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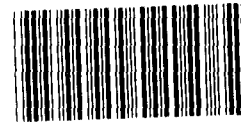
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Fact Sheet for the Chairman,
Subcommittee on Commerce,
Transportation, and Tourism,
Committee on Energy and Commerce
House of Representatives

February 1986

SUPERFUND

Status of Superfund Management Information Systems



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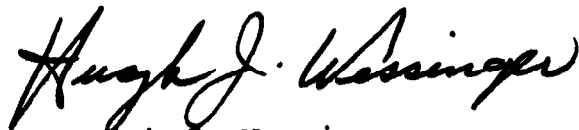
comprehensive management information system for all Superfund programs (i.e. emergency response, long-term cleanup, and enforcement), which they believe will fully respond to the report recommendations.

Information on the status of Superfund management information systems was primarily obtained from EPA officials responsible for management information systems in the Office of Solid Waste and Emergency Response and the Office of Enforcement and Compliance Monitoring. In addition, we obtained information from management information system documentation and other related agency files and studies.

We sought the views of directly responsible agency officials during the course of our work and incorporated them as appropriate. In accordance with your request, we did not ask EPA to review and comment officially on a draft of this fact sheet.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this fact sheet until 30 days after issuance. At that time, we will send copies to the EPA Administrator and other interested parties and will make it available to others upon request. Further information on this fact sheet can be obtained by calling me on (202) 275-5489.

Sincerely yours,



Hugh J. Wessinger
Senior Associate Director



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

February 28, 1986

RESOURCES, COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

B-211463

The Honorable James J. Florio
Chairman, Subcommittee on Commerce,
Transportation, and Tourism
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

In recent years the Environmental Protection Agency's (EPA) Superfund program has been the subject of considerable controversy. One concern has been the speed with which Superfund enforcement and remedial actions are taken. Knowing how long various steps in these processes are taking is important in evaluating the management of EPA's Superfund activities.

On September 6, 1985, you requested that we determine the status of EPA's efforts to improve its management information systems for the Superfund enforcement and remedial programs. Specifically, you asked us to identify the actions EPA has taken in response to recommendations concerning management information systems contained in our report entitled EPA Could Benefit from Comprehensive Management Information on Superfund Enforcement Actions (GAO/RCED-85-3, Dec. 28, 1984) and an EPA Inspector General report entitled Review of the Agency's Management of Contracts for Remedial Investigations/Feasibility Studies at Superfund Hazardous Waste Sites (June 3, 1985). On January 14, 1986, we briefed your office on the results of our work; and as requested, this fact sheet summarizes the information discussed during that briefing.

Both the previously mentioned GAO and Inspector General reports recommended that EPA develop or consider developing more comprehensive management information systems that could track program activities and timeliness. Although officials responsible for Superfund management information systems stated that EPA has made improvements to its management information systems since these reports were issued, they acknowledge that these improvements do not fully implement the recommendations contained in these reports. According to these officials, however, EPA is in the initial stages of an effort to develop a

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ABBREVIATIONS

EPA	Environmental Protection Agency
GAO	General Accounting Office
RCED	Resources, Community, and Economic Development Division

PROGRAM AUTHORITIES AND RESPONSIBILITIES

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, commonly known as Superfund, authorized the Environmental Protection Agency (EPA), by presidential delegation, to respond to hazardous substance releases and to clean up inactive hazardous waste sites. Superfund provides for two types of site cleanup: removal and remedial. Removal actions are short-term responses to address immediate and significant dangers at any hazardous waste site but are not necessarily final solutions; remedial actions are more long-term measures taken to provide a permanent remedy. In addition, Superfund provided that the parties responsible for the conditions at hazardous waste sites should either perform cleanups themselves or reimburse the fund for cleanups performed by the government. EPA's efforts to achieve responsible-party cleanup are called Superfund enforcement actions.

SUPERFUND CLEANUP PROCESS

Under EPA's hazardous waste site assessment process, known sites undergo a preliminary assessment that generally entails a cursory review of information about wastes at a given site. Assessed sites with waste problems, preliminarily deemed serious, undergo a site investigation, which includes an on-site visit, sampling, and analysis of waste problems. Once a site is inspected, the seriousness of any waste problem is evaluated to determine whether the site should be placed on the National Priorities List, which designates the nation's worst hazardous waste sites. While EPA takes removal actions at both priority and nonpriority sites, it limits remedial actions to priority sites. Remedial action under Superfund generally involves the following sequence of activities:

- An initial plan is prepared for the collection of information needed to develop a site strategy.
- An investigation is made to determine the type and extent of contamination at a site.
- A feasibility study is prepared to analyze various cleanup alternatives and assess their cost-effectiveness. The feasibility study is often conducted with the investigation as one project.
- The "cost-effective" remedy--that is, the alternative that balances the protection of public health and welfare and the environment against the money available to respond to other sites--is selected.

--The remedy is designed.

--The remedy, which might involve, for example, constructing facilities to treat groundwater, is implemented.

At any point in this process, a removal may be initiated if circumstances warrant. In addition, EPA may negotiate voluntary cleanups at different points in the cleanup process. EPA usually negotiates with the responsible parties (1) before the remedial investigation/feasibility study (in an attempt to get the responsible parties to do the study as well as the selected remedy) or (2) after the study (in an attempt to get the parties to implement the selected remedy). In addition, EPA can either direct or seek a court order to require responsible parties to perform the cleanup themselves, or it may take action to require the responsible parties to reimburse Superfund for the cost of removal and/or remedial actions.

As of October 1985 EPA had identified over 22,000 potential hazardous waste sites of which 850 had been designated as priority sites. Some kind of response activity, either remedial or removal, had begun at 692 priority sites. Also as of October 1985, EPA reported that 10 priority sites had been cleaned up.

EPA ENFORCEMENT PROGRAM

EPA's enforcement authority is derived principally from sections 106 and 107 of Superfund. Section 106 authorizes EPA (by presidential delegation) to issue administrative orders that compel the responsible parties to clean up hazardous waste sites when it can be demonstrated that a hazardous waste site may present an imminent and substantial danger. The responsible party and EPA may negotiate an agreement for cleanup, in which case EPA issues a "consent" order; or EPA may issue a "unilateral" order without input from the responsible party.

Section 106 also authorizes EPA to pursue a judicial remedy instead of an administrative one. Under this section EPA may ask a federal district court to require responsible parties to mitigate any danger or threat of danger from hazardous waste sites. If EPA and the responsible parties negotiate an agreement for cleanup, they may--subject to court approval--have the court issue a "consent decree." Consent decrees provide certain features that administrative orders do not, such as long-term court oversight of compliance with separate cleanup milestones.

EPA may also clean up sites itself and file an action under section 107 to recover the cost of the cleanup. Section 107 provides that past and present owners and operators of sites and generators and transporters who contributed hazardous substances to the site shall be liable for all cleanup costs.

As of January 1986 EPA had sent over 10,900 letters to responsible parties for various purposes (e.g. notification of site cleanup liability). Additionally, EPA had concluded 550 negotiations for site cleanup or cost recovery with responsible parties.

ENFORCEMENT PROGRAM RESPONSIBILITIES

Superfund enforcement actions can involve both headquarters and regional personnel although most of the steps in the process are conducted by regional offices. Within headquarters, two offices are principally involved with Superfund enforcement--the Office of Waste Programs Enforcement (within the Office of Solid Waste and Emergency Response) and the Office of Enforcement and Compliance Monitoring. Waste Programs Enforcement has general programmatic responsibility for Superfund enforcement and is responsible for establishing enforcement policy and guidance and for monitoring regional progress in accomplishing enforcement program objectives. Enforcement and Compliance Monitoring, on the other hand, is involved in the legal aspects of enforcement as it provides direction and review of civil and criminal enforcement activities and refers cases to the Department of Justice.

REMEDIAL PROGRAM RESPONSIBILITIES

Regional offices also conduct most of the steps in the remedial process. Within headquarters the Office of Emergency and Remedial Response has responsibility for the emergency and long-term cleanup activities. This office develops national strategies, programs, policies, and procedures for the control of abandoned hazardous waste sites and for monitoring the performance and progress of regional offices in performing remedial program activities. As part of this, it also ensures that effective discovery, investigation, containment, and control programs are developed and implemented to solve problems resulting from hazardous waste.

OBJECTIVES, SCOPE, AND METHODOLOGY

On September 6, 1985, Congressman James J. Florio, Chairman of the Subcommittee on Commerce, Transportation, and Tourism, House Committee on Energy and Commerce, requested that we determine the status of EPA's efforts to improve its management information systems for the Superfund remedial and enforcement programs.

To identify the actions EPA has taken since our December 1984 report¹ on enforcement management information systems, we interviewed officials in EPA's Office of Waste Programs Enforcement and Office of Enforcement and Compliance Monitoring. Through these interviews we identified four management information systems used to track Superfund enforcement activities: Case Management System, Superfund Enforcement Tracking System, Enforcement Docket System, and Consent Decree Tracking System. We examined documentation including user's manuals, data element dictionaries, and output reports to obtain information on milestones and other data contained in each of these systems and the improvements made to EPA's management information systems since our December 1984 report. To obtain further information on the Case Management System, the primary system for tracking Superfund enforcement actions, we interviewed representatives of Booz-Allen and Hamilton, Inc., consultants to EPA who are responsible for maintaining this system.

To update EPA's progress since the June 1985 Inspector General report² on remedial management information systems, we interviewed officials in the Office of Emergency and Remedial Response, within the Office of Solid Waste and Emergency Response. These officials stated that EPA had instituted a management information system for tracking Superfund remedial information: the Comprehensive Environmental Response, Compensation, and Liability Information System. To determine

¹EPA Could Benefit from Comprehensive Management Information on Superfund Enforcement Actions (GAO/RCED-85-3, Dec. 28, 1984).

²Review of the Agency's Management of Contracts for Remedial Investigations/Feasibility Studies at Superfund Hazardous Waste Sites (June 3, 1985).

the milestones and other data contained in this system, we examined system documentation including the user's manual, data element dictionary, and output reports. We obtained information on the Superfund Integrated Reporting System, a management information system that draws on data contained in other systems to generate site reports containing information on all Superfund activities at that site, through interviews with officials in the Office of Emergency and Remedial Response and review of system output reports and supporting definitions.

Information on EPA's plans to develop a comprehensive management information system for all Superfund programs was obtained primarily through interviews with officials on EPA's Information Management Task Group, which was created within the Office of Emergency and Remedial Response in November 1985 to develop this system. In addition, we reviewed available EPA memorandums concerning the Task Group's activities.

Further, we interviewed officials in the Office of Enforcement and Compliance Monitoring and the Office of Waste Programs Enforcement to obtain information on the current status of EPA's efforts to acquire information on state enforcement actions. Additionally, we obtained information from two draft EPA issue papers and an EPA policy paper addressing EPA/state relationships.

Our audit work was conducted from October 1985 through February 1986 at EPA headquarters in Washington, D.C. The views of directly responsible agency officials were sought during the course of our work and are incorporated as appropriate. In accordance with the Chairman's request, we did not ask EPA to review and comment officially on a draft of this fact sheet.

STATUS OF EPA'S EFFORTS TO IMPROVE ITS
SUPERFUND MANAGEMENT INFORMATION SYSTEMS

Both our December 1984 report and the Inspector General's June 1985 report recommended that EPA develop or consider developing more comprehensive management information systems for its Superfund enforcement and remedial programs. Although EPA officials indicated that EPA has made a number of improvements to its management information systems since these reports were issued, officials responsible for Superfund management information systems acknowledge that these improvements do not fully implement the recommendations contained in these reports. According to these officials, however, EPA is in the initial stages of an effort to develop a comprehensive management information system for all Superfund programs (i.e., removal, remedial, and enforcement), which they believe will fully respond to the report recommendations.

RESULTS AND RECOMMENDATIONS OF THE
GAO REPORT ON ENFORCEMENT MANAGEMENT
INFORMATION SYSTEMS

Our December 1984 report observed that EPA maintained detailed Superfund enforcement information in individual files and had developed information systems for reporting various categories of Superfund data. Further, we pointed out that EPA enforcement officials believed that if the number of Superfund enforcement cases continued to rise as projected, it would become increasingly advantageous for their program managers to maintain more comprehensive tracking information to assist in answering such questions as "How long are different steps in the enforcement process taking?" and "Are the time frames that have been set for the process being met?" Thus, the report recommended that EPA assess the feasibility of developing and maintaining a comprehensive Superfund enforcement management information system and, if cost effective, implement such a system. The report also noted that Superfund does not authorize EPA to require the states to report on the progress of state enforcement actions; thus information exchange tends to be handled informally.

EPA improvements to enforcement
management information systems

EPA officials stated that since our December 1984 report, improvements have been made in EPA's existing enforcement management information systems. In addition, they stated that the agency has instituted a new manual system for tracking compliance with consent decrees. Each of these systems is discussed below.

Case Management System

The Case Management System, maintained by the Office of Waste Programs Enforcement, is EPA's principal means of monitoring and tracking Superfund enforcement activities. This system is an automated data base that contains information on cases under development, signed administrative orders, cases referred to the Department of Justice, settlements, and compliance with settlements. The system is physically maintained in headquarters on a personal computer, and regional offices cannot directly access the data base. The system is primarily used by headquarters to assess regional accomplishments and progress at sites and to identify regions where assistance, such as additional resources, may be needed.

In our prior report, we noted that the Case Management System did not contain information on such milestones as (1) when responsible-party searches begin, (2) when responses to notice letters are received, (3) when negotiations are completed, and (4) when responsible parties have completed their cleanup actions in compliance with administrative orders. Since our report EPA has added the latter two milestones to the Case Management System. The Management Information Systems Coordinator responsible for the system said that the first two milestones are not being tracked because EPA officials do not consider them key milestones that headquarters would need to know in order to manage enforcement activities. This official added, however, that these milestones contain detailed types of information that would be more useful for regional purposes. Since our 1984 report, according to EPA contractor officials who maintain the Case Management System, this system has been further improved by installing more sophisticated personal computers capable of processing larger volumes of data at a faster pace.

Superfund Enforcement Tracking System

The Office of Waste Programs Enforcement also continues to maintain the Superfund Enforcement Tracking System. This system, although originally designed as an enforcement activity tracking system, became a repository of information on potentially responsible parties when it was superseded by the Case Management System for tracking purposes. The system's data base is limited to the names and addresses of these parties and the dates notice letters were sent.

According to the Management Information System Coordinator in the Office of Waste Programs Enforcement, several

improvements are planned for this system. EPA plans to transfer the Superfund Enforcement Tracking System, which is currently maintained on a minicomputer, into the agency's mainframe computer, thus allowing regional offices direct access to the data base. In addition, EPA plans to expand the system's definition of potentially responsible parties so that users can determine, for example, whether these parties are defendants in more than one case. Finally, EPA plans to delete elements from the data base that are not being used.

Enforcement Docket System

An automated Enforcement Docket System is the Office of Enforcement and Compliance Monitoring's main case-tracking system, which contains information on hazardous waste enforcement cases, including Superfund, that have been or will be filed in court. The case-tracking information recorded in the docket system is generally limited to milestones that occur after a case has been referred to EPA headquarters from one of its regional offices for legal action, for example, the date the case is referred to the Department of Justice to be filed in court. In addition, the docket system also contains general descriptive information on cases, such as the names of the EPA and Department of Justice officials involved, the laws on which the enforcement actions are based, and a narrative summary of significant details. According to the Management Information Systems Coordinator in the Office of Waste Programs Enforcement, the information from the docket system on the status of Superfund cases is also added to the Case Management System.

Some minor system enhancements have been made to the docket system since our December 1984 report was issued, according to a computer specialist in the Office of Enforcement Compliance Monitoring. For example, he said that the docket system is now able to maintain the names of more than 99 responsible parties for each site and the data fields for recording cost recovery and penalty amounts have been more clearly defined.

Consent Decree Tracking System

Our 1984 report also noted that the Office of Enforcement and Compliance Monitoring was planning to begin compiling summary information on consent decree compliance on an agency-wide basis for use by EPA headquarters management. Since our report was issued, the Office of Enforcement and Compliance Monitoring has instituted a manual system called the Consent Decree Tracking System to collect and report agency-wide information on responsible-party compliance with consent decrees. The system is designed to provide EPA headquarters

with summary information only (e.g., whether a responsible party is/is not in compliance and whether action has been taken or is planned).

Status of EPA efforts to
acquire information on
state enforcement actions

Our previous report noted that information exchange between EPA and the states tended to be handled informally because Superfund does not authorize EPA to require the states to report on the progress of state enforcement actions. As of February 1986 EPA had not developed formal policy and guidance documents that detail procedures for collecting and reporting information on state enforcement activities but had taken action to do so. EPA enforcement officials indicated that it is important for EPA to acquire and maintain information on state enforcement actions at hazardous waste sites, especially those on the National Priorities List, because EPA remains ultimately responsible for cleanup at these sites and has the final authority to delist sites. According to a program analyst in the Office of Enforcement and Compliance Monitoring, EPA is considering the preparation of guidance requiring EPA regional offices to collect and report state enforcement information. According to this official, this guidance is expected to be in place for fiscal year 1987.

RESULTS AND RECOMMENDATIONS OF THE
EPA INSPECTOR GENERAL REPORT ON
REMEDIAL MANAGEMENT INFORMATION SYSTEMS

The June 1985 Inspector General report noted that EPA did not have an effective, centralized management information system to monitor and provide an overall status on remedial actions or to identify the nature and extent of delays. It further stated that by implementing an effective management information system, the Office of Emergency and Remedial Response would be in a better position to monitor assigned tasks and ensure that prompt actions are taken to complete remedial work. The report recommended that EPA do the following: (1) implement an effective management information system that will track activity-level timeliness and overall project status and (2) encourage all regions to develop and use site-specific critical-path information as a basis for input to EPA's management information systems and in the day-to-day management of site work.

EPA improvements in remedial management information systems

Since the 1985 Inspector General report, EPA has implemented a national, automated management information system to track remedial actions--the Comprehensive Environmental Response, Compensation, and Liability Information System (Superfund System). The Superfund System, accessible to both the regions and headquarters, integrates EPA's previous Emergency and Remedial Response Information System, which contained an inventory of all identified hazardous waste sites, and the Project Tracking System, which was used for tracking remedial actions at individual hazardous waste sites.

The Superfund System is capable of tracking the planned and actual dates of major remedial events, such as when (1) remedial investigations begin and end, (2) feasibility studies begin and end, and (3) remedial design phases begin and end. In addition, regional personnel can designate specific tasks within these major events and use the system to track corresponding milestones. The system was also designed to contain enforcement and removal as well as remedial data, although it contained only remedial data as of February 1986. According to EPA officials responsible for this system, the project tracking component of the system is weak and no longer widely used. Specific problems cited were slow and difficult data entry at greater levels of detail, slow and difficult data retrievals, and difficulties in modifying standard output reports for specific regional needs. Officials told us that because regional personnel do not find the system useful, they often do not input data as required; and as a result, the information contained in the Superfund System is often unreliable.

In addition, since the Inspector General report, EPA has developed the Superfund Integrated Reporting System. This system generates reports on the status of all Superfund activities (removal, remedial, and enforcement) at individual hazardous waste sites by drawing information contained in other management information systems such as the Superfund System and the Case Management System. However, according to the Chief, Budget and Information Management Section, Office of Program Management, the information drawn from the Superfund System must be verified through telephone calls to the regions and other sources to ensure its reliability.

EPA PLANS FOR A COMPREHENSIVE
SUPERFUND MANAGEMENT INFORMATION
SYSTEM

In November 1985 the Office of Emergency and Remedial Response formed an Information Management Task Group to take charge of most Superfund remedial management information systems within the office. As part of its responsibilities, the Task Group has been charged with implementing a proposed integrated management system for all Superfund programs. This proposed management system features developing the current Superfund System into a comprehensive data base containing information on all Superfund programs, i.e., removal, remedial, and enforcement. As proposed, this comprehensive data base, which would be accessible to both headquarters and the regions, would be used by EPA for program evaluation, planning, and management information. To implement this system the Task Group plans to

- work with regional personnel to develop an automated site management planning and reporting process that will track critical-path milestones in the cleanup process,
- develop automated methods for handling these tracking data in the regions and transferring them to the Superfund System,
- identify site management planning activities to be tracked for national program management, and
- implement an integrated program management system that relies on information in the Superfund System for both program evaluation and management reporting requirements.

As of February 1986 the Task Group was in the initial stages of planning its work and, therefore, had not established formal milestones and costs for the project. However, the Management Advisory Committee, primarily composed of headquarters and regional personnel representing all Superfund programs, had been formed to advise the Task Group on the development of the management system. In addition, a pilot project has been initiated to develop an automated site management process, including the identification of critical-path milestones. Further, Task Group members had visited two regional offices to explain the project and gain support and planned to visit the remaining eight regional offices by the end of March 1986.

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