROCEDURES FOR CONTROL OF HAZARDOUS SUBSTANCE RELEASES; EPA-600/D-84-023	01/01/83	MELVOLD, R.W./ROCKWELL INTERNATIONAL MCCARTHY,		23
1003	1	ENVIRONMENTAL REVIEW REQUIREMENTS FOR REMOVAL ACTIONS; OSWER #9318.0-05	04/13/87	OERR/ERD		6
1004	1	GUIDANCE ON IMPLEMENTATION OF THE "CONTRIBUTE TO EFFICIENT REMEDIAL PERFORMANCE" PROVISION; OSWER #9360.0-13	04/06/87	OSWER		6
1005	1	INFORMATION ON DRINKING WATER ACTION LEVELS	04/19/88	FIELDS, JR., T./OSWER/ERD		17

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Doc No	Vol	Title/ID Number	Date	Authors	Super No.	Pages
**** Removal Action						
1006	1	SUPERFUND REMOVAL PROCEDURES, REVISION #3; OSWER #9360.0-03B	02/01/88	OSWER/OERR		365
1007	1	THE ROLE OF EXPEDITED RESPONSE ACTIONS (EPA) UNDER SARA; OSWER #9360.0-15	04/21/87	LONGEST, H.L./OERR		3
1008	2	GUIDANCE ON NON-NPL REMOVAL ACTIONS INVOLVING NATIONALLY SIGNIFICANT OR PRECEDENT SETTING ISSUES; OSWER #9360.0-19	04/03/89	LONGEST, H.L./OERR		9
*** Secondary References ***						
4002	26	INTERIM FINAL GUIDANCE ON REMOVAL ACTION LEVELS AT CONTAMINATED DRINKING WATER SITES; OSWER #9360.1-01	10/06/87	OSWER/OERR		9
6001	32	REMOVAL COST MANAGEMENT MANUAL; OSWER #9360.0-02B	04/01/88	OSWER/OERR		170
**** RI/FS - General						
2000	2	CASE STUDIES 1-23: REMEDIAL RESPONSE AT HAZARDOUS WASTE SITES; EPA 540/2-84/002B	03/01/84	ORD/OEET/MERL OSWER/OERR		830
2001	3	EPA GUIDE FOR MINIMIZING ADVERSE ENVIRONMENTAL EFFECTS OF CLEANUP OF UNCONTROLLED HAZARDOUS-WASTE SITES; EPA/600/8-85/008	06/01/85	ENVIRONMENTAL RESEARCH LABORATORY		250
2002	3	GUIDANCE FOR CONDUCTING REMEDIAL INVESTIGATIONS AND FEASIBILITY STUDIES UNDER CERCLA; OSWER #9355.3-01	10/01/88	OSWER/OERR		390

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COMPENDIUM OF CERCLA RESPONSE SELECTION GUIDANCE DOCUMENTS

Doc No	Vol	Title/ID Number	Date	Authors	Super No.	Pages
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Secondary References	Secondary References are identified at the end of each category when a document relates to more than one category. The document itself is filed under the number series assigned to its primary category.

LIST OF ORGANIZATIONAL ABBREVIATIONS AND ACRONYMS IDENTIFIED IN THE INDEX

Organization	Acronym
Agency for Toxic Substances and Disease Registry	ATSDR
Center for Environmental Research Information	CERI
Contract Laboratory Program	CLP
U.S. Corps of Engineers	COE
Exposure Assessment Research Division	EARD
Environmental Criteria and Assessment Office	ECAO
Environmental Monitoring Systems Laboratory	EMSL
Emergency Response Division	ERD
Environmental Research Laboratory	ERL
Hazardous Response Support Division	HRSD
Hazardous Site Control Division	HSCD
Hazardous Site Evaluation Division	HSED
Hazardous Waste Engineering Research Laboratory	HWERL
Municipal Environmental Research Laboratory	MERL
Office of Air Quality, Planning, and Standards	OAQPS
Office of Environmental Engineering and Technology	OEET
Office of Emergency and Remedial Response	OERR
Office of Health Effects Assessment	OHEA
Office of Program Management	OPM
Office of Research and Development	ORD
Office of Solid Waste	OSW
Office of Solid Waste and Emergency Response	OSWER
Office of Waste Programs Enforcement	OWPE
Policy Analysis Staff	PAS
Risk Reduction Engineering Laboratory	RREL
Waterways Experiment Station	WES
Waste Management Division	WMD

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EPA/540/8-90/015
EPA/9200.7-02A
October 1990

Catalog of Superfund Program Publications

Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Washington, DC 20460

Printed on Recycled Paper

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1 HOW THE SUPERFUND PROGRAM WORKS

Superfund: A Rational Response to Our Hazardous Waste Law

Superfund is the nation's environmental program for cleaning up abandoned and uncontrolled hazardous waste sites. Such sites are extremely diverse. Many are municipal or industrial landfills. Others are manufacturing plants where operators improperly disposed of wastes. Some are large Federal facilities dotted with "hot spots" of contamination from various high-tech or military activities. Spills, accidents, and leaking underground storage tanks are other types of sites. Most hazardous wastes come from our manufacturing sector; common contaminants include heavy metals like lead and mercury, solvents and degreasers, pesticides and herbicides, polychlorinated biphenyls (PCBs), and wood preservers.

The law dictates that Superfund monies can be used only for two main purposes:

- To address emergency threats to human health and the environment.
- To conduct long-term cleanup at the worst sites in the country.

A complex ranking system identifies the worst sites and places them on the National Priorities List (NPL), which currently comprises 1,246* sites.

To satisfy the law's requirements, EPA organized its cleanup effort into three programmatic divisions. Emergency cleanup work, which EPA calls "Removal," is performed by one. "Remedial" work, or long-term cleanup at the worst sites, is done by another. And because someone must decide which sites are truly the worst, evaluation and ranking is undertaken by the "Pre-Remedial" division. "Removal" activities can be performed at any site that needs them, but "Remedial" actions occur only at the sites on the National Priorities List. The process a site undergoes from initial discovery through final Superfund cleanup is illustrated schematically at the end of this section.

*The 1,246 sites consist of 1,218 sites either on the final National Priorities List or proposed for it, and 28 sites that have been formally "deleted" from the NPL because the cleanup action has been completed and its effectiveness verified.

Division of Labor in the Superfund Program

The Removal Program

Superfund emergency workers respond immediately to any site considered to pose an imminent threat to human health and the

WHAT IS THE SUPERFUND?

In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly called "Superfund." The Superfund Amendments and Reauthorization Act (SARA) was passed by Congress in 1986 to update and improve CERCLA. The law authorizes the Federal government to respond directly to releases, or threatened releases, of hazardous substances that may endanger public health, welfare, or the environment. Legal actions can be taken to force the parties responsible for causing the contamination to clean up those sites or reimburse the Superfund for the costs of cleanup. If responsible parties cannot be found or are unwilling or unable to clean up a site, EPA can use monies from the Superfund to accomplish the cleanup. The Superfund is actually a trust fund. CERCLA established a 5-year, $1.6-billion fund made up of taxes on crude oil and certain commercially produced chemicals. SARA extended authority for another 5 years, and increased the funds to $8.5 billion. These additional monies are made available to the Superfund directly from excise taxes on petroleum and feedstock chemicals, a tax on certain imported chemical derivatives, an environmental tax on corporations, appropriations made by Congress from general tax revenues, and any monies recovered or collected from parties responsible for site contamination.

environment. EPA manages a large cadre of cleanup experts who can be mobilized quickly when the need arises. The Agency's On-Scene Coordinator (OSC) supervises these resources at the site. "Removal" workers stabilize, prevent, or temper the effects of a hazardous release, or the threat of one. Sample situations might include a tire fire or a transportation accident involving the spill of hazardous chemicals. Removal professionals may also advise State and local officials on the need for an alternative water supply, treatment of contaminated soils, a waterproof cap to constrain wastes, or relocation of residents.

"Planned" removals are also undertaken at sites that don't qualify as emergencies, but nonetheless present a threat that must be dealt with in a timely way. This type of removal may also occur during long-term cleanup. For example, routine groundbreaking work in an unrelated construction activity may reveal a layer of unsuspected hazardous waste drums.

The Pre-Remedial Program

EPA's Pre-Remedial program applies a systematic approach to determining how hazardous a site is. Upon discovery, the site is logged into the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), Superfund's computerized inventory. It then undergoes studies, the Preliminary Assessment and the Site Inspection, that escalate in intensity. If the threat is found to be negligible at an early stage, it is assigned to a "No Further Action" category, but remains in the computer inventory for reference.

A site that looks serious moves on to the next phase of scrutiny. The most threatening sites are ranked using EPA's Hazard Ranking System (HRS). The most serious are then placed on the National Priorities List. Naturally, if an emergency is uncovered at any step in this process, the Removal program tackles it immediately.

The Remedial Program

Once a site attains the NPL, a definitive set of steps move it toward ultimate cleanup. Private industry and State government play large roles in the conduct of cleanup activities, but EPA always approves remedies and supervises the work. Indeed, each site has its own Remedial Project Manager (RPM) and, where necessary, its own On-Scene Coordinator (OSC) for emergency cleanup needs. Both are EPA professionals. Public outreach mechanisms encourage citizens to comment and participate at each step in the process.

An NPL site first undergoes an intensive site investigation, called the Remedial Investigation. This "RI" determines the nature and extent of contamination at the site. Much more detailed and comprehensive than the initial site inspection, it involves extensive sampling and laboratory analysis. Waste types, site geology and hydrology, and specific health and environmental risks are examined.

THE HAZARD RANKING SYSTEM

Information collected during the site inspection is used to identify the sites posing the most serious threats to human health and the environment. This way EPA can meet the requirement that Congress gave it to use Superfund monies only on the worst hazardous waste sites in the Nation.

To identify the most serious sites, a comparison is made between the potential risk posed by one site and the potential risks of other discovered sites. This comparison is made by using the Hazard Ranking System (HRS) to evaluate the results of the site inspection. The HRS measures how contamination at a site could affect people or the environment. A site's "score" is based on whether hazardous wastes have spread through the groundwater, surface water, soil, and air, and if these wastes have the potential to spread in the future. Only sites with high enough health and environmental risk scores are proposed to be added to EPA's National Priorities List. The most serious of these become a part of the "final" NPL.

The Feasibility Study (FS) is conducted next. This study analyzes cleanup options and recommends one. EPA studies site findings and selects a cleanup remedy, which it officially documents in a legally binding Record of Decision (ROD) for the site. This ROD clearly sets forth the work's cleanup goals (e.g., cubic yards of soil to be removed, water standards to be met).

Next, engineers design whatever construction is required to carry out the remedy; this is called the Remedial Design phase. Construction ranges from containment structures to drainage wells, to clay caps over the wastes, to ground water extraction systems. Once cleanup activities and construction are under way, the site has entered the Remedial Action phase.

No matter how exhaustive preliminary studies may be, sampling and site observation are unable to reveal the full extent of the problem at many sites. Uncertainties exist right up until the point where ground is broken for the cleanup work, and surprises can occur throughout remedial action. Thus there is no ready answer to the question, "How long will it take?" On average—and this includes a broad range—6 to 8 years will elapse between the start of the cleanup study and completion of the remedy.

The cleaned-up site is ultimately deleted from the NPL, but this does not take place until the remedy's effectiveness has been clearly proven. Often years of monitoring, operation, and maintenance are needed to satisfy these concerns.

Superfund Information: A Broad Spectrum

The Superfund program generates a wide range of information on hazardous waste cleanup processes and procedures. It ranges from policy directives to guidance documents to detailed technology evaluations. Audiences for these materials may be program staff, cleanup personnel, computer experts, technical researchers, and the general public.

This catalog organizes Superfund documents into four main categories:

1. Quick-Reference Fact Sheets—These brief documents summarize hazardous waste issues, technology, and technical documents.

2. Directives—These provide policy direction usually in memoranda form (e.g., practical methods for carrying out hazardous waste regulations) to EPA Regional managers.

3. Publications—This category runs the gamut from general public brochures to user manuals, annual reports, study summaries, guidance documents, responses to directives, and technology documents. The last category is substantial and includes both scientific studies (e.g., on health effects) and pragmatic descriptions of site cleanup techniques, both tried and experimental.

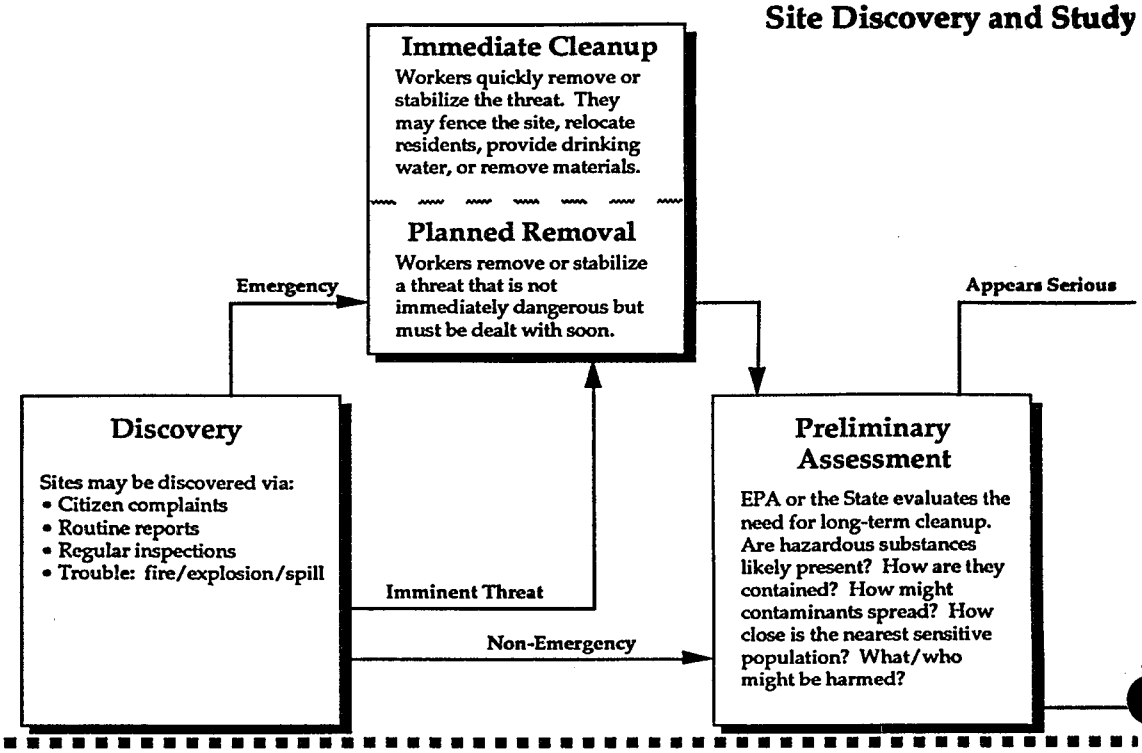
4. Computer Materials—These include computer software and documentation.

Not all of the documents catalogued here come directly from the Removal, Remedial, and Pre-Remedial divisions. Many of the technology documents are developed by EPA's Office of Research and Development, with technical input and underwriting provided by Superfund offices. Superfund's Office of Program Management offers a range of program and policy documents, as well as self-analytical reports on hazardous waste progress and problems. Finally, there are overarching documents produced by the Office of Emergency and Remedial Response, the umbrella office for the Superfund divisions.

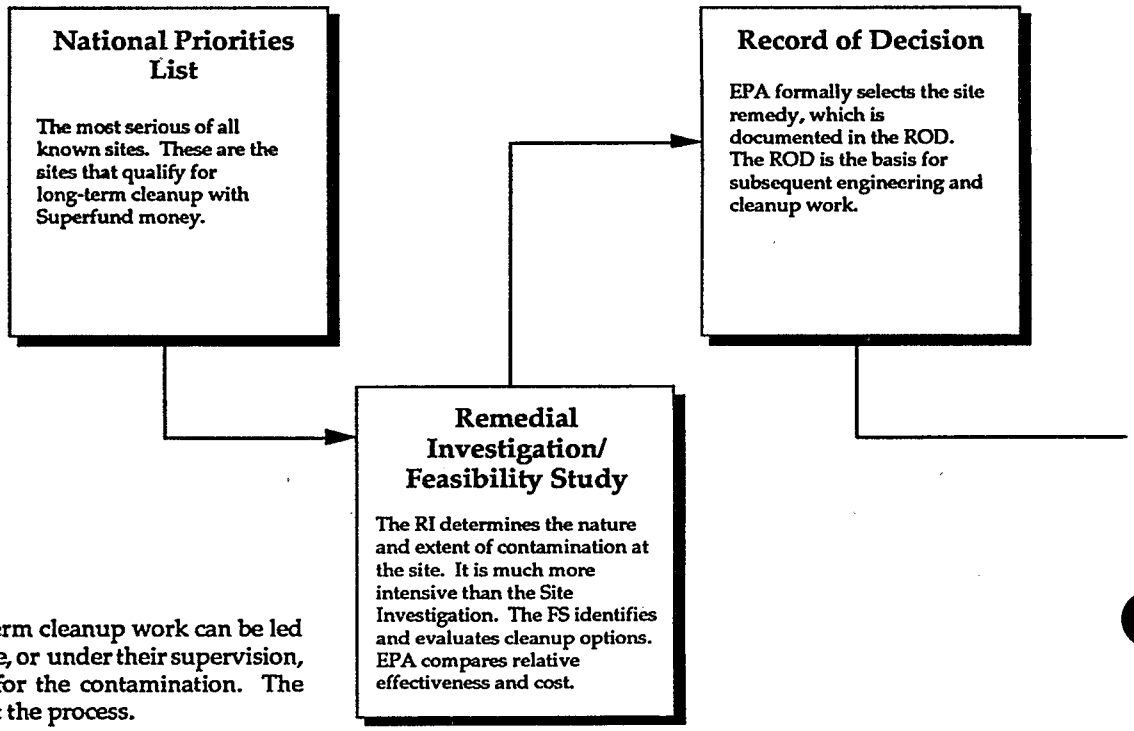
This catalog contains an abstract of each Superfund document, and provides indexes designed to help both general readers and program experts to locate what interests them. The section that follows describes how to use this catalog most effectively.

Superfund Tackles Hazardous Waste Emergencies and the Nation's Most Serious Sites

Site Discovery and Study

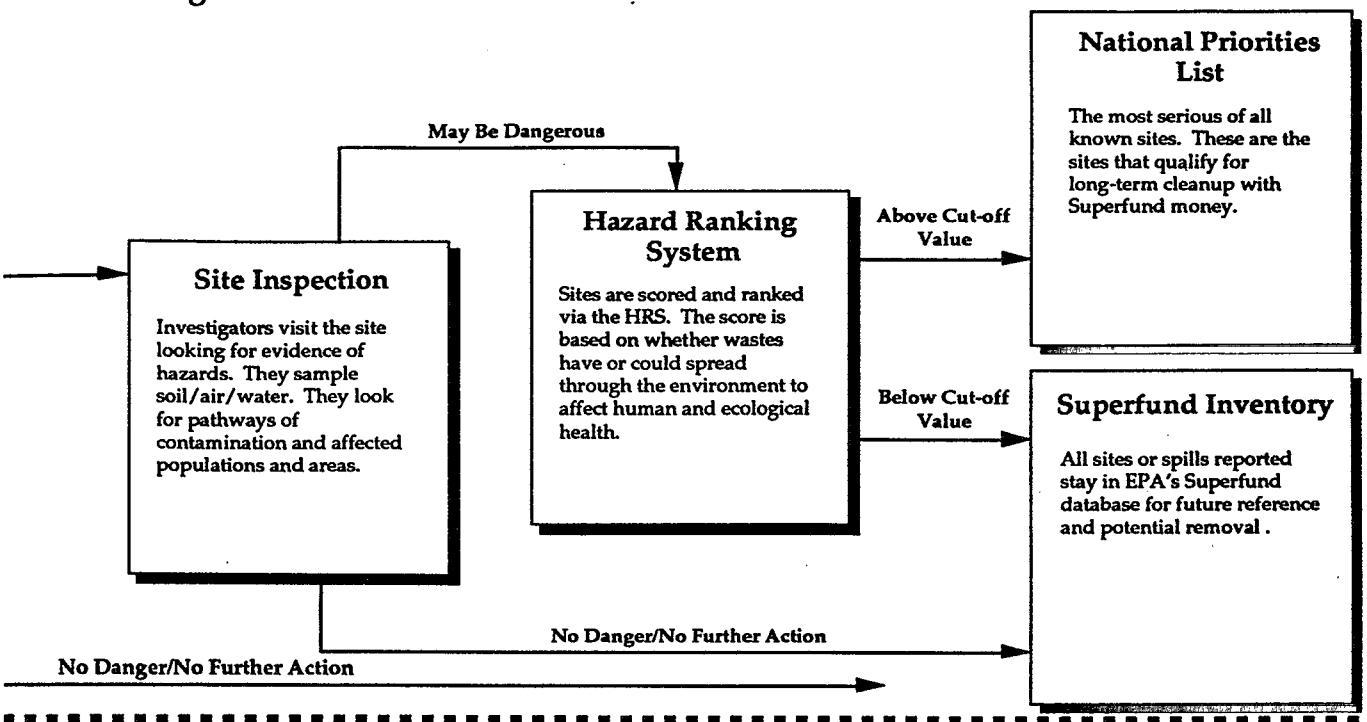


Long-Term Cleanup:

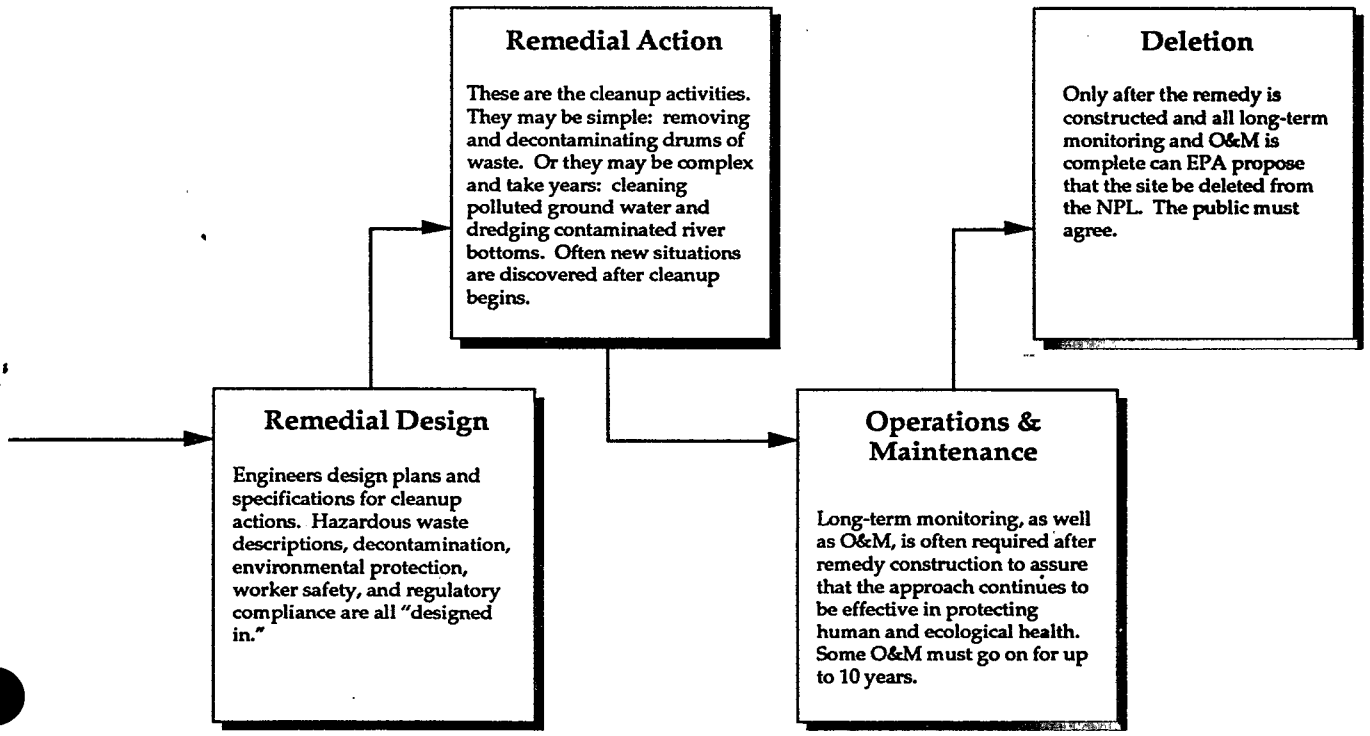


Both emergency and long-term cleanup work can be led by EPA or an individual State, or under their supervision, by the parties responsible for the contamination. The public has input throughout the process.

Finding the Most Serious Sites



Fixing the Most Serious Sites



2 HOW TO USE THIS CATALOG

The tools in this catalog have been carefully crafted to serve a variety of users, both expert and non-expert. A reader may locate a specific document even if he or she has only a fragment of information: a title, a publication number, a program office name, or simply a subject category. These tools are described in the following paragraphs.

FOR SUPERFUND NEWCOMERS

This catalog has been written to assist its many users who are not Superfund "insiders." Wherever possible, catalogers have substituted English for program jargon and acronyms. Non-expert users seeking information on particular topics will find the Subject Index most helpful. It illustrates the types of information Superfund documents contain. Those looking for specific titles or documents from particular offices will find the Abstracts carefully organized to facilitate such a search. The Numeric Index arranges documents by publication number. This how-to section describes each catalog tool in further detail.

The Subject Index

The backbone of the catalog is the Subject Index, which covers a wide range of Superfund topics. Each entry is accompanied by one or more page numbers on which an abstract dealing with that topic can be found. A scan of the page will quickly pinpoint the abstract.

The Abstracts

The Abstracts appear as Section 3.

For the convenience of users with considerable Superfund expertise, the abstracts have been organized into seven categories:

1. Removal
2. Pre-Remedial
3. Remedial
4. Technology
5. Program Management
6. Superfund Academy, and
7. Computer Materials.

Documents are listed alphabetically within each category. Thus, a knowledgeable user seeking a particular document could use the Abstracts alone as a locator tool by making an educated guess about the category in which the document is likely to appear.

FOR SUPERFUND EXPERTS

Users with plenty of Superfund experience are likely to be seeking specific documents or program information. The summaries in the Abstracts are organized under seven categories, several of which are programmatic. An expert user can comb the Abstracts easily by determining which category the desired document is in, and then scanning that section. Document titles are arranged in alphabetical order within each category. In addition, the Numeric Index arranges documents by publication number.

2

Each abstract contains:

- The document's title;
- An icon showing the type of document;
- The publication date;
- The number of pages;
- The NTIS order number;
- A brief summary of the document's contents; and
- The document's EPA number(s).

The Numeric Index

This index organizes Superfund documents in numeric order. All entries contain an NTIS order number, which is to be used in ordering documents. Most EPA publications are given Agency or office control numbers. There are two main sets, the 540 series and the 9000 series:

- The 540 series is generally applied to Agency publications printed in quantity. A sample number is EPA/540/G-89/003.

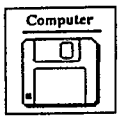
- The 9000 series has been assigned to the Office of Solid Waste and Emergency Response, Superfund's parent office, for coding its policy directives.

Icon Guide

Fact Sheet

Directive

Publication



Computer Material

However, the Superfund office assigns a 9200-9399 series number to all documents for internal management purposes. A sample number is: EPA/9234.01.

Abstract Guide

Icon

Title

The Emergency Response Notification System

Publication Date

August 1989 *7 pages*

Number of Pages

Order Number

Order No. PB90-249715

EPA Control Number(s) (9000 and/or 540 series)

Provides general information for the public on the Emergency Response Notification System, the national computer database and retrieval system that is used to store information on releases of oil and hazardous substances.

Summary

EPA/9360.0-21

In addition, every abstract contains an NTIS order number (beginning with PB-), which is to be used in ordering documents. The very few documents with no EPA numbers are listed in the Numeric Index by order number.

Ordering Documents

See Section 4 for ordering instructions and an order form.

3 ABSTRACTS

Removal

Accelerated Response at NPL Sites Guidance

December 15, 1989 *19 pages*
Order No.: PB90-258302

Provides EPA guidance on addressing immediate threats at National Priorities List (NPL) sites. This document is Superfund Management Review Recommendation No. 22.
EPA/9200.2-02

Emergency Response Cleanup Services Contracts (ERCS)

October 1987 *210 pages*
Order No.: PB90-191966

Provides information to help those authorized to use ERCS contracts to deploy them more efficiently and effectively. Included are EPA Headquarters and Regional personnel, as well as staff from other Federal agencies (e.g., U.S. Coast Guard). In addition, the users' manual discusses coordinating the use of the ERCS contracts with other entities involved with the Superfund program.
EPA/9242.2-01B

The Emergency Response Notification System

August 1989 *7 pages*
Order No.: PB90-249715

Provides general information for the public on the Emergency Response Notification System, the national computer data base and retrieval system that is used to store information on releases of oil and hazardous substances.
EPA/9360.0-21

Final Guidance on Implementation of the "Consistency" Exemption to the Statutory Limits on Removal Actions

June 12, 1989 *8 pages*
Order No.: PB90-27446

Provides final guidance to EPA Regions on the implementation of the SARA $2 million/12-month statutory limits on removal actions and the exemption from the statutory limits for "actions otherwise appropriate and consistent with the remedial action to be taken" (consistency exemption).
EPA/9360.0-12A

Guidance for Conducting Federal-Lead Underground Storage Tank Corrective Actions

July 25, 1989 *73 pages*
Order No.: PB90-273913

Supercedes the interim guidance issued June 4, 1987, on procedures for conducting Federal-lead corrective actions for petroleum leaks from underground storage tanks.
EPA/9360.0-16A

Guidance on Non-NPL Removal Actions Involving Nationally Significant or Precedent-Setting Issues

March 3, 1989 *12 pages*
Order No.: PB90-273921

Provides guidance for identifying non-NPL removal actions that may be nationally significant or precedent-setting and establishes procedures for requesting Headquarters concurrence. Outlines procedural requirements for five categories of removals which are of special interest from a national perspective, but which are not subject to Headquarters concurrence requirement for nationally significant or precedent-setting removals.
EPA/9360.0-19

EPA employees may order documents by calling: FTS-475-8864

3 Removal

Guidelines for the Cleanup of Clandestine Drug Laboratories

June 2, 1989 *45 pages*
Order No.: PB90-272709

Provides guidelines proposed by the Joint Task Force on illegal/clandestine drug laboratories to assist State and Local law enforcement and health agencies develop a framework for cleaning up clandestine drug laboratories. The guidelines contain an overview of recommended enforcement procedures, as well as safety guidelines and cleanup strategies.
EPA/540/P-90/005
EPA/9360.5-00

HAZMAT Team Planning Guidance

September 1990 *65 pages*
Order No.: PB90-274523

Outlines important factors to consider when planning a HAZMAT Team, including funding requirements for alternative ways to develop appropriate hazardous material responses, and HAZMAT Team training and medical surveillance required by the final OSHA and EPA worker protection standards (29 CFR 1910.120 and 40 CFR 311) as published on March 6, 1989, and June 23, 1989, respectively. This guidance will assist State and local governments in determining their HAZMAT response requirements, in estimating the costs associated with HAZMAT Team development, and in developing emergency response plans and standard operating procedures.
EPA/540/G-90/003
EPA/9285.3-05

Health and Safety Audit Guidelines: SARA Title I, Section 126

December 1989 *109 pages*
Order No.: PB90-204157

Provides step-by-step guidance for assessing preliminary evaluations, health and safety plans (HASPs), and off-site emergency response programs required under the Occupational Safety and Health Administration (OSHA) and EPA worker protection standards. The Guidelines address two major components of the OSHA/EPA worker protection standards: (1) health and safety provisions at uncontrolled hazardous waste sites and, (2) off-site emergency response.
EPA/540/G-89/010
EPA/9285.8-02

National On-Scene Coordinator Directory

November 1989 *81 pages*
Order No.: PB90-249509

Developed as a handy reference guide to simplify communications and to promote the transfer of technical expertise among On-Scene Coordinators (OSCs). In addition to names and telephone numbers of OSCs, the directory contains Regional and Headquarters addresses, facsimile and E-mail numbers; TAT, ERCS, ERNS, and preparedness contacts; and a telephone information hotline listing. The directory also contains a comprehensive "specialty area" index that can be a useful reference for contacting OSCs or others who have extensive experience in a particular response situation or specialized area.
EPA/9200.5-120

Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures (Interim Final)

April 1990 *66 pages*
Order No.: PB90-274481

Provides guidance for establishing, implementing, and using Quality Assurance/Quality Control (QA/

QC) protocols in data collection activities performed under the Removal program. Also provides guidance for reviewing laboratory data packages according to the QA/QC protocols.
EPA/540/G-90/004
EPA/9360.4-01

Fact Sheet

Reimbursement to Local Governments for Emergency Response to Hazardous Substance Releases

November 1989 *5 pages*
Order No.: PB90-274234

Provides a summary of requirements and procedures set forth in Section 123 of SARA, the 1986 Superfund amendments. This law authorizes the EPA to reimburse local governments for expenses incurred when carrying out temporary emergency measures in response to hazardous substance threats.
EPA/9225.3-01FS

Publication

Removal Cost Management Manual

April 1988 *205 pages*
Order No.: PB90-153891

Offers a comprehensive cost management procedure for use by EPA staff at removal actions authorized under CERCLA, the original Superfund law. The document is written for On-Scene Coordinators or other on site personnel the OSC may designate to perform cost management activities at a Superfund removal site.
EPA/9360.0-02B

Publication

Standard Operating Safety Guides

July 5, 1988 *137 pages*
Order No.: PB90-249590

Describes current Occupational Safety and Health Administration (OSHA) regulations as they apply to hazardous waste workers involved in incident response. This edition updates the November 1984 edition of Standard Operating Safety Guides.
EPA/9285.1-01C

Publication

A Study of Joint Use of Vehicles for Transportation of Hazardous and Nonhazardous Materials (Report to Congress)

April 1987 *116 pages*
Order No.: PB87-215349

Presents a joint study by EPA and DOT to assess and examine risks and problems associated with transporting hazardous and nonhazardous materials in the same vehicle.
EPA/540/1-87/001
EPA/9360.6-01

Publication

Superfund Emergency Response Actions: A Summary of Federally-Funded Removals Volume 1

May 1987 *196 pages*
Order No.: PB90-197310

Volume 2

June 1988 *110 pages*
Order No.: PB90-197328

Volume 3

June 1989 *121 pages*
Order No.: PB90-214354

Summarizes short-term actions (removals) undertaken by EPA and the U.S. Coast Guard in response to hazardous substance incidents. The documents present an historical perspective of the program and summarize removals completed during the five-year authorized funding period of CERCLA (December 11, 1980, through September 30, 1985). Actions taken between October 1, 1985, and September 30, 1986, that were funded primarily by two special appropriations from Congress are also summarized. These are the first documents published that collect short-term response information for all six years.
EPA/9360.6-02 (Volume 1)
EPA/9360.6-03 (Volume 2)
EPA/9360.6-04 (Volume 3)

EPA employees may order documents by calling: FTS-475-8864

3 Removal

Superfund Removal Procedures: Action Memorandum Guidance

September 1990 *65 pages*
Order No.: PB90-274473

Provides guidance for preparing an Action Memorandum, which is a concise written record of the decisions made in selecting removal actions, and the primary decision document used to select and authorize such actions. This document is the first volume of a ten-volume series of guidance documents collectively titled "Superfund Removal Procedures." These stand-alone volumes update and replace OSWER Directive 9360.0-03B, the single-volume "Superfund Removal Procedures" manual issued in February 1988.
EPA/9360.3-01

Superfund Removal Procedures: Revision Number Three

February 1988 *318 pages*
Order No.: PB90-192055

Gives EPA response officials uniform, Agency-wide guidance on removal actions. Also included are National Contingency Plan definitions relevant to the program, removal policies as determined by OERR, and step-by-step directions for preparation and approval of documentation.
EPA/9360.0-03B

Use of Expanded Removal Authority to Address NPL and Proposed NPL Sites

February 7, 1987 *5 pages*
Order No.: PB90-273905

Directs EPA Regions to evaluate NPL and proposed NPL sites to determine if the expanded removal authority in SARA can be used to totally, or substantially clean up these sites.
EPA/9360.0-14

Use of Removal Approaches to Speed Up Remedial Action Projects

July 7, 1989 *8 pages*
Order No.: PB90-274382

Defines the basic requirements to be met when a Region chooses to use removal authorities and contracting methods to speed up remedial projects on National Priorities List (NPL) sites where surface cleanups may result in a total site cleanup or completion of a major portion of the site.
EPA/9355.0-25A

Pre-Remedial

Decentralization of Superfund Bottle Repository Functions

September 1, 1989 *43 pages*
Order No.: PB90-249558

Provides guidance for decentralizing from OERR to the Regions and their support contractors the acquisition of Superfund sampling bottles. Reiterates and expands on information previously provided to the Environmental Services Division personnel responsible for bottle acquisition.
EPA/9240.0-05

Environmental Asbestos Assessment Manual; Superfund Method for the Determination of Asbestos in Ambient Air, Part 1: Method (Interim Version)

May 1990 *121 pages*
Order No.: PB90-274283

Environmental Asbestos Assessment Manual; Superfund Method for the Determination of Asbestos in Ambient Air, Part 2: Technical Background

EPA employees may order documents by calling: FTS-475-8864

Document (Interim Version)

May 1990 *106 pages*
Order No.: PB90-274291

Provides a sampling and analysis method for the determination of asbestos in the air to provide results suitable for supporting risk assessment at Superfund sites. Part 1 presents the method to be used. Part 2 presents the technical background and considerations addressed during the development of this method.
EPA/540/2-90/005a (Part 1)
EPA/9285.5-02-1 (Part 1)
EPA/540/2-90/005b (Part 2)
EPA/9285.5-02-2 (Part 2)

Publication.

Expanded Site Inspection: Guidance for FY-88

October 1987 *76 pages*
Order No.: PB90-183377

Serves as a consolidated ready reference of general methodologies and activities for conducting site inspection work on sites projected for the NPL. Compiled with substantial input from pre-remedial staff in EPA Regions, the manual contains procedures that have been used successfully in carrying out EPA site investigation work nationwide. Progress toward establishing more standardized and efficient evaluation methods is discussed. The guidance is applicable for FY-88 and will be superseded when final guidance is issued on conducting site inspections.
EPA/9345.1-02

Publication

Field Screening Methods Catalog

August 1988 *44 pages*
Order No.: PB89-134159

Assists the user in identifying field screening methods applicable to specific site characteristics.
EPA/540/2-88/005
EPA/9380.0-08

Publication

Field Test of the Proposed Revised Hazard Ranking System (HRS)

May 1990 *137 pages*
Order No.: PB90-222746

Discusses the findings and issues brought to light when proposed revisions to the Hazard Ranking System (HRS) were field tested. Guided by prescribed rules, the HRS assigns numerical values to factors characterizing the potential of any given release to cause harm to public health or the environment. The system is used to assess relative risks from hazardous waste sites.
EPA/540/P-90/001
EPA/9320.7-00

Publication

Guidelines for Effective Management of the Contract Laboratory Program, Part 1: Contract Award. Part 2: Contract Administration

November 1989 *346 pages*
Order No.: PB90-191545

Provides internal guidelines for Superfund Project Officers in procuring, administrating, and managing CLP contracts.
EPA/9240.0-04-1
EPA/9240.0-04-2

Publication

Health Effects Assessment Summary Tables Fourth Quarter FY-89

October 1989 *1 page*
Order No.: PB90-921100

Serves as an excellent pointer system to identify current literature about changes in assessment criteria for many chemicals of interest to Superfund. Prepared for Superfund use by the Environmental Criteria and Assessment Office in EPA's Office of Health and Environmental Assessment, the document covers chemicals featured in ECAO's Health Effects Assessment

3 Pre-Remedial

Documents or Air Quality Criteria Documents. The document also treats those radionuclides believed to be most common at Superfund sites. Tables summarize reference doses (RfD's) for toxicity from subchronic and chronic inhalation and from oral exposure, slope factors and unit risk values for carcinogenicity based on lifetime inhalation and oral exposure, and radionuclide carcinogenicity. This document is on a standing order and is updated quarterly. It retains the same order number for each issue.
EPA/9200.5-303

Publication

Impacts of CERCLA Release Notification Requirements on Transportation of Products Containing Hazardous Substances

August 1986 *211 pages*
Order No.: PB87-110870

Published jointly with the U.S. Department of Transportation, this document reports the results of interviews with hazardous waste shippers and carriers on the regulatory burden imposed by CERCLA release-notification requirements. Eight shippers and seven carriers were quizzed on volumes and types of shipments, staffing, training, paperwork, insurance, and related costs.
DOT-TSC-RSPA-85-2

Directive

Listing Municipal Landfills on the National Priorities List

August 21, 1987 *7 pages*
Order No.: PB90-249608

Outlines procedures for listing municipal landfills qualifying as Superfund sites on the NPL.
EPA/9320.1-09

Publication

Notification of Hazardous Waste Sites Required Under Section 103 (c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980

March 1982 *3180 pages*
(in 10 Volumes)
Order No.: PB82-213984

Region I
March 1982 *170 pages*
Order No.: PB82-213992

Region II
March 1982 *311 pages*
Order No.: PB82-214008

Region III
March 1982 *367 pages*
Order No.: PB82-214016

Region IV
March 1982 *474 pages*
Order No.: PB82-214024

Region V
March 1982 *719 pages*
Order No.: PB82-214032

Region VI
March 1982 *379 pages*
Order No.: PB82-214040

Region VII
March 1982 *211 pages*
Order No.: PB82-214057

Region VIII
March 1982 *123 pages*
Order No.: PB82-214065

Region IX
March 1982 *284 pages*
Order No.: PB82-214073

Region X
March 1982 *142 pages*
Order No.: PB82-214081

Comprises, in accordance with CERCLA mandate, a total listing of 8,755 notifications of hazardous waste sites across EPA's 10 Regions. Section 103(c) of the original Superfund law (CERCLA of 1980, PL 96-510) identifies those who must notify EPA of the existence of sites where hazardous wastes from industries, businesses, government, hospitals, and other sources are stored, treated, or disposed. Each notification must summarize the location, the persons required to notify, the amount and type of any hazardous waste found on the site reported, and any known or suspected releases of hazardous wastes.

Fact Sheet

Preliminary Assessment Petition

November 1988 *7 pages*
Order No.: PB90-273723

Provides public information on the Preliminary Assessment (PA) petition process, defines a PA, and describes the procedures for submitting a PA. A sample petition format and EPA Regional addresses and phone numbers are also provided.
EPA/9200.5-301FS

Fact Sheet

Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Part A

April 1990 *9 pages*
Order No.: PB90-273830

Designed to alert RPMs and other personnel to new aspects of the Human Health Evaluation Manual, the purpose and steps of the baseline risk assessment, and where additional help can be obtained.
EPA/9285.7-01/FS

Publication

Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Part A

December 1989 *246 pages*
Order No.: PB90-155581

Assists RPMs and OSCs in managing environmental and public health risk assessment at Superfund sites. This interim final manual, when used with Volume II, "Environmental Evaluation Manual," replaces the Public Health Evaluation Manual issued in 1986.
EPA/540/1-89/002
EPA/9285.7-01B

Publication

Risk Assessment Guidance for Superfund, Volume II: Environmental Evaluation Manual

March 1989 *57 pages*
Order No.: PB90-155599

Assists RPMs and OSCs in managing environmental and public health risk assessment at Superfund sites. This interim final manual, when used with Volume I, "Human Health Evaluation Manual," replaces the Public Health Evaluation Manual issued in 1986.
EPA/540/1-89/001
EPA/9285.7-01A

Publication

SI/HRS Information Bulletin

April 1989 *14 pages*
Order No.: PB90-258310

Informs Superfund pre-remedial personnel of possible data collection changes caused by the proposed revisions to the Hazard Ranking System (HRS). This document helps Regional staff who perform pre-remedial roles, staff in State offices functioning under cooperative agreements, staff in other Federal agencies, and those in contractor firms who perform data collection activities during the interim period between proposal and promulgation of the revised HRS.
EPA/9200.5-302

Directive

Superfund Analytical Data Review and Oversight

August 18, 1988 *7 pages*
Order No.: PB90-249541

Outlines procedures and responsibilities related to review and oversight of Superfund analytical data.
EPA/9240.0-03

EPA employees may order documents by calling: FTS-475-8864

3 Pre-Remedial

Superfund Exposure Assessment Manual

April 1988 *166 pages*
Order No.: PB90-135859

Provides RPMs with the guidance necessary to conduct exposure assessments that meet the needs of the Superfund human health risk evaluation process. Includes an overall description of the integrated exposure assessment process as applied to uncontrolled hazardous waste sites; and serves as a source of reference concerning the use of estimation procedures and computer modeling techniques for the analysis of uncontrolled sites.
EPA/540/1-88/001
EPA/9285.5-01

Update to the "Procedures for Completion and Deletion of National Priorities List Sites" Guidance Document Regarding the Performance of Five-Year Reviews

December 29, 1989 *51 pages*
Order No.: PB90-274556

Incorporates into the "Procedures for Completion and Deletion of National Priorities List Sites" guidance document (OSWER directive 9320.2-03A), EPA's policy to conduct at least one five-year review prior to deleting sites from the National Priorities List.
EPA/9320.2-03B

User's Guide to Contract Laboratory Program

December 1988 *255 pages*
Order No.: PB90-186396

Describes an organic and inorganic analytical program and outlines Contract Laboratory Program (CLP) protocols that became a part of CLP analysis contracts in 1987 (inorganic) and 1988 (organic). Contains critical information for CLP samplers and user groups in EPA and the States.
EPA/540/8-89/012
EPA/9240.0-01B

Remedial

Advancing the Use of Treatment Technologies for Superfund Remedies

February 21, 1989 *10 pages*
Order No.: PB90-272659

Reaffirms the use of treatment technologies at Superfund sites and summarizes guidance documents and activities that encourage and support the use of innovative treatment technologies.
EPA/9355.0-26

An Analysis of State Superfund Programs: 50-State Study

September 1989 *225 pages*
Order No.: PB90-272733

Examines site cleanup capabilities in all 50 States and provides descriptions of statutes, program organization, findings, and cleanup procedures. Also provides "snapshots" of state cleanup programs.
EPA/540/8-89/011
EPA/9375.6-08

EPA employees may order documents by calling: FTS-475-8864

Directive

Analysis of Treatability Data for Soil and Debris: Evaluation of Land Ban Impact on Use of Superfund Treatment Technologies

November 30, 1989 *25 pages*
Order No.: PB90-258476

Summarizes the effectiveness of treatment technologies for contaminated soil and debris and provides support for decisions by the Regions to use treatability variances for complying with the RCRA Land Ban Disposal Restrictions.
EPA/9380.3-04

Fact Sheet

ARCS Construction Contract Modification Procedures

September 1989 *9 pages*
Order No.: PB90-274515

Describes the contracting relationships, technical reviews, and administrative procedures required to process supplemental agreements and change orders for changed work in Remedial Action construction projects which are subcontracts under EPA's ARCS contracts.
EPA/9355.5-01/FS

Fact Sheet

Audits and the Superfund Program Manager

January 1990 *4 pages*
Order No.: PB90-272717

Describes why audits of all parties to Cooperative Agreements and Superfund State Contracts (SSCs) are good business practices and how audits help EPA protect the financial integrity of Superfund response agreements.
EPA/9375.5-04/FS

Publication

Basics of Pump and Treat Ground Water Remediation Technology

September 1990 *150 pages*
Order No.: PB90-274549

First published in the summer of 1990 by the Robert S. Kerr Environmental Research Laboratory, USEPA, Ada, Oklahoma, it has been reissued for this catalog as a Superfund publication. This definitive document is considered by Superfund program management to be required reading for all project managers involved in pump and treat remediation activities at Superfund sites. Recent research has identified complex chemical and physical interactions between contaminants and subsurface media which may impose limitations on the extraction part of the process. This report was developed to summarize the basic considerations necessary to determine when, where, and how pump-and-treat technology can be used effectively to remediate ground water contamination.
EPA/600/8-90/003
EPA/9380.7-01

Directive

CERCLA Off-Site Policy: Eligibility of Facilities in Assessment Monitoring

July 28, 1986 *5 pages*
Order No.: PB90-249632

Clarifies application of the CERCLA off-site policy to RCRA commercial facilities in assessment monitoring.
EPA/9330.2-06

Directive

CERCLA Off-Site Policy: Providing Notice to Facilities

May 12, 1986 *8 pages*
Order No.: PB90-249624

Describes how to give notice to commercial treatment, storage, and disposal facilities that they are deemed ineligible to receive CERCLA response wastes. Outlines procedures facilities should use to write comments

about the application of the policy to the conditions alleged at their facility.
EPA/9330.2-05

CERCLA Site Discharges to POTWs: Guidance Manual

September 1990 *275 pages*
Order No.: PB90-274531

Presents the results of an extensive joint study conducted by the Office of Water's Industrial Technology Division and the Superfund Program to determine the effects of CERCLA hazardous waste discharges on publicly owned treatment works (POTWs). An extensive background document with accompanying software will be published in December and will be available in early FY-91 exclusively from the National Technical Information Service. The primary document will be of interest to operators of publicly owned treatment plants who may be required to make decisions whether or not to accept hazardous wastes from Superfund sites. The subsequent documents provide the hard data on which decisions can be made.
EPA/540/G-90/005
EPA/9330.2-09

CERCLA Waste Capacity Assurance

August 1990 *5 pages*
Order No.: PB90-274507

Discusses waste capacity assurance, which is one of the five assurances required of a state by CERCLA before the hazardous waste trust fund (Superfund) can be used for a remedial action. This fact sheet describes the statutory goals associated with the waste capacity assurance, the Capacity Assurance Plan (CAP), and additional sources of information.
EPA/9375.5-09/FS

Community Relations In Superfund: A Handbook (Interim Guidance)

June 1988 *190 pages*
Order No.: PB89-180830

Provides policy requirements for coordinating activities at Superfund sites and additional techniques and guidance that can be used to supplement and enhance a basic community relations program. This handbook, which contains new material and revisions to reflect SARA amendments and EPA policies issued since 1983, applies to all response actions conducted under CERCLA, whether performed by EPA, other Federal agencies, or State governments.
EPA/540/G-88/002
EPA/9230.0-03B

Community Relations: Use of Senior Environmental Employees in Superfund (Superfund Management Review: Recommendation 43.K,L)

August 31, 1990 *6 pages*
Order No.: PB90-273749

Describes the use of Senior Environmental Employees in the Superfund program and offers guidance on their future use.
EPA/9230.0-09

A Compendium of Superfund Field Operations

December 1, 1987 *644 pages*
Order No.: PB88-181557

Contains a consolidated reference to all remedial field procedures to ensure consistency among the 10 EPA regions. This collection may be used by RPMs, Quality Assurance Officers, and State and Regional field staffs.
EPA/540/P-87/001
EPA/9355.0-14

Directive

Control of Air Emissions From Superfund Air Strippers at Superfund Ground Water Sites

June 15, 1989 *8 pages*
Order No.: PB90-272667

Establishes guidance on control of air emissions from air strippers used at Superfund sites for ground water treatment. This joint memorandum from OERR, and Air Quality Planning and Standards establishes implementation procedures.
EPA/9355.0-28

Fact Sheet

Criminal Investigations and the Superfund Program

September 1990 *5 pages*
Order No.: PB90-274499

Directed toward anyone who witnesses fraudulent activity in EPA programs, this fact sheet discusses areas in which fraud and abuse can occur and provides an understanding of the criminal investigation process that results from reports of suspicious activity.
EPA/9375.5-08/FS

Publication

Data Quality Objectives for Remedial Response Activities: Development Process (Volume 1)

March 1987 *144 pages*
Order No.: PB88-131370

Data Quality Objectives for Remedial Response Activities: Example Scenario: RI/FS Activities at a Site with Contaminated Soils and Ground Water (Volume 2)

March 1987 *152 pages*
Order No.: PB88-131388

Data Quality Objectives for Remedial Response Activities: Volumes 1 & 2

March 1987 *296 pages*
Order No.: PB90-272634

Provides guidance for developing data quality objectives for site-specific Remedial Investigation/ Feasibility Study activities. The documents specify the qualitative and quantitative standards required to support Remedial Investigation/Feasibility Study activities. They also set forth a formal approach to the development of data quality objectives in the sampling/ analytical plan, with the purpose of improving the quality and cost-effectiveness of data collection and analysis.
EPA/540/G-87/003 (Volume 1)
EPA/540/G-87/004 (Volume 2)
EPA/9355.0-07B (Volumes 1 and 2)

Fact Sheet

Debarment and Suspension

Fall 1989 *6 pages*
Order No.: PB90-272527

Defines debarment and suspension, and describes causes and procedures, and authorities for pursuing them. Requirements of the Drug-Free Workplace Act also are discussed in this fact sheet.
EPA/9200.5-208/FS

Publication

Directory of EPA/State Contacts by Specialty

February 1990 *73 pages*
Order No.: PB90-249749

This directory lists personnel who provide legal, administrative, and financial expertise in support of CERCLA nationwide.
EPA/540/8-90/002
EPA/9375.6-01

EPA employees may order documents by calling: FTS-475-8864

3 Remedial

Discharge of Wastewater from CERCLA Sites into Publicly Owned Treatment Works (POTWs)

April 15, 1986 *8 pages*
Order No.: PB90-249616

Discusses technical and policy concerns related to the discharge of wastewater from CERCLA emergency removals and remedial actions to POTWs. Sets forth proposed criteria and affirms EPA's intent to develop policy on the use and selection of POTWs for CERCLA wastewater.
EPA/9330.2-04

EPA/U.S. Army Corps of Engineers Payment Process, Direct Site/Revised Reimbursement Methods

May 1990 *7 pages*
Order No.: PB90-273897

Outlines new procedures for the disbursement of funds to the U.S. Army Corps of Engineers (USACE) under EPA-led Superfund projects. The document describes procedures for the direct site payment process for new projects, the revised reimbursement payment process for USACE in-house costs, and the revised reimbursement payment process for existing projects.
EPA/9355.5-14FS

Evaluation of Ground Water Extraction Remedies, Volume 1: Summary Report

September 1989 *65 pages*
Order No.: PB90-183583

Evaluation of Ground Water Extraction Remedies, Volume 2: Case Studies 1-19 (Interim Final)

October 1989 *557 pages*
Order No.: PB90-274440

Evaluation of Ground Water Extraction Remedies, Volume 3: General Site Data, Data Base Reports (Interim Final)

October 1989 *121 pages*
Order No.: PB90-274457

Provides information assembled from hazardous waste sites throughout the United States showing how ground water extraction systems are being used, how their performance compares with expectations, and what factors are affecting their success. Volume 1 summarizes the general conclusions and observations of the study. It describes the methodology of the study, the factors that influence the effectiveness of ground water extraction systems, and the data requirements for the design of extraction systems. Volume 2 presents 19 case studies of individual sites, presents site characteristics, and discusses factors that have influenced the success of remedial activities. Volume 3 presents general information on the location, geologic setting, contamination, and administrative status of each site.
EPA/540/2-89/054 (Volume 1)
EPA/9355.4-03 (Volume 1)
EPA/540/2-89/054b (Volume 2)
EPA/9355.4-03 (Volume 2)
EPA/540/2-89/054c (Volume 3)
EPA/9355.4-03 (Volume 3)

Expediting Remedial Construction

October 1989 *9 pages*
Order No.: PB90-272683

Examines activities to be considered in Remedial Management Strategies to accelerate remedial construction.
EPA/9355.5-02/FS

The Feasibility Study: Detailed Analysis of Remedial Action Alternatives

March 1990 *6 pages*
Order No.: PB90-272675

Describes, as the fourth and fi[illegible] document in a series, the Reme[illegible]

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Investigation/Feasibility Study (RI/FS). This fact sheet summarizes Chapter 6 of "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA." Also provides Remedial Project Managers with information on how to manage this phase of the Feasibility Study efficiently and effectively.
EPA/ 9355.3-01FS4

Fact Sheet

The Feasibility Study: Development and Screening of Remedial Action Alternatives

November 1989 *7 pages*
Order No.: PB90-274416

Summarizes Chapter 4 of the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" which discusses the development and screening of alternatives for Remedial Action. Also provides information to assist the Remedial Project Manager in managing this portion of the Feasibility Study efficiently and effectively.
EPA/9355.3-01FS3

Fact Sheet

Getting Ready: Scoping the RI/FS

November 1989 *9 pages*
Order No.: PB90-274390

Summarizes Chapter 2 of "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA." This fact sheet also explains how to manage the scoping phase of the RI/FS process.
EPA/9355.3-01FS1

Publication

Guidance for Conducting Remedial Investigations and Feasibility Studies (RI/FS) Under CERCLA

October 1988 *195 pages*
Order No.: PB89-184626

Describes general procedures for conducting Remedial Investigations and Feasibility Studies and provides an overall understanding of the process. Intended for personnel responsible for conducting an RI/FS, this revises EPA's "Guidance on Remedial Investigation Under CERCLA" (May 1985), and "Guidelines on Feasibility Studies Under CERCLA" (June 1985).
EPA/540/G-89/004
EPA/9355.3-01

Publication

Guidance on Cleanup of Surface Impoundment Sites

July 17, 1986 *46 pages*
Order No.: PB87-110664

Provides guidance to Federal, State, and local officials planning and implementing remedial actions at NPL sites with one or more surface impoundments containing hazardous wastes. A systematic approach to performing remedial actions and limited remedial investigations or feasibility studies in a relatively short time period is provided, as well as the names of private firms who perform such activities.
EPA/9380.0-06

Publication

Guidance on Cleanup of Surface Tank and Drum Sites

May 28, 1985 *145 pages*
Order No.: PB87-110672

Assists Federal, State, and local officials and private parties engaged in carrying out remedial actions at NPL sites. Provides guidance for implementing concurrent remedial planning activities and accelerating project implementation for cleanup of

surface tanks and drums containing hazardous waste. As one of three guidance documents on specific remedial actions, this document identifies other documents that should be used concurrently.
EPA/9380.0-03

Publication

Guidance on Expediting Remedial Design and Remedial Action

August 1990 *51 pages*
Order No.: PB90-273871

Examines ways to expedite remedial design and remedial action so that cleanup activities can be completed more quickly. Intended for use by remedial project managers, remedial design contractors, and others involved in planning remediation activities. It should be used as a means to evaluate whether a project is suitable for expediting and to determine the methods that could be used.
EPA/540/G-90/006
EPA/9355.5-02

Directive

Guidance on Oversight of Potentially Responsible Party Performed Remedial Design and Remedial Action

February 14, 1990 *56 pages*
Order No.: PB90-249707

Provides interim final guidance on EPA oversight of Remedial Designs and Remedial Actions (RD/RA) performed by Potentially Responsible Parties (PRPs). Ensures that remedies being conducted by private owners and operators of sites are protective of public health and the environment, and are in compliance with applicable performance standards.
EPA/9355.5-01

Publication

Guidance on Providing Alternative Water Supplies

March 1, 1988 *135 pages*
Order No.: PB89-167969

Discusses circumstances under which it is appropriate to provide alternative water supplies.
EPA/540/G-87/006
EPA/9355.3-03

Publication

Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites

December 1988 *180 pages*
Order No.: PB89-184618

Emphasizes decision making issues related to contaminated ground water. This guidance is designed for use by contractors conducting RI/FS activities at sites where ground water is contaminated; RPMs responsible for ensuring the quality of information contained in the RI/FS; and decision makers responsible for selection and subsequent performance evaluation of ground water remedial actions at Superfund sites. (See also: "A Guide on Remedial Actions for Contaminated Ground Water," 9283.1-02FS, which serves as a summary of this manual).
EPA/540/G-88/003
EPA/9283.1-02

Publication

Guide for Conducting Treatability Studies Under CERCLA (Interim Final)

December 1989 *132 pages*
Order No.: PB90-249772

Describes an approach for conducting treatability studies that consists of laboratory screening, bench-scale testing, and pilot-scale testing. The guide also presents a step-by-step approach for conducting

treatability studies to determine the effectiveness of a technology (or combination of technologies) in remediating a CERCLA site.
EPA/540/2-89/058
EPA/9380.0-27

A Guide on Remedial Action at Superfund Sites with PCB Contamination

August 1990 *9 pages*
Order No.: PB90-274432

Summarizes pertinent considerations in the development, evaluation, and selection of remedial actions at Superfund sites with PCB contamination. Provides a general framework for determining cleanup levels, identifying treatment options, and assessing necessary management controls for residuals.
EPA/9355.4-01FS

A Guide on Remedial Actions for Contaminated Ground Water

April 1989 *9 pages*
Order No.: PB90-272576

Summarizes key issues in developing, evaluating, and selecting ground water remedial actions at Superfund sites, including CERCLA requirements, project planning, and remedial action objectives as presented in the comprehensive guidance.
EPA/9283.1-02FS

A Guide to Delisting of RCRA Wastes for Superfund Remedial Responses

September 1990 *9 pages*
Order No.: PB90-274374

Discusses the circumstances under which delisting wastes may be appropriate, and the procedures for delisting a Resource Conservation and Recovery Act (RCRA) hazardous waste as part of a Superfund remedial response.
EPA/9347.3-09FS

A Guide to Developing Superfund Proposed Plans

November 1989 *6 pages*
Order No.: PB90-273855

Outlines the major components of the Superfund Proposed Plan and suggests effective ways in which the various sections can be presented.
EPA/9335.3-02FS-2

A Guide to Developing Superfund Records of Decision

November 1989 *6 pages*
Order No.: PB90-273848

Provides staff preparing Records of Decision (RODs) with a quick reference to the essential ROD components and includes summaries of information needed for the three major sections of a ROD.
EPA/9335.3-02FS-1

A Guide to Selecting Superfund Remedial Actions

April 1990 *9 pages*
Order No.: PB90-273863

Describes the statutory requirements for CERCLA remedies at hazardous waste sites and the process EPA has established in the 1990 revised National Contingency Plan for meeting those requirements. This process is a general framework for reaching a judgement about the most appropriate method of protecting human health and the environment at a particular site.
EPA/9355.0-27/FS

EPA employees may order documents by calling: FTS-475-8864

3 Remedial

Indian Tribal Involvement in the Superfund Program
Fall 1989 *5 pages*
Order No.: PB90-273947

Describes the specific requirements of CERCLA and the National Contingency Plan for Indian Tribes that wish to participate in the Superfund program.
EPA/9375.5-02/FS

Innovative Technology: BEST Solvent Extraction Process
November 1989 *5 pages*
Order No.: PB90-274218

Describes the BEST solvent extraction process, which uses one or more secondary or tertiary amines to separate toxic wastes and oils from sludges or soils. Site characteristics affecting treatment feasibility, technology considerations, and the status of the first full-scale test units are discussed, and ORD contacts are provided for more information.
EPA/9200.5-253FS

Innovative Technology: Glycolate Dehalogenation
November 1989 *5 pages*
Order No.: PB90-274226

Describes glycolate dehalogenation as being potentially effective in detoxifying specific types of aromatic organic contaminants, particularly dioxins and PCBs. Site characteristics affecting treatment feasibility, technology considerations, and the status of new technological developments also are discussed.
EPA/9200.5-254FS

Innovative Technology: In Situ Vitrification
November 1989 *5 pages*
Order No.: PB90-274192

Describes an in situ vitrification technology which can be used to treat soils and sludges contaminated with mixtures of various waste types (e.g. radioactive, inorganic and/or organic). Site characteristics affecting treatment feasibility, technology considerations, and the status of new technological developments also are discussed.
EPA/9200.5-251FS

Innovative Technology: Slurry Phase Biodegradation
November 1989 *5 pages*
Order No.: PB90-274200

Describes slurry phase biodegradation, which is potentially effective in treating various organic contaminants. Also discussed are site characteristics affecting treatment feasibility, technology considerations, and a list of names, addresses, and contacts for vendors who have used the technology at several private and state sites is provided.
EPA/9200.5-252FS

Innovative Technology: Soil Washing
November 1989 *5 pages*
Order No.: PB90-274184

Describes soil washing, which can be potentially beneficial in the separation/segregation and volumetric reduction of hazardous materials in solids, sludges, and sediments. Also discussed are site characteristics affecting treatment feasibility, technology considerations, and the status of new technological developments.
EPA/9200.5-250FS

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Directive

Interim RCRA/CERCLA Guidance on Non-Contiguous Sites and On-Site Management of Waste and Treatment Residue

March 27, 1986 *11 pages*
Order No.: PB90-274317

Presents interim guidance about combined treatment of CERCLA wastes from non-contiguous locations, on-site disposal of treatment residue, limitations on construction of hazardous waste incinerators for on-site CERCLA use, and off-site treatment of waste and redisposal on-site.
EPA/9347.0-01

Directive

Involvement of Superfund Program Managers in Superfund Response Agreement Audits

February 12, 1990 *20 pages*
Order No.: PB90-249731

Provides general reference information to Superfund program managers about the audit process. Information in this directive pertains primarily to audits of Cooperative Agreements, yet may be applied to audits of Superfund State Contracts.
EPA/9375.5-04

Publication

Leachate Plume Management

November 1, 1985 *680 pages*
Order No.: PB86-122330

Provides an overview of the fundamental concepts, procedures, and technologies used in leachate plume management. This document serves as a basic reference handbook for governmental and industrial technical personnel working on controlling leachate plumes from uncontrolled hazardous waste sites.
EPA/540/2-85/004
EPA/9380.0-05

Fact Sheet

Long-Term Contracting Strategy for Superfund

September 1990 *6 pages*
Order No.: PB90-274275

Provides a summary of the Superfund Long-Term Contracting Strategy which was developed to analyze the long-term contract needs of the Superfund program.
EPA/9242.6-07FS

Publication

Mobile Treatment Technologies for Superfund Wastes

September 1986 *50 pages*
Order No.: PB89-135859

Reviews the technologies associated with the use of mobile systems to treat Superfund wastes.
EPA/540/2-86/003
EPA/9380.0-07

Publication

Modeling Remedial Actions at Uncontrolled Hazardous Waste Sites

April 1, 1988 *463 pages*
Order No.: PB85-211357

Provides a guidance on the selection and use of models to evaluate the effectiveness of remedial actions at uncontrolled hazardous waste sites. A comprehensive set of guidelines for incorporating models into remedial action planning at Federal and State Superfund sites is presented.
EPA/540/2-85/001
EPA/9355.0-08

3 Remedial

Notification of Out-of-State Shipments of Superfund Site Wastes

September 14, 1989 *6 pages*
Order No.: PB90-272618

Implements EPA's policy that prior to the off-site shipment of Superfund site wastes to an out-of-State management facility, EPA Regional personnel will provide notice to that State's environmental officials.
EPA/9330.2-07

Planning for Sufficient Community Relations

March 7, 1990 *10 pages*
Order No.: PB90-249533

Provides guidance to Regional staff on planning for sufficient community relations at all stages of the Superfund process. This document identifies specific planning activities that have been successfully used in the Regions. (Superfund Management Review: Recommendation No. 43A).
EPA/9230.0-08

Policy for Superfund Compliance with the RCRA Land Disposal Restrictions

April 17, 1989 *12 pages*
Order No.: PB90-249640

Assists Regional removal and remedial staff in making current site decisions about the Land Disposal Restrictions (LDR) mandated by the national solid waste law (RCRA/HSWA). This memorandum explains how to: (1) determine when LDRs are "applicable" to a Superfund removal or remedial action, and (2) comply with LDRs when they are determined to be applicable.
EPA/9347.1-02

Political Subdivision Involvement in Superfund

April 1990 *5 pages*
Order No.: PB90-273954

Provides guidance to Regions, States, and political subdivisions on the designation of a political subdivision as the lead agency for remedial response under CERCLA.
EPA/9375.5-03/FS

Procurement Under Preauthorization/Mixed Funding

April 19, 1989 *9 pages*
Order No.: PB90-249525

Guides Regional staff in clarifying procurement procedures. This guidance sets forth claimants' (1) responsibilities under CERCLA Response Claims Procedures; and (2) means for assuring that their cost claims against the Hazardous Substance Superfund will be reimbursed by EPA.
EPA/9225.1-01

Proposed Method to Evaluate the Effectiveness of Community Involvement in Superfund (Superfund Management Review: Recommendation #43.A)

September 18, 1990 *8 pages*
Order No.: PB90-273764

Describes a proposed method for evaluating how effectively EPA's Superfund Community Involvement program provides adequate and meaningful opportunities for public participation in decisions made at Superfund sites.
EPA/9230.0-19

EPA employees may order documents by calling: FTS-475-8864

Fact Sheet

The Remedial Investigation: Site Characterization and Treatability Studies

November 1989 *7 pages*
Order No.: PB90-274408

Summarizes Chapters 3 and 5 of the "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA." Also discusses site characteristics and treatability studies, and includes information on how to manage these aspects of the Remedial Investigation.
EPA/9355.3-01FS2

Directive

Resource Distribution for the Technical Assistance Grant Program

June 29, 1988 *5 pages*
Order No.: PB90-249459

Clarifies the resource base for Technical Assistance Grants (TAGs), as published in the Federal Register, as an Interim Final Rule. The TAG program is a core factor in the Agency's Superfund community relations efforts to provide community groups with grants so they may obtain assistance in interpreting technical material related to Superfund cleanups.
EPA/9200.3-04

Directive

Results of FY-88 Record of Decision Analysis

May 1, 1989 *10 pages*
Order No.: PB90-249665

Results of FY-89 Record of Decision Analysis

March 30, 1990 *20 pages*
Order No.: PB90-249681

Discusses results of the draft Office of Emergency and Remedial Response and Office of Waste Programs Enforcement analysis of Records of Decision (RODs). Outlines goals to promote ROD consistency and quality to ensure that the remedial program is conducted consistently with SARA (the Superfund amendments of 1986).
EPA/9355.3-07 (FY-88)
EPA/9355.3-09 (FY-89)

Directive

Revised Interim Final Guidance on Indian Involvement in the Superfund Program

November 28, 1989 *17 pages*
Order No.: PB90-249723

Supplements and references existing documentation for EPA Regional personnel about involvement of Federally recognized Indian Tribes, which are assigned the same status as States by the Superfund program. This memorandum clarifies this guidance and reflects the Agency's growing experience with States, Indian Tribes, and political subdivisions in CERCLA implementation.
EPA/9375.502A

Directive

RI/FS Improvements

July 23, 1987 *14 pages*
Order No.: PB90-272642

Identifies ways to reduce overall project schedules and costs while retaining a quality product. Four major points are included: phased Remedial Investigations/Feasibility Studies (RI/FS), streamlined project planning, management of handoffs, and RI/FS control reviews.
EPA/9355.0-20

Directive

RI/FS Improvements Follow-Up

April 25, 1988 *18 pages*
Order No.: PB90-249657

Delineates improvements developed for more effective Remedial Investigations/Feasibility Studies (RI/FS).
EPA/9355.3-05

3 Remedial

Role of Community Interviews in the Development of a Community Relations Program for Remedial Response

June 15, 1990 *5 pages*
Order No.: PB90-273756

Offers guidance in response to recent Regional Office questions regarding the community relations interviews required by the National Contingency Plan.
EPA/9230.0-15

Scoper's Notes: A Remedial Investigation/Feasibility Study (RI/FS) Costing Guide

February 1990 *31 pages*
Order No.: PB90-258369

Outlines tasks and subtasks typically conducted as part of a Remedial Investigation/Feasibility Study, and presents a strategy based on site complexity and task difficulty for estimating a project's cost. Provides cost guidelines for estimating funding needs in advance of issuing work assignments and evaluating contractor proposals.
EPA/540/G-90/002
EPA/9355.1-05

State and Local Involvement in the Superfund Program

Fall 1989 *6 pages*
Order No.: PB90-273939

Provides an overview of hazardous waste laws, the Superfund process, and future directions of the Superfund program. This document also describes ways that State and local governments can get involved in the Superfund program; mechanisms for assuring State and local involvement; and the roles of political subdivisions, Indian Tribes, and local governments.
EPA/9375.5-01/FS

Status of State Involvement in the Superfund Program: FY-80 to FY-89

April 1990 *36 pages*
Order No.: PB90-272725

Summarizes State involvement throughout the Superfund process since the passage of CERCLA, the original national hazardous waste law. The report includes: the roles and responsibilities of States; an overview of the Superfund process and phases of response; an historical perspective on State involvement in each phase of response at Superfund sites; and a summary of State involvement in non-site specific activities.
EPA/540/8-90/005
EPA/9375.6-04

Streamlining the RI/FS for CERCLA Municipal Landfill Sites

September 1990 *7 pages*
Order No.: PB90-274424

Discusses streamlining the RI/FS for municipal landfills with respect to site characterization, risk assessment, and the development of remedial action alternatives. This streamlining is possible since approximately 20 percent of the sites on the NPL are municipal landfills which typically share similar characteristics.
EPA/9355.3-11FS

Superfund Community Relations Program: A Guide to Effective Presentations With Visual Aids

June 1989 *55 pages*
Order No.: PB89-167985

Presents a collection of proven visual aid presentation techniques useful in communicating issues concerning Superfund cleanup actions to a general audience. The guide is targeted primarily at individuals implementing the Superfund Community Relations Program.
EPA/540/G-89/001
EPA/9230.0-12A

EPA employees may order documents by calling: FTS-475-8864

Publication

Superfund Federal-Lead Remedial Project Management Handbook

December 1986 *204 pages*
Order No.: PB87-183133

Defines the roles and responsibilities of the Remedial Project Manager (RPM) working on Federal-lead remedial projects at uncontrolled hazardous waste sites. Also discusses project management techniques and the resources available to the RPM for accomplishing the mission.
EPA/540/G-87/001
EPA/9355.1-01

Publication

Superfund Innovative Technology Evaluation (SITE) Program: Progress and Accomplishments in FY-87

March 1988 *40 pages*
Order No.: PB88-237482

Reports the status of the SITE program to Congress. The progress, accomplishments, and results of the SITE Program through 1987 are summarized. This report also focuses on completed demonstrations and provides performance data and results.
EPA/540/5-88/001
EPA/9380.0-11

Publication

Superfund Innovative Technology Evaluation (SITE) Program Strategy and Program Plan

December 1, 1986 *58 pages*
Order No.: PB87-181939

Describes the SITE program strategy and program plan, and provides information on participation in the program.
EPA/540/G-86/001
EPA/9380.2-03

Fact Sheet

Superfund LDR Guide #1: Overview of RCRA Land Disposal Restrictions (LDRs)

July 1989 *6 pages*
Order No.: PB90-274325

Summarizes the major components of the Land Disposal Restrictions imposed by the national solid waste law (RCRA/HSWA). Also outlines types of restrictions imposed and presents compliance options specified in the regulation.
EPA/9347.3-01FS

Fact Sheet

Superfund LDR Guide #2: Complying with the California List Restrictions Under Land Disposal Restrictions (LDRs)

July 1989 *5 pages*
Order No.: PB90-274333

Defines the California list of wastes, summarizes their respective restrictions, and discusses their potential to overlap with other Land Disposal Restriction treatment standards.
EPA/9347.3-02FS

Fact Sheet

Superfund LDR Guide #3: Treatment Standards and Minimum Technology Requirements Under Land Disposal Restrictions (LDRs)

July 1989 *7 pages*
Order No.: PB90-274341

Summarizes types and effective dates of treatment standards, and outlines procedures for compliance with the treatment standards and minimum technology requirements set during national capacity extensions.
EPA/9347.3-03FS

EPA employees may order documents by calling: FTS-475-8864

3 Remedial

Superfund LDR Guide #4: Complying with the Hammer Restrictions Under Land Disposal Restrictions (LDRs)

July 1989 *7 pages*
Order No.: PB90-274358

Discusses compliance with Land Disposal Restriction "soft- hammer" and "hard-hammer" provisions. These are restrictions on the disposal of hazardous wastes that become effective if EPA does not promulgate standards by relevant statutory deadlines.
EP/9347.3-04FS

Superfund LDR Guide #5: Determining When Land Disposal Restrictions (LDRs) are "Applicable" to CERCLA Response Actions

July 1989 *7 pages*
Order No.: PB90-274366

Outlines the process used to determine whether the Land Disposal Restrictions established under the national solid waste law (RCRA/HSWA) are "applicable" to a CERCLA response action.
EPA/9347.3-05FS

Superfund Remedial Design and Remedial Action (RD/RA) Guidance

June 1, 1986 *112 pages*
Order No.: PB88-107529

Assists agencies and individuals who plan, administer, and manage RD/RAs at Superfund sites.
EPA/9355.0-04A

Superfund Responsiveness Summaries (Superfund Management Review: Recommendation #43E)

June 4, 1990 *6 pages*
Order No.: PB90-273731

Describes the background of responsiveness summaries and outlines a new format intended to provide summaries that can deal thoroughly with complicated legal and technical issues while maintaining true responsiveness to local communities.
EPA/9230.0-06

Superfund Risk Assessment Information Directory

November 1986 *200 pages*
Order No.: PB87-188918

Identifies and describes sources of information useful in conducting Superfund-related risk assessments. Information is presented on sources of automated databases, data files and tapes, models, directories, periodicals, publications, and human and corporate resources. Facilitates the performance of EPA-related risk assessments by helping individuals find needed information and specialized resources.
EPA/540/1-86/061
EPA/9285.6-01

Superfund State-Lead Remedial Project Management Handbook

December 1986 *131 pages*
Order No.: PB87-183141

Defines roles and responsibilities of the Remedial Project Manager (RPM) involved in State-led remedial projects at uncontrolled hazardous waste sites. Discusses project management techniques and resources available.
EPA/540/G-87/002
EPA/9355.2-01

Superfund Technical Assistance Grants

January 1990 *9 pages*
Order No.: PB90-273772

Provides background and basi information on the Technical

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Assistance Grant (TAG) program. TAG provides funds to qualified citizen's groups to hire independent technical advisors.
EPA/9230.1-05/FS

Publication

Superfund Treatability Clearinghouse Abstracts

August 1989 *133 pages*
Order No.: PB90-119751

Presents clearinghouse studies collected to aid in the development of treatment methods for excavated soils that would trigger Land Disposal Restrictions under the requirements of national solid waste law (RCRA/HSWA). The studies contain treatability data on technologies for soil and debris.
EPA/540/2-89/001
EPA/9380.0-26

Publication

Technology Screening Guide for Treatment of CERCLA Soils and Sludges

1988 *140 pages*
Order No.: PB89-132674

Provides a screening methodology to identify treatment technologies that may be suitable for the management of soils and sludges containing CERCLA waste. Information is presented for each of the treatment technologies on the generic system, individual unique systems, the developmental status, process schematics, characteristics affecting treatment performance, and contacts.
EPA/540/2-88/004
EPA/9380.0-25

Directive

Treatability Studies Contractor Work Assignments

July 12, 1989 *5 pages*
Order No.: PB90-273962

Requires all future remedial and removal work assignments involving treatability studies to contain a provision requiring the contractor to provide the Agency's Superfund data base with a copy of the work products.
EPA/9380.3-01

Fact Sheet

Treatability Studies Under CERCLA: An Overview

December 1989 *9 pages*
Order No.: PB90-273970

Provides a synopsis of information to facilitate the planning and execution of treatability studies in support of the RI/FS and the RD/RA processes.
EPA/9380.3-02/FS

Fact Sheet

Update: Superfund Technical Assistance Grants

November 1989 *5 pages*
Order No.: PB90-273715

Addresses the status of the Technical Assistance Grant (TAG) Program and amendments to the Interim Final Rule which specifies requirements for accepting and evaluating applications and awarding and managing TAGs.
EPA/9200.5-209/FS

Fact Sheet

USACE Preplaced and Rapid Response Contracts

December 1989 *6 pages*
Order No.: PB90-273889

Describes the Preplaced Remedial Action (PRA) and Remedial Response (RR) contracts. Also includes program overviews and a description of the roles and responsibilities of the U.S. Army Corps of Engineers (USACE), and EPA, program execution, resource management, contract management, and program policies are also described.
EPA/9355.5-05/FS

3 Remedial

Technology

Use of Office of Research and Development's Bioremediation Expertise in Superfund Removal Program

March 12, 1990 *5 pages*
Order No.: PB90-249798

Establishes a formal mechanism to access and use the Office of Research and Development's capabilities in the area of bioremediation of oil spills, hazardous substance spills, and Superfund removal actions.
EPA/9380.4-01

American Combustion Pyretron Destruction System: Applications Analysis Report

June 1989 *57 pages*
Order No.: PB90-258427

Analyzes American Combustion's Pyretron oxygen enhanced burner system. Discusses information on the economical advantages of this type of incineration for use in assessments at uncontrolled hazardous waste sites.
EPA/540/A5-89/008
EPA/9380.0-35

Assessment of International Technologies for Superfund Applications: Technology Review and Trip Report Results

1988 *53 pages*
Order No.: PB90-106428

Provides an overview of site remediation technologies being used in the U.S. and in Europe. Recommends efforts to transfer European technologies to the U.S.
EPA/540/2-88/003
EPA/9380.0-10

Assessment of Technologies for the Remediation of Radioactively Contaminated Superfund Sites

January 1990 *115 pages*
Order No.: PB90-204140

Screens and evaluates information needs in developing generic treatability studies for the remediation of Superfund radiation sites on the NPL. It categorizes the 25 radiation sites currently proposed or listed on the NPL, and provides a rating system for evaluating technologies that may be used to remediate these sites. Also identifies gaps in site assessment and technology data and provid information about and recommendations for technology development.
EPA/540/2-90/001
EPA/9380.0-20

Covers for Uncontrolled Hazardous Waste Sites

September 1985 *554 pages*
Order No.: PB87-119483

Provides guidance for the design of cover systems for uncontrolled hazardous waste sites. Offers information on soil properties tests, materials for impermeable applications, site preparation, support material, equipment, and quality control and assurance.
EPA/540/2-85/002
EPA/9380.0-13

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Publication

Determining Soil Response Action Levels Based on Potential Contaminant Migration to Ground Water: A Compendium of Examples

October 1989 *152 pages*
Order No.: PB90-183575

Presents methods and models used to establish soil cleanup levels at Superfund sites where threats to ground water resources exist. Case studies, intended for reference use only, illustrate how methods can be used at Superfund sites to derive soil cleanup levels based on the potential for hazardous constituents to migrate to and contaminate ground water. Examples are not designed to support or recommend any specific approach in determining soil response action levels, and do not constitute guidance.
EPA/540/2-89/057
EPA/9380.0-07

Publication

Dust Control at Hazardous Waste Sites; Handbook

November 1985 *99 pages*
Order No.: PB86-190105

Describes methods of controlling contaminated fugitive dust from contaminated land surfaces. Information on equipment, decontamination, and worker protection is included. Possible non-air impacts arising from the use of dust suppressant measures are also discussed.
EPA/540/2-85/003
EPA/9380.0-14

Publication

Forum on Innovative Hazardous Waste Treatment Technologies: Domestic and International

September 1989 *329 pages*
Order No.: PB90-183799

Compiles technical papers presented at the July 19-21, 1989 conference on Domestic and International Hazardous Waste Treatment Technologies in Atlanta. This conference introduced new international technologies, showcased the results of U.S. EPA Superfund Innovative Technology Evaluation (SITE) program technologies, and demonstrated other domestic innovative technologies.
EPA/540/2-89/056
EPA/9380.0-16

Publication

Guide to Treatment Technologies for Hazardous Wastes at Superfund Sites

March 1989 *20 pages*
Order No.: PB89-190821

Addresses alternative technologies that can be used to treat wastes at Superfund sites. This guide is designed for use by EPA Regional Offices, States, remedial contractors, and others to aid in the identification of alternative technologies that have been or are currently being developed.
EPA/540/2-89/052
EPA/9380.0-18

Publication

Handbook on In Situ Treatment of Hazardous Waste-Contaminated Soils

January 1990 *157 pages*
Order No.: PB90-155607

Updates Volume I of "Review of In-Place Treatment Techniques for Contaminated Surface Soils." Provides state-of-the-art information on in situ treatment technologies for contaminated soils.
EPA/540/2-90/002
EPA/9380.0-22

Publication

HAZCON Solidification Process, Douglassville, PA: Applications Analysis Report

May 1989 *65 pages*
Order No.: PB89-206031

Evaluates the HAZCON solidification technology and its applicability as an on-site treatment method for waste site cleanup. A demonstration was held at the Douglassville, Pennsylvania site in the fall of 1987.
EPA/540/A5-89/001
EPA/9380.0-38

Publication

Shirco Infrared Incineration System: Applications Analysis Report

June 1989 *137 pages*
Order No.: PB89-233423

Provides an evaluation of the Shirco infrared thermal destruction technology and its applicability as an on-site treatment method for waste site cleanup.
EPA/540/A5-89/010
EPA/9380.0-36

Publication

The Superfund Innovative Technology Evaluation Program: Technology Profile

November 1989 *129 pages*
Order No.: PB90-249756

Profiles 52 demonstration and emerging technologies being evaluated under the SITE Program. Each profile describes a technology, discusses its applicability to various wastes, updates its development or demonstration status, and presents any available demonstration results.
EPA/540/5-89/013
EPA/9380.0-24

Publication

Superfund Treatment Technologies: A Vendor Inventory

1986 *540 pages*
Order No.: PB87-184578

Provides current information on capability and availability of mobile treatment units for Superfund waste, including descriptions and technical information.
EPA/540/2-86/004F
EPA/9380.0-09

Publication

Technological Approaches to the Cleanup of Radiologically Contaminated Superfund Sites

August 1988 *136 pages*
Order No.: PB89-122121

Describes a joint project with EPA's Office of Research and Development and the Office of Air and Radiation to identify technologies for removing or stabilizing radiological contamination at Superfund sites. Exclusive remediation of soil is addressed. Various technologies and the need for additional assessment studies are evaluated.
EPA/540/2-88/002
EPA/9380.0-21

Publication

Technology Evaluation Report: CF Systems Organics Extraction System New Bedford, MA

January 1990 *107 pages*
Order No.: PB90-258468

Analyzes CF Systems Corporation's organics extraction technology. Contains information on the performance and cost of the process for use in site assessments.
EPA/540/5-90/002
EPA/9380.0-47

Publication

Technology Evaluation Report: SITE Program Demonstration Test, International Waste Technologies In Situ Stabilization/Solidification, Hialeah, Florida, Volume I

June 1989 *105 pages*
Order No.: PB89-194161

Analyzes the International Waste Technologies' proprietary in situ stabilization/solidification process and represents the sixth demonstration in the Superfund Innovative Technology Evaluation (SITE) program. This report discusses information on the

performance and cost of the technology for assessing its use at uncontrolled hazardous waste sites.
EPA/540/5-89/004a
EPA/9380.0-37

Program Management

Publication

Technology Evaluation Report: SITE Program Demonstration Test, Soliditech, Inc. Solidification/Stabilization Process, Volume I

February 1990 *138 pages*
Order No.: PB90-191750

Analyzes the Soliditech, Inc. solidification/stabilization technology. The technical criteria discussed include: (1) contaminant mobility based upon leaching and permeability tests and, (2) the structural integrity of the solidified material based upon physical and morphological tests.
EPA/540/5-89/005a
EPA/9380.0-39

Publication

Terra Vac In Situ Vacuum Extraction System: Applications Analysis Report

July 1989 *65 pages*
Order No.: PB90-119744

Evaluates the Terra Vac in situ vacuum extraction system and its applicability as a treatment method for waste site cleanup.
EPA/540/A5-89/003
EPA/9380.0-46

Fact Sheet

Applicable or Relevant and Appropriate Requirements (ARARs) Qs & As

May 1989 *7 pages*
Order No.: PB90-273780

Summarizes applicable or relevant and appropriate requirements (ARARs) policy that remedial actions conform to the current National Contingency Plan (NCP). First in a planned series, this fact sheet discusses current program practices and the policies and language of the proposed NCP.
EPA/9234.2-01/FS

Directive

Approval of Long-Term Contracting Strategy for Superfund (Superfund Management Review: Recommendation E.2)

August 31, 1990 *42 pages*
Order No.: PB90-273822

Summarizes the issues, findings, analysis and recommendations for the Superfund Long Term Contracting Strategy which was developed to analyze the long term contract needs of the Superfund program and to design a portfolio of Superfund contracts to meet those needs over the next 10 years.
EPA/9242.6-07

Fact Sheet

ARARs Qs & As: Compliance with Federal Water Quality Criteria

June 1990 *11 pages*
Order No.: PB90-274267

Part of a series of fact sheets that provide answers to questions that arose in developing applicable or relevant and appropriate requirements (ARARs) policies, training sessions, and in identifying and complying with ARARs at specific sites. This particular fact sheet addresses compliance with Federal Water Quality Criteria as ARARs.
EPA/9234.2-09/FS

Fact Sheet

ARARs Qs & As: Compliance with the Toxicity Characteristics Rule: Part 1

May 1990 *6 pages*
Order No.: PB90-273814

Part of a series of fact sheets that provide answers to questions that

arose in developing applicable or relevant and appropriate requirements (ARARs) policies, training sessions, and in identifying and complying with ARARs at specific sites. This fact sheet addresses compliance with the recently promulgated Toxicity Characteristics Rule (55 FR 11798, March 29, 1990).
EPA/9234.2-08/FS

CERCLA Compliance with Other Laws Manual: CERCLA Compliance with the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA)

February 1990 *10 pages*
Order No.: PB90-273806

Provides a guide to Chapters 3 and 4 of Part I of the "CERCLA Compliance with Other Laws Manual." The sixth in a series, this fact sheet focuses on CERCLA compliance with the Clean Water Act in Chapter 3, and the Safe Drinking Water Act in Chapter 4, and discusses statutes with provisions relevant to surface water or drinking water.
EPA/9234.2-06/FS

CERCLA Compliance with Other Laws Manual: CERCLA Compliance with State Requirements

December 1989 *8 pages*
Order No.: PB90-272543

Provides a guide to Chapter 6 of Part II of the "CERCLA Compliance with Other Laws Manual." The fifth in a series, this fact sheet discusses CERCLA compliance with State requirements, based on policies in proposed revisions to the National Contingency Plan.
EPA/9234.2-05/FS

CERCLA Compliance with Other Laws Manual: Guide to Manual

September 1989 *7 pages*
Order No.: PB90-274242

Serves as a guide to the use of the "CERCLA Compliance with Other Laws Manual." The second in a series, this fact sheet discusses implementation of applicable or relevant and appropriate requirements (ARARs) provisions in the proposed revisions to the National Contingency Plan.
EPA/9234.2-02/FS

CERCLA Compliance with Other Laws Manual: Overview of Applicable or Relevant and Appropriate Requirements (ARARs)– Focus on ARAR Waivers

December 1989 *8 pages*
Order No.: PB90-273798

Summarizes Chapter I of Part I of the "CERCLA Compliance with Other Laws Manual" The third in a series, this fact sheet provides an overview of applicable or relevant and appropriate requirements (ARARs) based on policies in proposed revisions to the National Contingency Plan.
EPA/9234.2-03/FS

CERCLA Compliance with Other Laws Manual, Part I (Interim Final)

August 1988 *246 pages*
Order No.: PB90-272535

Developed to provide guidance to Remedial Project Managers, State personnel at State-led Superfund sites, On-Scene Coordinators, and others responsible for planning response actions under the national hazardous waste laws. This guidance is intended to assist in the selection of on-site remedial actions that meet the applicable, or relevant and appropriate requirements (ARARs) of the Resource Conservation and Recovery Act

Clean Water Act, Safe Drinking Water Act, Clean Air Act, and other Federal and State environmental laws as required by CERCLA.
EPA/540/G-89/006
EPA/9234.1-01

Publication

CERCLA Compliance with Other Laws Manual, Part II: Clean Air Act and other Environmental Statutes and State Requirements

August 1989 *176 pages*
Order No.: PB90-148461

The purpose of the CERCLA Compliance with Other Laws Manual is to assist Remedial Project Managers in identifying and complying with all applicable or relevant and appropriate requirements (ARARs) for remedial actions taken at Superfund sites. This part of the guidance manual addresses CERCLA compliance with the Clean Air Act and other environmental statutes for remedial actions.
EPA/540/G-89/009
EPA/9234.1-02

Fact Sheet

CERCLA Compliance with Other Laws Manual: RCRA (Resource Conservation and Recovery Act) ARARs (Applicable or Relevant and Appropriate Requirements) — Focus on Closure Requirements

October 1989 *9 pages*
Order No.: PB90-274259

Serves as a guide to the use of the "CERCLA Compliance with Other Laws Manual: Parts I and II." The fourth in a series, this fact sheet addresses Subtitle C of the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984, with a focus on the RCRA Subtitle C disclosure requirements.
EPA/9234.2-04/FS

Fact Sheet

CERCLA Compliance with Other Laws Manual, Summary of Part II: CAA, TSCA, and Other Statutes

April 1990 *11 pages*
Order No.: PB90-272550

Provides a guide to Chapters 2 and 3 of Part II of the "CERCLA Compliance with Other Laws Manual". The sixth in a series, this fact sheet focuses on CERCLA compliance with the Clean Air Act; the Toxic Substances Control Act; and the Federal Insecticide, Fungicide, and Rodenticide Act. Also, it discusses other statutes that set standards for radioactive wastes, mining wastes, and other resource protection statutes that are potential applicable or relevant and appropriate requirements (ARARs) for CERCLA actions.
EPA/9234.2-07/FS

Directive

CERCLIS Data Handling Support Policy Statement

May 30, 1990 *3 pages*
Order No.: PB90-258328

Updates the policy statement published on March 31, 1986, regarding management of the data handling support contract for CERCLIS. This update contains no major changes in policy, but rather presents information in accordance with the current document management standards.
EPA/9221.0-02

Publication

Federal Facilities Hazardous Waste Compliance Manual (Final Report)

January 9, 1990 *780 pages*
Order No.: PB90-188749

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3 Program Mgt.

Presents an overview of the Federal facilities hazardous waste compliance program, relevant statutory authorities, model provisions for Federal facility agreements, enforcement and other applicable guidance, Federal facilities docket and NPL listings, data management information, selected DOD and DOE program guidance, and organization charts and contacts. This compendium may be used as a reference by Regional RCRA and CERCLA enforcement personnel and Regional Counsels, particularly as an orientation guide for new Federal facilities staff.
EPA/9992.4

The Final National Contingency Plan: New Directions for Superfund

February 1990 *6 pages*
Order No.: PB90-272600

Describes how the Superfund "Management Review" ("90-Day Study") and the final National Contingency Plan established a management and regulatory blueprint for implementation of the Superfund law. This fact sheet summarizes Superfund's new goals for hazardous waste cleanup, and how those goals will be achieved.
EPA/9319.0-01/FS

Guidelines for Producing Superfund Documents

February 9 , 1987 *14 pages*
Order No.: PB90-249475

Summarizes the philosophy and policy for planning, writing, and issuing Superfund guidance documents. Helps writers produce documents that are readable, concise, and well-referenced.
EPA/9200.4-01

Hazardous Waste Sites: Descriptions of Sites on Current National Priorities List, October 1984

December 1984 *569 pages*
Order No.: PB85-224756

Compiles one-page descriptions of the 538 sites that EPA placed on its NPL. These sites are targeted for possible long-term cleanup under CERCLA, the Superfund law. Conditions at the sites are described at the time EPA first proposed the site for the NPL, and the status of any cleanup activities is given as of October 1984. The document brings together in one volume descriptions made available earlier (in September 1983, May 1984, and September 1984) when the sites were placed on the NPL.
EPA/HW-8.5
EPA/9320.6-01

Management Review of the Superfund Program

June 1989 *126 pages*
Order No.: PB90-153875

Presents the findings of what is commonly called the "90-Day Study," a self-critical examination of the program. Contents of the review include: clear strategy for Superfund; strengthening enforcement and maximizing responsible party work at Superfund sites; accelerating and improving remedial action; bringing innovative technologies to bear on improving remedial action; an aggressive program of community involvement; management and administration; freeing up the skills and tools to the job; accounting for achievement; and communicating progress to the public.
EPA/540/8-89/007
EPA/9201.01-A

Management Review of the Superfund Program: Implementation Plan

September 21, 1989 *173 pages*
Order No.: PB90-153883

The Superfund 90-Day Study set forth a comprehensive long-term strategy for the Superfund program (see previous Management Review abstract). This document discusses the basic elements of the strategy which are to: immediately con

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acute threats; deal with the worst sites and the worst problems first; carefully monitor and maintain sites over the long term; emphasize enforcement to induce private-party cleanup; seek new technologies for more effective cleanup; improve the efficiency of program operations; and encourage full participation by communities.
EPA/540/8-89/009
EPA/9201.02-A

Publication

Office of Solid Waste and Emergency Response (OSWER) Comparative Risk Project: Executive Summary and Overview

November 1989 *72 pages*
Order No.: PB90-272501

Discusses the study undertaken by the Office of Solid Waste and Emergency Response (OSWER) to explore the comparative risks posed by various waste management practices regulated by and/or under OSWER purview. Describes the study's position as an early step in the larger strategic planning process, undertaken to gain experience in performing comparative analysis.
EPA/540/1-89/003
EPA/9200.5-004

Directive

OSWER Integrated Health and Safety Policy

August 16, 1988 *35 pages*
Order No.: PB90-258344

Articulates the requirement that all EPA employees comply with Occupational Health and Safety Administration (OSHA) as well as EPA Health and Safety Directives. The 27-page manual outlines the conditions of this policy and employees' roles and responsibilities in meeting them. The policy applies to all Office of Solid Waste and Emergency Response employees engaged in hazardous substances response activities.
EPA/9285.0-01

Publication

OSWER Superfund Telephone Directory

October 1990 *36 pages*
Order No.: PB90-249434

Telephone directory of Superfund Headquarters and Regional contacts. This directory is published on a semi-annual basis.
EPA/9200.0-03B

Publication

Progress Toward Implementing Superfund: FY-87 — Report to Congress

April 1989 *436 pages*
Order No.: PB90-233548

Progress Toward Implementing Superfund: FY-88 — Report to Congress

April 1990 *484 pages*
Order No.: PB90-249442

Presents EPA's Annual Report on the progress made by the Agency in implementing the national hazardous waste law and its amendments (CERCLA and SARA). The reports provide an overall perspective on progress, contain information that Congress specifically requested, and an evaluation of newly developed feasible and achievable permanent treatment technologies.
EPA/540/8-89/003 (1987)
EPA/9200.2-10 (1987)
EPA/540/8-90/004 (1988)
EPA/9200.2-11 (1988)

3 Program Mgt.

Publication

ROD (Record of Decision) Annual Report, FY-86

January 1987 *185 pages*
Order No.: PB87-199550

ROD (Record of Decision) Annual Report, FY-87

July 1988 *240 pages*
Order No.: PB89-114144

ROD (Record of Decision) Annual Report, FY-88

July 1989 *495 pages*
Order No.: PB89-235212

ROD (Record of Decision) Annual Report, FY-89

April 1990 *379 pages*
Order No.: PB90-258484

Presents the Regional and Headquarters staff with summary data on RODs. The reports feature specific accomplishments in the ROD process and summarizes each year's RODs by describing site conditions and key contaminants, selected remedial actions, specific remedy performance standards and goals, and institutional controls.
EPA/9355.6-03 (1986)
EPA/540/8-89/006 (1988)
EPA/9200.5-210 (1988)
EPA/540/8-90/006 (1989)
EPA/9355.6-02 (1989)

Publication

Superfund: A Six-Year Perspective

October 1986 *45 pages*
Order No.: PB90-249483

An historical look at how the Superfund program came to be, how it operates, and what was achieved through the program in the first six years of its existence.
EPA/9200.5-000

Publication

Superfund: Getting Into the Act — Contracting and Subcontracting Opportunities in the Superfund Program

April 1989 *65 pages*
Order No.: PB89-233431

Assists those interested in providing contractual services to the Superfund program. Describes current Superfund contracts and provides contact points, addresses, and telephone numbers of firms with Superfund contracts.
EPA/540/G-89/003a
EPA/9200.5-402

Publication

Superfund: Looking Back, Looking Ahead

December 1987 *26 pages*
Order No.: PB90-249491

Provides an overview of the Superfund hazardous wastes cleanup process and key aspects of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Also addresses the quest for alternative technologies, emergency planning and community right-to-know, the leaking Underground Storage Tank Trust Fund, State involvement, and challenges for Superfund for the future.
EPA/9200.5-001

Publication

Superfund Program Management Manual, FY-90: Volume 1

July 1989 *205 pages*
Order No.: PB90-204199

Superfund Program Management Manual, FY-90: Volume 2, Appendices

July 1989 *225 pages*
Order No.: PB90-204207

Superfund Program Management Manual, FY-91: Volumes 1 & 2

June 1990 *411 pages*
Order No.: PB90-273707

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Illustrates the relationships among the major Superfund management tools including identifying program goals and priorities, translating priorities into targets and measures that are planned and tracked through the Superfund Comprehensive Accomplishments Plan (SCAP), allocating resources through targets and measures, and evaluating SCAP to determine whether program goals are being met.
EPA/9200.3-01C (FY-90, Volume 1)
EPA/9200.3-01C (FY-90, Volume 2)
EPA/9200.3-01D (FY-91, Volumes 1 & 2)

Superfund Academy

Inauguration of the On-Site Coordinator (OSC)/ Remedial Project Manager (RPM) Program

February 3, 1989 *10 pages*
Order No.: PB90-274309

Announces the commencement of several principal components of the On-Site Coordinator/Remedial Project Manager (OSC/RPM) support program and solicits estimates of participants for the first class of the OSC/RPM Basic Training Academy.
EPA/9285.9-01

Mandatory Community Relations Training: Superfund Management Review Implementation Product (Recommendation: #43.P(i))

October 31, 1989 *5 pages*
Order No.: PB90-272592

Formally announces mandatory community relations training for Remedial Project Managers, On-Scene Coordinators, and other Regional staff and managers who attend public meetings or deal with the public. The document explains what the requirements are, and why training is necessary.
EPA/9285.9-06

Mandatory Training Requirements for On-Scene Coordinators and Remedial Project Managers

September 29, 1989 *6 pages*
Order No.: PB90-272584

Formally announces the mandatory training requirements for On-Scene Coordinators (OSCs) and Remedial Project Managers (RPMs) at all levels. The directive addresses Congressional, EPA management, and employee concerns raised about the preparation of OSCs and RPMs to perform their jobs.
EPA/9285.9-05

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3 Computer Materials

Computer Materials

CERCLIS Site Location Extract

July 1988 *magnetic tapes*
Order No.: PB90-591310

Contains data on potential hazardous waste sites that have been reported to EPA by States, municipalities, private companies, and private persons, pursuant to Section 103 of CERCLA, the national hazardous waste law. The file lists sites by name, alias, location, and indicators for National Priorities List status and Federal facilities. These tapes are available on a subscription basis and are updated periodically.

Inorganic Contract Compliance Screening System (ICCSS) Software (for Microcomputers)

February 12, 1990 *1 diskette*
Order No.: PB90-591700

Inorganic Contract Compliance Screening System (ICCSS) software is a version of a mainframe-based application developed for EPA's National Contract Laboratory Program. ICCSS is designed to automate the determination of contractual compliance and completeness of data submitted to the EPA under the Routine Analytical Services (RAS) programs of CERCLA and SARA, the national hazardous waste legislation.

Inorganic Contract Compliance Screening System (ICCSS) Software for the PC (Version 3/90) User Manual

February 1990 *138 pages*
Order No.: PB90-213836

Serves as the user manual for Inorganic Contract Compliance Screening System (ICCSS) software. ICCSS software is a version of a mainframe-based application developed for EPA's National Contract Laboratory Program. ICCSS automates the determination of contractual compliance and completeness of data submitted to EPA under the Routine Analytical Services (RAS) programs of CERCLA and SARA.

Organic Contract Compliance Screening System (OCCSS) Software (for Microcomputers)

February 12, 1990 *1 diskette*
Order No.: PB90-591690

Developed for EPA's National Contract Laboratory Program, Organic Contract Compliance Screening (OCCSS) automates the determination of contractual compliance and completeness of data submitted to the EPA under the Routine Analytical Services (RAS) programs of CERCLA and SARA, the national hazardous waste legislation.

Organic Contract Compliance Screening System (OCCSS) Software for the PC, User Manual

February 1990 *167 pages*
Order No.: PB90-213844

Serves as the user manual for the Organic Contract Compliance Screening System (OCCSS) software which automates the determination of contractual compliance and completeness of data submitted to EPA under the Routine Analytical Services (RAS) programs of CERCLA and SARA, the national hazardous waste legislation.

Publication

Removal Cost Management System: Version 3.2

May 1990 *211 pages*
Order No.: PB90-272691

Serves as a reference manual for software used to perform cost projections and daily cost tracking. This user's guide for the Removal Cost Management System (RCMS) can also be used to create Cost Projection reports, the 1900-55 Form, a Daily Cost Summary, an Incident Obligation Log, and Site Summary Reports.
EPA/540/P-90/003
EPA/9360-0-02C

Publication

Superfund Automated Records of Decision System (RODS): User Manual

August 1988 *164 pages*
Order No.: PB90-193004

Provides instructions for using the Agency's ROD database for planning a course of action to clean up a Superfund site proposed or listed on the NPL.
EPA/540/G-89/005
EPA/9355.1-04

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☆ U.S. GOVERNMENT PRINTING OFFICE: 1990-548-187/20511